CURRENT INFORMATION

Course offerings and requirements are continually under examination and revision. Current information may be obtained from the following sources:

**Admission requirements**
Ray Fox, dean of admissions & records
or
Patsy Reynolds, director of admissions
Phone: (615) 755-4157

**Course offerings**
Department offering course

**Degree requirements**
Natalie Schlack, director of records
Phone: (615) 755-4416
or
faculty adviser, head of major department, or dean of college/school

**Fees & tuition**
Jonee Daniels, bursar
Phone: (615) 755-4781

**Financial aid**
Ann Tinnon, director of financial aid
Phone: (615) 755-4677

**Graduate admission requirements**
Charles M. Hyder, asso. provost for graduate & continuing studies
or
Janice Rhodes, director of graduate studies
Phone: (615) 755-4666

**Housing**
Student Affairs
Phone: (615) 755-4304

**Registration**
Brenda Davis, director of registration and advisement & orientation
Phone: (615) 755-4573

**University operator**
(615) 755-4111

**University address**
The University of Tennessee at Chattanooga
615 McCallie Avenue
Chattanooga, TN 37403

**EEO/TITLE IX/SECTION 504 STATEMENT**
The University of Tennessee at Chattanooga does not discriminate on the basis of sex or on the basis of 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.

This policy extends to employment, admission, retention, and treatment by the University. Inquiries concerning Title IX or the Rehabilitation Act or charges of violation of the above policy should be directed to Phyllis D. Woods, director of affirmative action.

The University also does not discriminate on the basis of race, color, religion, or national origin.

This catalog is published by The University of Tennessee at Chattanooga, a campus of The University of Tennessee.
Glossary of Academic Terms

Adviser—a faculty member who advises the student about his or her academic program.

Audit—to take a course without credit.

Behavioral and Social Science Courses— certain courses in anthropology, economics, education, geography, history, human services, political science, psychology, and sociology.

Classification—level of progress toward the bachelor's degree. An undergraduate student is classified as a freshman, sophomore, junior, or senior depending on the number of semester hours completed and quality points earned.

College—an organizational unit of the University, embracing several departments, divisions, or schools. UTC has one college, the College of Arts and Sciences.

Concentration—a particular emphasis within a major area.

Corequisite—a course which must be taken at the same time as another course.

Course—a specific subject of study.

Credit—the numerical value awarded upon completion of specified studies, usually based on class meeting length and frequency. At UTC credit is stated in semester hours.

Curriculum—the whole body of courses offered by the University or by one of its colleges, schools, divisions, or departments.

Department—an organizational unit representing a discipline or related disciplines, such as the Department of Foreign Languages.

Discipline—an area of study representing a branch of knowledge, such as mathematics.

Division—an organizational unit which may include one program, or several, as in Continuing Education or Special Services.

Elective—a course not specifically required.

Fine Arts Courses—certain courses in art, theatre, and music.

Genera/ Education Courses— courses designed to help the students discover the relatedness of knowledge and acquire a core of information, attitudes, and capabilities basic to their formal college education and their continuing education throughout life.

Graduate Student—a student who has received a bachelor's degree and has met all criteria for admission to the Graduate Division.

Humanities Courses—certain courses in classics, English, history, modern languages, and philosophy and religion.

Interdisciplinary Courses—courses which deal with two or more academic subjects.

Major—the subject or subject areas on which a student chooses to place principal academic emphasis.

Non-Western Course—a course which deals with some aspect of a civilization outside of Western civilization, such as Asian, Latin American, etc.

Orientation—activities and programs designed to help the new student become acquainted with the University.

Permanent Record—the card on which the director of records lists all of a student's courses, semester hours credit, grades, quality points, status, and certain personal information.

Post-baccalaureate Student—a student who has received a bachelor's degree and is taking additional undergraduate courses.

Prerequisite—a requirement which must be met before a particular course can be taken.

Registration Load—the total semester hours for which a student is registered in any semester or term.

Schedule of Classes—a listing of all courses offered by the University during one semester or summer session, showing fees, instructors, and time and place of meeting.

School—an organizational unit composed of related disciplines. At UTC there are five schools: the School of Business Administration, the School of Education, the School of Engineering, the School of Human Services, and the School of Nursing.

Semester—half an academic year or 15-16 weeks. Some schools operate on a quarter system, which divides the academic year into thirds. UTC uses the semester system.

Semester Hour—the unit of credit used by schools on the semester plan.
The Administration

The University of Tennessee

Board of Trustees

Legal Title: The University of Tennessee
His Excellency, The Governor of Tennessee Ex-Officio
The Commissioner of Education Ex-Officio
The Commissioner of Agriculture Ex-Officio
The President of the University Ex-Officio
The Executive Director, Tennessee Higher Education Commission Ex-Officio

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<th>From Congressional Districts</th>
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<td>First—R.B. Hailey, Sevierville</td>
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<td>Second—A.B. Long Jr., Knoxville</td>
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<td>Fourth—William M. Johnson, Sparta</td>
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<td>1956</td>
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From Anderson, Bedford, Coffee, Franklin, Lincoln, Moore, and Warren Counties
Charlotte Parish 1979 June 1, 1988

From Davidson County
Michael Graves 1984 June 1, 1993

From Hamilton County
Paul J. Kinser 1969 June 1, 1987

From Knox County
Ann Baker Furrow 1971 June 1, 1989
James A. Haslam II 1980 June 1, 1989

From Shelby County
Sam Cooper 1981 June 1, 1990
Jack J. Craddock 1981 June 1, 1990

From Weakley County
James F. Harrison 1981 June 1, 1990

Student Member
Melinda Stokes 1984 July 1, 1985

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Phyllis D. Woods, A.A., B.S., M.S.
Assistant to the Chancellor

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Formerly the Board of Trustees for the University of Chattanooga, this Foundation presently manages the University’s private endowment. The Foundation is a unique institution dedicated to the enhancement of the quality of excellence at The University of Tennessee at Chattanooga.

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**History**

Near the end of the 19th century, Chattanooga was rapidly becoming the industrial center it is today. Its citizens were actively engaged in coal production, iron manufacturing, the lumber trade, and rail construction. These industrial pioneers knew the value of education and had a deep respect for learning. When the Methodist Episcopal Church began to explore the possibilities of developing a central university in the South, Chattanoogans came forward to work with the church in this effort.

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.

Retaining the disciplines of traditional liberal education, the University has expanded its degree programs in professional studies and engineering and greatly increased its initiatives in continuing education and public service.

The University's wide diversity of degree programs has attracted a current enrollment of more than 7,800 students who represent 66 Tennessee counties, 39 states, and 36 foreign countries.

**Accreditations**

The University has been an accredited member of the Southern Association of Colleges and Schools since 1910. It is also accredited by the National Council for Accreditation of Teacher Education, the National Association of Schools of Music, the National Council on Social Work Education, the American Chemical Society, the Engineering Accreditation Commission/Accreditation Board for Engineering and Technology, the American Assembly of Collegiate Schools of Business, and the National League for Nursing. It is approved by the American Association of University Women. 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, Association of Urban Universities, American Association of State Colleges and Universities, Council of Graduate Schools in the United States, National University Extension Association, and the Tennessee College Association.

**University Goals**

The University of Tennessee at Chattanooga is one of the principal campuses of The University of Tennessee system. Its institutional goals statement is presented with the expectation that The University of Tennessee at Chattanooga will be an outstanding educational institution whose primary purpose is to serve the people of the state and region through commitment of its faculty, staff, programs, and resources to excellence in undergraduate education and in selected areas of graduate study. The emphasis must be on teaching and learning; however, appropriate research and public service are viewed as supporting this primary objective. With this perspective, the goals of the University are:

- To encourage the enrollment of eligible persons of all ages and backgrounds in academic programs of their choice and to attract increasing numbers of students of superior ability and promise.
- To provide undergraduate programs in which liberal arts-based general education and career preparation are seen as mutually supportive and complementary.
- To maintain and develop programs in the liberal arts and in professional studies through which the university can function as the intellectual, cultural, social, and economic force it should be in the lives of its constituents.
- To provide graduate programs of those levels and types necessary to meet the ongoing assessed needs of the university service area.
- To expand opportunities for life-long learning through those continuing education programs which provide for career redirection, professional growth and development, and personal enrichment.
- To engage in periodic analysis and review of program quality in order to maintain the university's standards of excellence.
- To provide an outstanding faculty and staff supported with opportunities for renewal and development.
- To promote excellence in teaching; to provide a positive climate for research, creative activities, and public service; and to promote a climate conducive to constructive change.
- To encourage students to develop a continuous interest in learning by equipping them with the methods of inquiry and the capabilities necessary for independent study.
- To expand the university's capability for academic advising and guidance to help students formulate and achieve their educational and career goals, and to enable new students to make a smooth transition into their new educational environment.
- To provide academic support services for students who are strongly motivated but may not be totally prepared to meet all of the university's academic standards.
- To provide a varied and balanced program of activities designed to enhance each student's personal development, as well as contribute to the cultural, intellectual, social, and economic life of the region.
The University

— To foster effective communication, mutual respect, and understanding among all members of the university community.
— To promote the development of collaborative and mutually beneficial relationships with institutions, organizations, and agencies, both public and private.
— To provide the supporting staff, resources, and the physical facilities consonant with the above goals.

The preceding embodies UTC's commitment to two fundamental goals: to respond to the educational needs of the people it serves and to achieve standards of excellence in all of its endeavors. All planning for the future will be guided by these fundamental goals which shall be preeminent.

The Community

The University is located only a few blocks from the urban area of 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 169,565 in a metropolitan statistical area of over 426,000, Chattanooga is easily accessible from all parts of the nation by air and bus.
ADMISSIONS & REGULATIONS

10 Undergraduate Admissions
15 Student Financial Aid
19 Student Fees and Expenses
22 Academic Regulations
25 Undergraduate Degrees
28 Preprofessional Programs
31 Honors and Honors Societies
33 Graduate Studies
Undergraduate Admissions

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 telephone number is (615) 755-4157. Completed admissions applications and credentials should be sent to the same office. A $15 nonrefundable application fee is required of all candidates for admission who have not previously attended a University of Tennessee campus or the University of Chattanooga.

New students may be admitted at the beginning of either 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.

Orientation and Advising

Orientation programs for new freshmen and transfer students are directed by the Advisement and Orientation Office and combine the services and skills of the Admissions Office, the Registration Office, the Student Affairs Office, and the Counseling and Career Planning Center. These programs provide an introduction to the campus and University life. The Student Orientation Board, composed of upperclass student leaders, also has 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.

The Advisement and Orientation 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 all freshmen and all premajors. Results of aptitude and achievement tests as well as copies of the students’ records are made available to the advisers for use in advisement.

General Admission Requirements

The University has four classes of general requirements that the applicant must satisfy: character, health, admissions test, and credentials.

To meet the first requirement the applicant should show evidence of good moral character, usually by the recommendations of the high school principal or guidance counselor.

The second requirement, health, exists for the protection of the student. UTC students who reside in University housing or participate in the University health plan are required to submit a University health form completed by a physician.

An admissions test is required of all entering freshmen under 21 years of age through the American College Testing Program (ACT) or through the College Entrance Examination Board’s Scholastic Aptitude Test (SAT). Applicants are responsible for having the results of the test sent to the Admissions Office by either ACT or CEEB and should do so prior to their admission. Those who do not submit scores prior to their admission must do so early during their first semester. Information about and registration forms for either test may be obtained from a high school guidance counselor.

All pertinent academic credentials must be filed with the Undergraduate Admissions Office before the applicant may be officially admitted. These credentials include all high school credits or, in the case of students applying for advanced standing, college transcripts. The high school transcript may be sent any time after the completion of the junior year of high school; after graduation a supplementary transcript must be submitted including final senior year grades and date of graduation.

Specific Admission Requirements

Freshmen

UTC admits students who receive a high school diploma from state approved or regionally accredited high schools. Approved high schools are those on the approved list issued by the state Department of Education. For work done in schools outside of Tennessee, the University will usually honor credits accepted by the state university of that state.

Applicants for admission as freshmen who have a high school diploma must have achieved at least a 2.0 grade point average on a 4.0 grading system in four years of high school. A person who is under 21 years of age must submit admission scores on either the American College Test or
on the Scholastic Aptitude Test. The ACT is preferred and will be used primarily as an aid in advisement and academic placement. A person 21 years or older must meet the requirement of high school graduation or the equivalent, but need not meet the requirements of 2.0 grade point average or an admissions test score.

Students who graduate from unapproved high schools and apply as freshmen must have a minimum high school GPA of 2.0 and a minimum test score of 18 on the ACT or 850 on the SAT. Students who do not meet both these requirements may be admitted under the criteria of Conditions I and II specified below.

UTC has a simplified admission process that allows freshmen to be admitted as a result of their performance on the ACT or SAT. Freshmen will be notified immediately of their admission status by simply having their score report sent to UTC.

Applicants who do not meet the requirements stated above and who do not have a high school grade point average of 2.0 may be admitted by the dean of admissions and records by meeting one of the following conditions—

**Condition I:** Present a composite score of 18 or above on ACT or 850 on SAT.

**Condition II:** Applicants with a composite score under 18 on ACT or under 850 on SAT can be considered for admission on the basis of a letter of recommendation from a high school principal or guidance counselor and a personal interview with the dean of admissions and records and only under the following requirements—

1. Reduced course credit load (no more than 13 hours).
2. Specific adviser assignment in the Academic Advisement Center.
3. Specific requirements which may include designation of certain courses and other requirements to be prescribed by the dean of admissions and records.

Since the general education requirements for all degrees at the University include college study in English, humanities, behavioral sciences, natural sciences, and mathematics, to insure adequate preparation to do college work successfully an applicant should select as many high school units as possible from these areas. The student should plan a high school course of study so that it will meet all high school prerequisites for his or her area of interest. Proper high school preparation will insure that the student will not have to take college preparatory courses after enrolling. Prerequisites for the various degree programs are listed in next column.

Undergraduate students who demonstrate that they may be at academic risk may be required to enroll in certain courses and participate in programs, including summer programs, designed to enhance their academic skills. Credit accrued may not necessarily be applicable to a degree.

**American History Requirement**

Effective July 1, 1978, and afterwards, all students receiving a bachelor's degree must have completed one unit of American history on the high school level or six semester hours of college-level American history as

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### High School Units Recommended for Specific Programs at UTC

**Bachelor Degree Programs**

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<tr>
<td>Psychology (B.A.)</td>
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<tr>
<td>Psychology (B.S.)</td>
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<tr>
<td>Special Education: General (B.S.)</td>
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<td>2</td>
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<td>Theatre and Speech (B.A.)</td>
<td>4</td>
<td>2</td>
<td>1</td>
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**Notes:**

a) Recommended.
b) Mathematics or Science Education—geometry required, advanced math recommended.
c) Two units in one foreign language are recommended.
d) The three units of science should include physics.
e) To insure adequate preparation to do college work successfully applicants are strongly urged to select as many high school units as possible from the following areas: English, mathematics, natural sciences, behavioral sciences, and others from Group A. Accepted applicants indicating an interest in nursing will be classified prenursing majors. Admission to the Bachelor of Science in Nursing program is a separate procedure which takes place near the end of the sophomore year.

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Admissions—11
Admissions
required by the General Assembly of the state of Tennessee (Tennessee Code Annotated 549-3253).

Admission by Examination
Those mature students who achieve a high school equivalency diploma through the General Education Development test may be admitted to the University on the basis of the test provided that they have scored at least a 45 on the GED test. Such students are required, however, to meet high school unit prerequisites to courses required in the University's curriculum. Students under 21 years of age presenting a GED test score must also submit acceptable scores from either the ACT or SAT examination.

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 or certificate 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 courses open to him or her. 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 Students
Any student registered for credit courses may enter classes as an auditor, subject to the approval of the student's adviser and of the instructor whose class is audited. An audit registration may not be changed to a credit registration later than the last date of registration for the semester.

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 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% of the class sessions.

College Opportunity Program
The College Opportunity Program is designed to give outstanding high school seniors an opportunity to preview college through taking selected college courses. Courses are offered during the summer or during the regular academic year. Courses will be offered at convenient times on the UTC campus. 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 Opportunity 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. Completion of the 11th grade of high school,
3. A grade point average of at least a 3.0 (8), and
4. Recommendation of high school principal or guidance counselor.

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 at the end of the junior year in high school 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. 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 dean of admissions and records 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.

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 $15 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.
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 may be obtained from the Educational Testing Service, Box 899, Princeton, New Jersey 08540.
4. A medical record, filled out and submitted no earlier than six months prior to proposed entrance. All
foreign students must submit evidence of a negative tuberculin test prior to being given permission to enroll.

5. Evidence—dated no later 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. Transfer students must supply a letter of good standing from their Foreign Student Adviser or dean of students 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 Specific Requirements: Transfer Students.

Application deadlines are August 1 for the fall semester, December 1 for the spring semester. All admission materials should be sent to the Office of Undergraduate Admissions.

Post-baccalaureate Admission

See under Graduate Studies, page 33.

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 in the section on Specific Requirements: Transfer Students, 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.

Special Audit and Special Fee Students

Tennessee residents who are at least sixty 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 Continuing Education Office at (615) 755-4346.

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 complete official transcripts of their college work.

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 22 for standards). Students whose records do not meet the standards required by the University for admission will be denied admission unless, in the opinion of the dean of Admissions and Records, acceptance on scholastic probation is justified.

The University will usually accept, by transfer, work satisfactorily completed at regionally accredited colleges and universities. Transfer students from senior institutions must complete at least their last 30 academic semester hours of work at The University of Tennessee at Chattanooga. Transfer students from two-year institutions must complete their last 60 semester credit hours at a senior institution. A student who earns credit at a two-year college during his last 60 hours at UTC, may choose not to apply the credit toward graduation. Transfer courses are usually accepted at full credit value as either specific course equivalents or electives.

Students wishing to transfer to The University of Tennessee at Chattanooga from regionally unaccredited colleges and universities must meet UTC’s admissions requirements. Information concerning the acceptance of credit from such institutions will be furnished at the time of application. Transfer credits accepted by The University of Tennessee at Chattanooga will be entered on the permanent 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.

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 a transient student. 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. A letter indicating that the student is in "good standing" must be sent to the Office of Undergraduate Admissions from either the registrar or academic dean of their present institution.

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. Applicants who have taken the advanced placement examinations may submit the results to the University for consideration.

In general the University will 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
Credit earned through advanced placement will be entered on the student’s permanent record at the University but will not be computed in the grade point average.

**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 of the University 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.

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

**Cooperative Education Program**

The Cooperative Education Program provides students with the opportunity to gain practical work experience in their major. Students will be placed in a work experience setting which closely relates to their academic major. The students will be placed on an alternating schedule which requires that they work full time one semester and attend school full time the next semester, or on a parallel schedule which requires the students to work a minimum of 15 hours/maximum of 20 hours per week and attend school full time during the same semester.

Students placed in co-op should register with a major department for course 001 at the beginning of each semester they are employed. Only students who have advanced approval of the Office of Cooperative Education and their major department will be enrolled in this course.

**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 30 hours of degree credit work unless advanced approval has been granted by the Petitions Committee.

Catalogs of correspondence study offered through The University of Tennessee are available for distribution in the Office of Continuing Education.

**Credit for Experience**

Individuals who have not earned a baccalaureate degree may be eligible to receive credit for work experience, inservice training, and certified professional programs through the UTC Individualized Education Program. Information concerning the IEP is available in the Continuing Education Office, (615) 755-4346. A fee of $25 will be charged for each semester hour of credit awarded.

**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
4. courses in which the student has received a final grade of S, NC, or S.

A fee of $25 will be charged for each semester hour of credit.

Students seeking credit by special examination shall, on forms provided by the director of records, request approval from the permanent committee on special examinations established by the department under which the course is described in the catalog. The departmental committee will grant or deny the request pursuant to the standards stated on the request form. The departmental committee shall deny the request if it determines that the student would realize substantial benefits only from participating in the activities of the course in question.

The method for designing, administering, and evaluating the special examination will be determined by the departmental committee on special examinations. The examination shall in all circumstances be comparable in scope and difficulty to a comprehensive final examination in that course. No student will be allowed to repeat a special examination in a given course within one year.

The student will receive credit, to be recorded as S (Satisfactory) on the transcript upon demonstrating the development of the abilities and attitudes of students who have taken the course and upon passing the examination with a minimum equivalent grade of C. Examination results judged inadequate will be recorded as NC (No Credit) on the student’s transcript. Neither S nor NC grades will be used in computing the grade point average.

**Limitations on Nontraditional Credit:** Advanced Placement CLEP, IEP, Military Service, Special Examinations (Proficiency or Challenge Examinations), Competency Based Programs, ACT-PEP (Nursing majors only).

The maximum undergraduate credit that may be earned by these means is 60 semester hours. The limit for special or nontraditional credit is 30 hours for any one of these categories. Normally, nontraditional credit will not apply toward the last 30 hours of residency; however, students who have completed 30 hours of traditional course work at UTC and have not yet attempted the last 30 hours may petition to apply a maximum of 15 hours of these types of credit toward the last 30 hours. Application for IEP credit must be initiated no later than the semester preceding graduation.
Except for credit by special examination (undergraduate) most credit earned by these nontraditional means is elective. Exceptions to this principle may be made only with the written approval of the respective departments, indicating specifically the amount and type of credit to be applied to a major degree program.

Military Service Credit
The University may grant credit for military science to students with six or more months of honorable active service in the armed services of the United States or in a service academy. A total of 30 semester hours of elective credit, including basic military service, may be accepted from the Community College of the Air Force. University policy permits and encourages granting credit for appropriate educational experience in the armed services in accordance with their evaluation in the American Council on Education's 1978 Guide to the Evaluation of Education Experiences in the Armed Services or by the Commission on the Accreditation of Service Experiences evaluation service. Veterans requesting military service credit should submit a copy of their DD Form 214 to the Records Office for evaluation.

Student Financial Aid

In the belief that educational opportunities of qualified students should not be controlled by their financial resources, The University of Tennessee at Chattanooga offers a comprehensive program of student financial assistance. UTC uses a variety of resources to assist students who otherwise might find the costs of a college education prohibitive. Through federal, state, and university financial assistance 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 ability to pay that cost. To assist in determining the student's need for financial aid, the University uses the needs analysis system of the American College Testing Service (ACT). Through the use of the ACT Family Financial Statement 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 met with financial aid.

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, an academic merit scholarship program based only on academic achievement. Unless otherwise stated, to compete for merit scholarships only, a student must submit a UTC Application for Student Financial Aid. A financial statement is not necessary. Academic achievement is judged for entering freshmen by the applicant's secondary school academic record and scores on the American College Testing (ACT) or Scholastic Aptitude Testing (SAT) admissions tests. In many cases high school activities are also considered. Academic achievement for
Currently enrolled and transfer students is judged by the applicant's cumulative grade point average.

All scholarships, including merit scholarships, are highly competitive. Despite the generosity of University friends and alumni, there are not enough funds to provide aid to all qualified students. Early application is advised. Annual scholarship stipends range from $200 to $3,000.

Each year 25 outstanding entering freshmen are selected to participate in the William E. Brock Scholars Program. These scholars receive four-year stipends of $1,550 or $3,500. Selection is based on scholarship, leadership, and service. Application is made directly to the Brock Scholars program. For further information see the William E. Brock Scholars section of the catalog.

In addition to the Brock Scholars, fifteen prestigious merit scholarships are awarded each year to incoming freshmen: five Andy Holt scholarships (sponsored by the UT National Alumni Association) for $1,200 each and renewable for four years; five chancellor's and five leadership scholarships (sponsored by the UC Foundation) of $1,500 each and renewable for four years.

UT alumni valedictorian scholarships are available to the valedictorians of Tennessee high schools. UT alumni community college scholarships are available to the top two students of each of the Tennessee community colleges. These one-year $850 awards are available at all campuses of The University of Tennessee.

Trie University also offers a transfer scholarship program for students transferring from junior and community colleges. This scholarship recognizes the student's outstanding achievement for academic work in the two-year program. Each year four entering juniors are selected for these $850 two-year awards.

Approximately 600 scholarships are available for UTC students. Most scholarships are awarded for one year; however, although students compete for scholarships each year, priority is given to renewal applicants who meet the priority date. The UTC Application for Student Financial Aid is a general application and applicants will be considered for all scholarships coordinated by the University Financial Aid Office.

Music and athletic performance scholarship applicants should contact the director of their program of interest.

Students interested in Army ROTC should contact the UTC Military Science Department for information on two-, three-, and four-year scholarships. These scholarships pay the cost of all tuition, textbooks, and laboratory fees. Additionally, the scholarship student receives $100 per month (up to 40 months) subsistence pay during the academic year for the duration of the scholarship.

Grants

Pell Grants (formerly BEOG)

All undergraduate students applying for institutional assistance based on a financial need are to 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 submits the Family Financial Statement to the American College Testing Service. Approximately six weeks after the Family Financial Statement is mailed, the student should receive the Basic Grant Student Aid Report. Because the Student Aid Report indicates eligibility, it should be sent to the Financial Aid Office for award processing.

Maximum grants are $1,900 or not more than one-half the cost of education. The above regulations and provisions of the Pell Grant Program are subject to change by federal legislative action.

Supplemental Educational Opportunity Grants

This is a program of direct grants available to entering freshmen, transfer, and enrolled undergraduate students with financial need. A Supplemental Educational Opportunity Grant may not be less than $200 or more than $2,000. The above regulations and provisions of the Supplemental Educational Opportunity Grant are subject to change by federal legislative action.

Student Loans

National Direct Student Loans

Long term loans, at five percent interest, are available primarily through the National Direct Student Loan Program. Proven need for financial assistance determines eligibility.

Loan repayment and interest payments on National Direct Student Loans are deferred until after graduation or as long as the individual remains in half-time attendance at an accredited institution of higher education in the United States. Repayment may also be deferred for up to three years for special circumstances as outlined in the Higher Education Act of 1980. The maximum repayment period is normally 10 years with the current minimum annual repayment $360 or 10 percent of the accumulated loans, whichever is greater.

If upon graduation the borrower becomes a full-time teacher in a public or nonprofit school that is designated by the U.S. Commissioner of Education as having a high enrollment of low income families or becomes a teacher of the handicapped, 15 percent of the total principal plus interest is cancelled for the first and second year of teaching, 20 percent for the third and fourth years, and 30 percent for the fifth year. If after graduation the student becomes a staff member in a Title I preschool program that is operated for a period comparable to a full school year, 15 percent of principal plus interest will be cancelled for each year of service.

An undergraduate may be extended a maximum annual loan of $1,500 to an accumulated loan total of $6,000 for an undergraduate and $12,000 for a graduate student. The above regulations and provisions of the National Direct Student Loan Program are subject to change by federal legislative action.

The UTC Underwood and Ansbach Loan Funds

Student loans from University sources are available to currently enrolled students with a 2.0 or above cumulative grade point average. A loan of up to $1,200 a year can be offered. One surety or cosigner is required for each promissory note. Repayment of principal, together with any unpaid accrued interest thereon, shall be made over a
period commencing the first of the fourth month following graduation, withdrawal, or transfer from the University, or following the date on which the borrower ceases to carry at least one-half the normal full-time academic workload as defined by the University. Repayment of principal, together with interest thereon, is made in monthly or quarterly installments (as agreed to between the principal and the University) at the rate of not less than $30 per month plus accumulated interest or 1/36 of the amount of this note, plus accumulated interest, whichever is greater. The interest is six percent per annum. The borrower may, without penalty, pay all or part of the loan at any time before the maturity date.

Nursing Student Loans
The Nursing Student Loan is available to students who are enrolled or admitted as students in a course of study leading to a baccalaureate or graduate degree in nursing and who show need of assistance in order to pursue their course of study. The program provides a long-term loan at a six percent interest rate with repayment beginning nine months following termination of half-time study at an accredited school of nursing. Repayment may also be deferred for a period up to three years while the borrower is serving in the armed forces or Peace Corps or up to five years for a full-time course of study leading to advanced professional training.

The above regulations and provisions of the nursing loan program are subject to change by legislative action.

Student Employment

College Work Study
The University participates in the College Work-Study Program administered by the United States Department of Education. To be eligible for the College Work-Study Program, a student must be accepted for admission or be in good standing if currently enrolled. 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. The UTC Application for Student Financial Aid and the ACT Family Financial Statement are required.

On-Campus Institutional Employment
Employment opportunities provided under the institutional student employment program are offered to students who indicate a desire to work on campus and who have the job skills required by the individual hiring department. The Financial Aid Office handles on-campus student employment. A job pool is maintained of on-campus job opportunities. All departments of the University contact this service with their part-time job needs.

Job Location and Development Program
The Job Location and Development Program at The University of Tennessee at Chattanooga is a federally and University funded service designed to place students, regardless of their financial need, in off-campus part-time positions. Students must meet the job requirements of the off-campus employer. The money the students earn assists them in completing their college education. Interested students should complete the UTC Student Employment Application available in either the UTC Financial Aid Office, 216 Race Hall, or the UTC Placement Office, 219 University Center.

Student Placement Service
Student Placement Service also works with students regardless of their financial need. Job listings are made available to students. In addition, Student Placement works extensively with graduate candidates and provides such services as career days and resume help. Student Placement Services is located in the University Center.

Other Assistance

Georgia Tuition Equalization Grant
Grants are made by the Georgia Finance Authority for $362 a 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. Applications are available in the UTC Financial Aid Office.

Guaranteed Student Loans
These loans may be available to help meet educational expenses through the federal government or a state guaranteeing agency. Students should contact their local bank, credit union, or savings and loan to determine their participation in the program. If the student is unable to find a lender, he or she should check with the Financial Aid Office. To receive the loan, a student must be admitted to or in regular attendance and in good standing at the University. Interest on such loans is paid by the federal government while the student is in school. During the repayment period, which begins no less than six months after graduation or withdrawal from the University, the student pays up to eight percent simple interest. The maximum amount of a loan to an undergraduate in a 12-month period is $2,500.

Total loans outstanding may not exceed $15,000 for the undergraduate or $25,000 for the graduate student.

Complete information is available at most banks and credit unions. If you are unable to secure a guaranteed student loan from your hometown bank or credit union, contact the UTC Financial Aid Office for further instructions.

PLUS Loans
A non-need-based source of loan funds available to the parents of dependent undergraduates as well as independent undergraduates and graduate/professional students.

The parents can borrow up to $3,000 for each undergraduate dependent child, not to exceed the cost of attendance minus financial aid. Independent undergraduates may borrow up to $2,500 per year. This $2,500 maximum includes any loans taken under GSL as well as PLUS.
Graduate/professional students are entitled to borrow up to $3,000 per year. They may also borrow up to $5,000 per year under the GSL provisions. Therefore, graduate/professional students may borrow up to a total of $8,000 per year under GSL and PLUS combined, not to exceed need, which is defined as the cost of attendance minus estimated financial assistance.

The cumulative maximum loan amount that can be borrowed by a parent for each dependent undergraduate student is $15,000. Independent undergraduates may borrow a cumulative maximum of $12,500 including GSL borrowing. The cumulative maximum loan for graduate/professional students is $15,000 from PLUS. In addition, these students may borrow up to $25,000 (aggregate includes undergraduate and graduate loans borrowed) from GSL, resulting in a cumulative maximum loan from both programs of $40,000.

The interest rate on PLUS loans is 12 percent.

There is no federal interest subsidy on PLUS loans. If the borrower is a parent or a less than full-time student, repayment of interest and principal must begin within 60 days of disbursement of the loan. If the borrower is a full-time student, or qualifies for some other deferment (i.e., parents in military), he or she goes into deferment for the principal only. Payment of interest must begin within 60 days of the loan disbursement. The lender may grant forbearance of accrued interest and capitalize it when repayment resumes.

Detailed information and application forms are available directly from lenders or from the Financial Aid Office. It is also possible to obtain information and application forms from state guarantee agencies.

Tennessee Student Assistance Corporation
Grant Program

Grants are made by the Tennessee Student Assistance Corporation to residents of the state of Tennessee who show a financial need as supported by a financial statement. Applications for these awards, which normally cover one-half of tuition costs, are available in the UTC Financial Aid Office, a high school counselor’s office, or from TSAC, Nashville, Tennessee. Students should apply before May.

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 renewal of financial aid.

1. Although applications will be processed throughout the year, students should complete and submit the Student Financial Aid application on or before the following priority deadline dates to receive maximum consideration for all available funds:

   /Academic year—March 1: entering freshmen and transfer students
   April 1: currently enrolled students
   Spring only—November 1: all students
   Summer only—March 15: all students

2. Students should complete and submit a Family Financial Statement to the American College Testing Service approximately six weeks prior to the priority deadlines. If applying only for academic merit scholarships a financial statement is not required.

3. All undergraduate students applying for assistance based on financial need should apply for the Pell Grant.

4. Students should have begun the process for admission to the University prior to or at the same time as applying for financial aid.

5. Tennessee residents should apply for the Tennessee Student Assistance Award if requesting aid based on financial need.

6. Federal regulations require that UTC have a financial aid transcript on file from each school (beyond high school) a student has previously attended. It is the responsibility of each student to see that the completed transcripts are sent to the UTC Financial Aid Office. Blank financial aid transcript forms are available from the Financial Aid Office.

7. The Financial Aid Office notice of award is the UTC financial aid award letter. Students who accept their awards by July 31 (fall) and November 30 (spring) should have funds available at fee payment.

The Financial Aid Office regularly provides assistance with the financial aid application process and financial budgeting. Also, a student may request a review of the determination of the student’s need and award.

For applications and further information on financial aid write the Financial Aid Office, 215 Race Hall, The University of Tennessee at Chattanooga, 615 McCallie Avenue, Chattanooga, Tennessee 37403.
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. Exceptional cases, including guardianships, are given special consideration and are determined on the basis of 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 with this information in order that a reappraisal of residence status may be made.

Tuition and Maintenance Fees

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<th>Maintenance Fee</th>
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<td>$72 per semester hour or fraction thereof; minimum charge $144</td>
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Tuition and Maintenance Fee
(Out-of-state students only)

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<th>per semester $1,558*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$174 per semester hour or fraction thereof; minimum charge $348</td>
</tr>
</tbody>
</table>

•Thirty dollars of the fee is allotted to the bond obligation of the University Center.

Student fees are established by the University of Tennessee Board of Trustees and are subject to change without notice.

Activity Fee
All students registered will be assessed a $1 activity fee. The fee shall be administered by the student senate.

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.

Disabled Persons Fees
Tennessee residents who are totally disabled 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 100 percent disabled may audit classes on a space available basis at the University without paying a fee.

For more information call the Continuing Education Division at (615) 755-4346.

Listener’s Fee
Individuals 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 Continuing Education Division at (615) 755-4346.

Health and P.E.
Various fees are charged to students enrolled in special Health and P.E. classes. Fees are due on the official date of fee payment and paid with regular tuition and maintenance fees.

Bowling: ........................................ $19
Canoeing & Rafting: ............................ 10
Camping & Outdoor Education: ............. 10
Ice Skating: ..................................... 40
Hiking & Backpacking: ....................... 10
Skin & Scuba Diving: ........................... 20
Sailing: ........................................... 15
Water Skiing: .................................... 25
Rock Climbing & Rappelling: ............... 10

Fees are subject to change after the printing of this publication.

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

Per one-half hour instruction: ............... $30
Per one hour instruction: ...................... $60

Post-baccalaureate Fees
Post-baccalaureate students pay fees at the undergraduate rate.

Senior Citizens Fees
Tennessee residents who will become 65 years of age or older during the academic semester in which such
persons 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 over during the academic semester in which such persons begin classes may audit classes on a space available basis at the University without paying a fee.

For more information call the Continuing Education Division at (615) 755-4346.

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

Other Expenses

Application Fee ............................. $15
A nonrefundable fee payable at the time initial application is made.

Bad Check Fee
Any checks received by the University which fail to clear the bank on which drawn will incur a service charge of $10 if paid within the first seven days. After the seventh day the service charge will increase to $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 and reinstatement fees in effect at the time the student redeems the check. Check writing privileges will be revoked for those students writing three or more bad checks to the University.

Graduation Fee

Bachelor's Degree, ............................. $20
Master's Degree, ............................. $30

Fee is payable at the beginning of the semester in which the candidate is to graduate. Academic robes will be available for purchase from the bookstore.

Housing
Room rents vary from $445 to $650 per semester according to the accommodations available. A $25 reservation/damage deposit is required from students applying for housing. In addition a $75 advance payment is required for fall semester. Fees not paid on regular fee payment will incur a $10 late fee within the first seven days. After seven days the late fee will increase to $15. If the University must bill for dorm fees a $5 deferred fee will be due in addition to the late fee.

Meals
Meals in the University cafeteria are served a la carte. Meal tickets may be purchased at the University cafeteria.

Orientation
A $35 fee for the two-day sessions includes one dinner, one lunch, and a breakfast, as well as an overnight dormitory stay. The fee also covers cost of booklets and orientation materials.

Parking
Reserved parking decal ....................... $48 per semester
General parking decal ........................ $30 per year

Special Examination Fees
Payable for each proficiency or validation examination.
Undergraduate ............................... $25 per credit hour
Graduate ...................................... $44 per credit hour

Fee Payment

General
A student will not be allowed to register with a debt due the University.

On Saturdays when the Registration Office or Business Office may be open for a part of the day, the late registration service fees scheduled to be in effect on the following Monday will apply to fee transactions handled on Saturday.

No student is officially authorized to attend classes until he or she has properly registered and paid fees.

Upon receipt of full, partial, or incomplete schedule, students are registered and responsible for payment of fees. The Registration Office must be notified in writing prior to the first official day of classes that he/she wishes to cancel registration. Those students that withdraw after classes will be responsible for a percentage of fees plus late fees according to the withdrawal charge under "Refund of Fees and Adjustments." Students which have not paid fees or made satisfactory arrangements with the Bursar by the tenth business day will be cancelled. This applies to all students regardless of source of funds, including those whose fees are billed, deferred, waived, or paid with personal funds. Students must have their fee receipt validated on the official fee payment dates to void the assessment of late fees.

Before paying fees, check your fee card to be sure your name, social security number, and all charges are assessed and correct. Additional courses and/or assessments which must be billed will be assessed a $5 deferred fee.

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

The University accepts cash, checks, MasterCard and Visa for payment of fees. Counter checks are not accepted. If unable to pay fees on the regular fee payment days, prepayment is accepted in the Bursar's Office or by mail. Late fees will be assessed according to postmark date.

Fall and Spring Semester
Students must pay their fees on the regular dates designated for this purpose. For more detailed information regarding fee payment dates, refund information, etc., refer to the schedule of classes (STARS) for the particular term in question. Effective the first regular business day (excluding Saturday, Sunday, and any holidays) following the last regular fee payment day, a graduated late service fee of $2 per regular business day
will be charged during the next ensuing five regular business days ($2 the first day, $4 the second day, $6 the third day, $8 the fourth day, and $10 the fifth day). On the sixth day, students will be charged a total of $20, the eleventh day a total of $30 and on the sixteenth day a total of $40. In addition to the late fee a $20 reinstatement fee will be in effect as of the eleventh day "if allowed to continue."

**Summer Terms**

For summer terms a graduated late service fee of $2 per regular business day will be charged during the five regular business days following the last regular fee payment day ($2 the first day, $4 the second day, $6 the third day, $8 the fourth day, and $10 the fifth day). Students who have not completed registration and paid their appropriate charges within five ensuing regular business days after the last regular fee payment day, will be cancelled from the University. A schedule of late fees will apply in accordance to the Fall and Spring semester "if allowed to continue."

### Refund of Fees and Additional Charges

#### General

No refund is due on courses which 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 refund periods are based on the official first day of classes for the University, as published in the catalog and schedule of classes.

All charges and refunds will be made to the nearest even dollar. All charges are subject to subsequent audit and verification and 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. Students not responding to such statements will be withdrawn from the University. The withdrawal does not relieve the financial responsibility. If withdrawn a $20 fee must be paid to be reinstated.

Refunds on dropped courses, in accordance with the refund policy, will not be made until after the tenth week of the semester.

#### Fall and Spring Semesters

Refunds for withdrawal from all classes during a fall or spring semester are as follows.

<table>
<thead>
<tr>
<th>Number of calendar days*</th>
<th>Percentage of refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10</td>
<td>100%</td>
</tr>
<tr>
<td>11-20</td>
<td>60%</td>
</tr>
<tr>
<td>21-30</td>
<td>40%</td>
</tr>
<tr>
<td>31-40</td>
<td>20%</td>
</tr>
<tr>
<td>41 &amp; after</td>
<td>0%</td>
</tr>
</tbody>
</table>

If the courses dropped do not result in complete withdrawal, then the following refunds apply.

<table>
<thead>
<tr>
<th>Number of calendar days*</th>
<th>Percentage of refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>100%</td>
</tr>
<tr>
<td>4-6</td>
<td>60%</td>
</tr>
<tr>
<td>7-9</td>
<td>40%</td>
</tr>
<tr>
<td>10 &amp; after</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Counted from the first official day of classes.

#### Summer Terms

Refunds for withdrawal from all classes during each summer term are as follows.

<table>
<thead>
<tr>
<th>Number of calendar days*</th>
<th>Percentage of refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>80%</td>
</tr>
<tr>
<td>4-6</td>
<td>60%</td>
</tr>
<tr>
<td>7-9</td>
<td>40%</td>
</tr>
<tr>
<td>10-12</td>
<td>20%</td>
</tr>
<tr>
<td>13 &amp; after</td>
<td>0%</td>
</tr>
</tbody>
</table>

If the courses dropped do not result in complete withdrawal, then the following refunds apply.

<table>
<thead>
<tr>
<th>Number of calendar days*</th>
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</tr>
</thead>
<tbody>
<tr>
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<td>60%</td>
</tr>
<tr>
<td>7-9</td>
<td>40%</td>
</tr>
<tr>
<td>10 &amp; after</td>
<td>0%</td>
</tr>
</tbody>
</table>

*Counted from the first official day of classes.
Academic Regulations

Catalog Effective Dates

The catalog in effect at the time of entry 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, the catalog in effect when a new major is selected, or a catalog reflecting a revised curriculum. Transfer students may use the catalog in effect at the time of their first entry into college provided that the transfer to this institution is made within five years of that date.

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

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 16 hours each semester. Schedules of over 20 hours are not permitted unless the students have obtained advance approval of the Petitions Committee.

The maximum load for any term of summer is 7 hours; any combination of terms is 10 hours, and the maximum registration is 16 hours for the entire summer session. Any exceptions must receive advance approval by the Petitions Committee.

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. 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. For any undergraduate degree, students must complete a minimum of 30 hours of courses at the 300 level or above.

Course Numbers

<table>
<thead>
<tr>
<th>Course Numbers</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>000-099</td>
<td>Activity, service, or noncredit courses. A maximum of eight hours of 5 grade in courses in this group may be applied toward a degree.</td>
</tr>
<tr>
<td>100-199</td>
<td>Primarily for freshmen but may be taken by sophomores and juniors. Senior registrations at this level are not recommended.</td>
</tr>
<tr>
<td>200-299</td>
<td>Primarily for sophomores but open to juniors and seniors.</td>
</tr>
<tr>
<td>300-399</td>
<td>Juniors and seniors.</td>
</tr>
<tr>
<td>400-499</td>
<td>Seniors and graduate students. When taken for graduate credit, the letter C will precede the credit hours.</td>
</tr>
<tr>
<td>500-699</td>
<td>Restricted to fully qualified graduate students.</td>
</tr>
</tbody>
</table>

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

Retention and Continuation Standards

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

<table>
<thead>
<tr>
<th>Hours Attempted</th>
<th>Grade Point Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-23</td>
<td>1.0</td>
</tr>
<tr>
<td>24-39</td>
<td>1.5</td>
</tr>
<tr>
<td>40-55</td>
<td>1.8</td>
</tr>
<tr>
<td>56 and above</td>
<td>2.0</td>
</tr>
</tbody>
</table>

Students who achieve the required cumulative grade point average for the hours attempted are considered to be 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.
2. Academic suspension for one semester will follow if probation is not removed by raising the grade point average to required standards or if a 2.0 average for the semester of probation is not achieved. The complete summer session is considered a period of suspension. 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 requirement must apply for readmission through the Admissions/Readmissions Committee.

3. 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 unless an appeal is filed with the Petitions Committee and acted upon favorably.

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

Students who are either suspended or dismissed have the right to appeal for reentry if they believe that extenuating circumstances were responsible for their poor academic achievement. Students who wish to appeal for reentry to the term that immediately follows their suspension or dismissal, including any term of the summer, must complete a petition form available in the Office of Records. In addition, dismissed students who wish to appeal for reentry before the end of a calendar year must also complete a petition form available in the Office of Records. Appeals for the term in which reentry is sought must be made by the third day of classes for the fall and spring semester and the second day of classes of any summer term.

Although readmission is not automatic, dismissed students who wish to appeal for reentry after the lapse of at least one calendar year must complete their appeal through the Office of Admissions on special forms available in that office. These appeals must be submitted before the first day of classes of the term in which reentry is sought.

Academic action is recorded on the permanent record card.

**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. Unlike these latter actions, academic warnings do not appear on the student’s permanent academic record.

**Academic Alert**

Academic alert may be noted on the grade report for any student whose cumulative average is below 2.0 even though the student meets minimum requirements for continuation.

Undergraduate students who demonstrate that they may be at academic risk may be required to enroll in certain courses and participate in programs, including summer programs, designed to enhance their academic skills. Credit accrued may not necessarily be applicable to a degree.

**Grading Policies**

**Grades**

A represents superior performance in the course.

B represents commendable performance in the essentials of the course.

C represents acceptable performance in the essentials of the course.

D represents marginal performance below the acceptable standards of university work.

S is given for courses completed on a satisfactory/no credit basis. The hours are not computed in the grade point average. **Not more than eight hours in Health and Physical Education 039, Varsity Sports, may be applied toward the 128 hours required for a degree.**

NC represents failure to complete the requirements in satisfactory/no credit courses. The attempted hours are not computed in the grade point average.

/ may be 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 Office of Records 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.

IP is used as an interim grade for departmental honors courses numbered 495r and indicates work in progress. It must be removed by the end of the next regular semester or the In Progress becomes an F. The IP will not be computed in the grade point average during the interim.

F indicates unqualified failure and the necessity for repeating the course to obtain credit.

W indicates official withdrawal from one or more classes after the first two weeks of classes, and up to the last six class weeks before the final examinations. Comparable deadlines apply to each of the summer terms.

**Quality Points**

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

A—4

B—3

C—2

D—1
Grade Point Average

Continuation in the University, rank in class, and eligibility for honorary organizations or fraternities and sororities and for scholarships are based on the grade point average. This average is 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. See section below for policy on replacement of grades.

Repeated Courses

1. A student may replace grades of C or lower as many as five times; courses in which grades of S, NC, and W were earned will not count in the allotted number of replacement grades.
2. The policy will take effect in 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.
3. All grades, except the five replaced grades, will be used in the grade point average computation.
4. In any repeated course, excluding "r" courses, a student forfeits the first earned hours, if any.
5. Courses in which grades of A or 8 were earned cannot be repeated except for "r" courses. If an A or 8 is repeated, the repetition will be changed from credit to audit.
6. 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.
7. 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 F's, 3 hour F's, 2 hour F's, 4 hour D's, 3 hour D's, 2 hour D's, 1 hour F's, 1 hour D's, 4 hour C's, 3 hour C's, 2 hour C's, 1 hour C's. In the case of a tie, a grade in a course within the student's major will be replaced first.
8. Students are responsible for indicating at the time of registration that they are repeating courses.

Withdrawals

Once registration materials have been submitted for a semester or summer term, the student is considered to be enrolled and is liable for fee payment, unless he or she notifies the Registration Office in writing before the first day of classes of his or her intent to withdraw. After a semester or summer term is in session, a student is expected to attend all classes until or unless he or she notifies the Registration Office in writing of the student’s intent to withdraw from the University or from one or more classes.

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.

Withdrawal deadlines for each semester or term are noted in the schedule of classes. Appropriate forms are available in the Registration Office.

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. 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 class schedules. Any request for an exception to the withdrawal deadline must be made to the director or the associate director of advisement and registration.
The University offers undergraduate programs which lead to the degrees of Bachelor of Arts, Bachelor of Fine Arts, Bachelor of Music, Bachelor of Science, Bachelor of Science in Engineering, Bachelor of Science in Nursing, and Bachelor of Social Work. Majors offered with these degrees are as follows (specific requirements, including study in related areas, are outlined in the appropriate colleges and divisions):

American Studies (B.A.)
Concentrations: American History, American Literature, Philosophy
and Religion, Political Science, Sociology-Anthropology

Applied Mathematics (B.S.)
Concentrations: Actuarial Science, Corporate Science, Computer Science, Systems Science

Art (B.A., B.F.A.)
B.F.A. Concentrations: Art Education, Graphic Design, Painting, Sculpture

Business Administration (B.S.)
Concentrations: Accounting, Finance, General Management, Industrial Management, Marketing, Office Management, Personnel Management, Secretarial Science

Chemistry (B.A. and B.S.)
Communication (B.A.)
Concentrations: Advertising, Broadcasting and Electronic Media, Broadcast Journalism, Journalism, Public Relations

Computer Science (B.S.)
Concentrations: Information Systems, Scientific Applications, Systems Architecture, Topical

Criminal Justice (B.S.)
Concentrations: Corrections, Crime Control, Juvenile Justice, Law and the Courts, Law Enforcement

Early Childhood Education (B.S.)
Economics (B.A. and B.S.)
Elementary Education (B.S.)
Engineering (B.S.E.)
Concentrations: Electrical Engineering, Industrial Engineering, Mechanical Engineering, Chemical Engineering, Civil Engineering

Engineering Management (B.S.)
English and American Language and Literature (B.A.)
Includes concentration in writing

Environmental Studies (B.S.)
Concentrations: Biology, Chemistry, Engineering Science, Geoscience, Mathematics, Physics, Sociology-Anthropology

Foreign Languages: French, Greek and Latin, Latin, and Spanish (B.A.)
Geology (B.S.)
Concentrations: General Geology, Coal Geology

History (B.A.)
Home Economics (B.S.)
Concentrations: General (Child and Family Development, Foods and Nutrition, Management and Consumer Science);

Additional minors may be developed.

Usage Notes
The letter r following a course number means that, because of a difference in content from semester to semester, a class may be taken more than once for credit. Example: Art 205r.

A capital letter (A, B, C, D, F, or G) prefixed to a course number means that that course can also be used to satisfy the general education requirement of the category indicated. Example: Mathematics F136.

Category E does not apply to the revised general education requirements (effective for new students entering fall 1982) and has been intentionally left out.
Degree Requirements

I. General Education Requirements

The general education requirements described below were approved by the faculty to become effective for new students who enter in the fall of 1982 and thereafter. Courses are continually being reviewed to meet the criteria for general education certification; the lists below, therefore, will be expanded throughout the year. Anyone who changes to the current catalog must meet all requirements.

The general education program is minimal. In setting forth such requirements the faculty is not implying that the requirement is all that the student needs in each category; nor is the faculty implying that any particular course offers a thorough knowledge of the discipline. Provided with an introduction and a point of departure, each student and his or her advisers determine the student’s needs and direction for furtherance of his or her education. Courses meeting general education requirements are identified in the class schedule for each semester although all courses currently approved are listed below with each category. Generally, with the exception of laboratory courses in Category D which normally carry four credit hours, only courses earning a minimum of three semester hours of credit may fulfill a general education requirement. It is University policy that a student not schedule courses above his or her class level without permission of the department offering the course.

With the exception of majors in general areas such as humanities, students must select courses outside the major discipline in all general education categories. Students should complete the requirements for Category A (Written Communication) within the first 42 hours of academic credit attempted and Category F (Mathematics) at their earliest opportunity.

For transfer students, courses must be equated to approved general education courses in order to satisfy requirements. In Category D, 3.33 semester hours constitute a course for transfer students provided that the equivalency is an approved UTC general education course.

Students enrolled prior to fall 1982 should consult earlier catalogs or schedules of classes for courses certified for general education.

Category A

Written Communication in the English Language (6 hours)

Courses in Category A are intended to help students improve their power to understand, to read, and to write the English language; to help them clarify and articulate thought; and to help them treat language as an instrument and model for understanding and appreciation. The primary emphasis is on written composition. The following courses satisfy this requirement.

English 101,102; University Honors 101,102.

Category B

Humanities and Fine Arts (9 hours—3 hours from Humanities, 3 hours from Fine Arts, and 3 hours from either)

Courses in Category B offer students opportunities to develop an appreciation for achievements in art, music, theatre, and literature; to acquire a sense of historical perspective; and to gain some knowledge of perennial and changing issues in philosophy and religion. Majors in education may not use history in this category to satisfy state requirements for humanities. The following courses satisfy Category B requirements.

Humanities: Classics 310, 396; English 103,111,203, 207; History 101,102, 203, 204, 310; Philosophy 106, 201,221,425; Political Science 212,313; Religion 103, 221,222, 236; University Honors 101,102; University Studies 210.

Fine Arts: Art 111, 211, 301; Music 111; Theatre and Speech 111,115; University Honors 103.

Category C

Behavioral and Social Sciences (6 hours)

Courses in Category C offer students opportunities to explore the nature and complex functioning of human beings as individuals and in societies and cultures, including as integral to that exploration study of the principles, scope, and methods of the behavioral and social sciences. The following courses satisfy this requirement.

Anthropology 152, 211; Economics 101,102; Human Services 101; Political Science 101,202,302; Psychology 101, 241; Social Work 210; Sociology 125, 151, 215, 220; University Honors 105,106.

Category D

Physical and Natural Sciences (4 hours)

Courses in Category D offer students an understanding of the principles and scope of the physical and natural sciences. A fundamental part of these courses is the study of historical and contemporary ways in which these fields aid in understanding the natural and physical universe and also aid in the accomplishment of technological goals. Courses in this category must be laboratory courses. The following courses satisfy this requirement.

Anthropology 209; Astronomy 102; Biology 121; Chemistry 121, 125; Environmental Studies 150; General Science 111; Geology 111; Physics 103; University Honors 107,108.

Category F

Mathematics (3 hours)
Courses approved for this category are intended to help students acquire some appreciation for mathematics as a creative activity of the human mind and some understanding of its usefulness in comprehending the physical universe. These objectives are supported by appropriate emphasis on computational skills and on the ability to work with mathematical symbols. The following courses satisfy this requirement.

Mathematics 115, 120, 136, 145, 150, 155, 210; Philosophy 212.

**Category G**

**Perspectives (3 hours)**

Courses in this category offer a special opportunity for students to achieve an understanding that reaches beyond their time and place by developing a sense of the importance and relevance of the past or of other societies and peoples through studies in: 1) non-Western cultures and civilizations; 2) major achievements or tragedies of Western civilization; 3) development, meaning, and impact of major scientific discoveries and theories; and 4) development, meaning, and impact of important economic, political, social, or technological ideas and policies. The following courses satisfy this requirement.

Anthropology 208, 333; Classics 110; Engineering 211; English 233, 257, 397; History 114, 208, 211; Human Services 300; Modern Languages 201; Music 214, 397; Political Science 102, 244, 314; Religion 211, 232; Social Work 250.

**II. American History**

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.

**III. Physical Education**

Health and Physical Education 021, is required in the first year, plus one additional physical education activity course with the exception of varsity sports. Transfer students who have already successfully completed two one-semester hour courses in physical education activity, excluding varsity sports, will be considered as having met the requirements.

The University may grant the individual student a deferment or waiver after reviewing the necessary records submitted by the student. Waiver of this requirement may be granted in accordance with the following policies:

1. Students who are 25 years of age on or before the first day of classes of the semester under consideration.
2. Recommendation of a licensed physician. (Any student having medical restrictions yet desiring to take physical education may have a program designed exclusively for him or her by enrolling in Health and Physical Education 025. Guidance, participation, and evaluation are structured on an individual basis.)
3. Veterans with at least one year of military service.

Students receiving a deferment or waiver of this requirement will be responsible for meeting the credit hour requirement for graduation.

**IV. Foreign Language**

For BA and M.A. degrees: completion of second college year of a sequence in one foreign language. (e.g. French or German or Spanish 211 and 212 or French or German or Spanish 213 and 214 or Latin 201 and 202). Every student is advised to begin or to continue a foreign language study during the student’s first year at the University or his or her first year as a candidate for the degree.

A student whose native language is not English and who is pursuing a BA or B.M. degree will fulfill the foreign language requirement by meeting the English requirements for foreign students: English 161, 101, and 102.

**V. Major**

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

**VI. Additional Requirements***

A. Electives to complete a minimum of 128 semester hours of credit.

Candidates for the Bachelor of Science in Engineering degree must complete 137 semester hours and co-op Engineering graduates will need 147 semester hours.

A minimum of 30 semester hours must be completed in residence on this campus, and the final 30 semester hours must be completed in residence courses at The University of Tennessee at Chattanooga. Students who have attended a junior or community college must complete the last 60 semester hours at a four-year college or university with the last 30 hours in residence at The University of Tennessee at Chattanooga. See page 00 for further information.

B. A minimum of 30 hours of the 128 hours needed for graduation must be earned at the 300 level or higher.

C. A minimum grade point average of 2.0 must be achieved—

1. On all cumulative work undertaken and
2. On all hours attempted at The University of Tennessee at Chattanooga and
3. 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.

*See pages 22-24 for additional information on academic regulations.
Preprofessional Programs

Degree Regulations

Academic Residency Requirements
The final 30 semester hours must be completed in residence on this campus, and a 2.0 average must be earned on these hours. Special arrangements to allow work taken at other University of Tennessee campuses to be counted as part of this requirement must be approved by the Petitions Committee.

Students who attend a junior or community college at any time in their academic career must complete the last 60 semester hours at a senior college with the last 30 of those 60 completed at The University of Tennessee at Chattanooga.

Before entering professional school, students in combined programs must complete at The University of Tennessee at Chattanooga the last 30 of the 98 semester hours of undergraduate study.

Application for a Degree
The student is responsible for applying for a degree with the Office of Records not later than the beginning of his or her final year. A student who neglects to file application must wait until the next degree-conferring period to be awarded a degree. The graduation fee is $20 for undergraduates and $30 for graduate students and must be paid before the diploma will be released.

Limitations for B.A. Degree
Not more than 42 hours in any one department may be applied toward a Bachelor of Arts degree.
Not more than six hours in certain subjects (all office administration courses; all home economics courses except 105; Engineering 102) may be applied toward a Bachelor of Arts degree.

Second Bachelor's Degree
A student who has received one bachelor's degree may receive a second bachelor's degree provided that all specific requirements for both degrees are met, that the curriculum for the second degree includes at least 90 hours (with a 2.0 average) not offered for the first degree, and that an additional year is spent in academic residence.

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 128 semester hours, which include both the general education requirements and a major. Under the combined programs a student may receive the bachelor's degree from The University of Tennessee at Chattanooga 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 forestry, medicine, dentistry, or medical technology. A Dual Degree Program for combined undergraduate and graduate study in political science or public administration is offered in conjunction with The University of Tennessee, Knoxville.

Before entering professional school, the student in a combined program must have completed all but 30 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 30 semester hours of the three-year undergraduate program must be earned at The University of Tennessee at Chattanooga.

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. The graduation fee is $20.

Forestry (B.A.)
The student completes three years or a minimum of 98 semester hours of undergraduate study at UTC. The undergraduate program should include one year each of biology, including botany; chemistry; economics, including macroeconomics; mathematics, including analytical geometry and calculus; physics; and a major in a behavioral or natural science.

At the beginning of the student's senior year, he or she transfers to the School of Forestry of Duke University and takes the first year of the professional program in forestry. At the completion of that year, the student may receive the Bachelor of Arts degree from UTC. At the end of the
second professional school year at Duke, the student may receive the Master of Forestry degree from Duke University.

Preparation for Health Professions

Students wishing to enter dentistry, medicine, or one of the other health fields such as cytotechnology, dental hygiene, medical technology, pharmacy, physical therapy, or veterinary medicine may complete their preprofessional training at The University of Tennessee at Chattanooga before going on to a professional school.

For the Bachelor of Science in Nursing program, which is offered by The University of Tennessee at Chattanooga, see page 168. This is not a combined program.

The various curricula available at The University of Tennessee at Chattanooga have been prepared with the cooperation of The University of Tennessee Center for Health Sciences at Memphis and include the specific requirements for admission to the respective colleges of the medical 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 Center for Health Sciences should consult the catalogs of these 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 Center for Health Sciences with a minimum of 90 semester hours in academic subjects, preference is given to those who have already completed a baccalaureate degree. 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 cell biology, comparative anatomy, embryology, genetics, histology, microbiology, and physiology) are recommended. Public speaking is highly recommended as an elective. 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 98 semester hours with the program outlined on page 49, together with 30 hours from an approved school of medical technology. The last 30 of the 98 hours must be completed in resident courses at UTC.

Medical Technology (B.S.)

A student working toward the B.S. degree with a major in medical technology from The University of Tennessee at Chattanooga must complete 98 semester hours with the program outlined on page 49, together with 30 hours from an approved school of medical technology. The last 30 of the 98 hours must be completed in resident courses at UTC.

Medicine

Although the majority of students now earn the 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 Center for Health Sciences 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 (comparative anatomy, embryology, animal physiology, cellular biology, or genetics), calculus, behavioral and social sciences as well as computer science, languages, literature, philosophy, 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 30 of the 98 hours must be completed in resident courses at UTC.

Preveterinary Medicine

Although no combined degree program is available in the veterinary medicine field, students at The University of Tennessee at Chattanooga may complete on this campus most 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 preveterinary medicine courses are required.

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101,102</td>
<td>3</td>
</tr>
<tr>
<td>One course from Theatre and Speech 107, 108,109, 309</td>
<td>3</td>
</tr>
<tr>
<td>Three courses from two humanities fields: art and music appreciation, foreign language, history, literature, philosophy, and religion</td>
<td>9</td>
</tr>
<tr>
<td>Three courses from two behavioral or social science fields: anthropology, economics, geography, political science, psychology, and sociology</td>
<td>9</td>
</tr>
<tr>
<td>Mathematics 135,136 or 150,165</td>
<td>6-8</td>
</tr>
<tr>
<td>Biology 121,122</td>
<td>8</td>
</tr>
<tr>
<td>Biology 311</td>
<td>4</td>
</tr>
<tr>
<td>Physiology 103,104</td>
<td>8</td>
</tr>
<tr>
<td>Animal Nutrition</td>
<td>2</td>
</tr>
<tr>
<td>Additional courses not available at UTC</td>
<td></td>
</tr>
<tr>
<td>Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>Animal Nutrition</td>
<td>2</td>
</tr>
<tr>
<td>Feeds and Ration Formulation</td>
<td>2</td>
</tr>
<tr>
<td>Introduction to Animal Science</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>94-96</td>
</tr>
</tbody>
</table>
30—Preprofessional

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 Center for Health Sciences 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 here 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 Center for Health Sciences at Memphis. The program of study must include the following courses or their equivalents:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>12</td>
</tr>
<tr>
<td>Biology 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Biology 311</td>
<td>4</td>
</tr>
<tr>
<td>Biology 328 and 330</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Advanced science (analytical chemistry, organic chemistry, embryology, comparative anatomy, genetics, and physiology)</td>
<td>8</td>
</tr>
<tr>
<td>Social science</td>
<td>12</td>
</tr>
<tr>
<td>Electives*</td>
<td>20</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
</tr>
</tbody>
</table>

*Courses in human anatomy and physiology, physics, English, speech, mathematics, organic chemistry, and social sciences strongly recommended. A year of American history in either high school or college is required for the degree program at UTCHS.

Predental Hygiene

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

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Biology 191, 192, 193</td>
<td>8</td>
</tr>
<tr>
<td>Biology 210 or 311</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>English 101, 102 and two additional English courses</td>
<td>12</td>
</tr>
<tr>
<td>Psychology 101 and one additional psychology course</td>
<td>3</td>
</tr>
<tr>
<td>Sociology 151 and one additional sociology course</td>
<td>8</td>
</tr>
<tr>
<td>One course from Theatre and Speech 107, 108, 109, 309</td>
<td>3</td>
</tr>
<tr>
<td>Electives*</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>64</td>
</tr>
</tbody>
</table>

*Mathematics strongly recommended. A year of American history in either high school or college is required for the degree program at UTCHS.

Prephysical Therapy

Students may be admitted to the Physical Therapy School of The University of Tennessee Center for Health Sciences upon completion of 90 semester hours which include the following courses or their equivalents:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Advanced Biology</td>
<td>3-4</td>
</tr>
<tr>
<td>Chemistry 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Physics 103, 104</td>
<td>8</td>
</tr>
<tr>
<td>English 101, 102 and 2 additional courses from art, English, languages, music, speech</td>
<td>12</td>
</tr>
<tr>
<td>Psychology 101 and 1 additional psychology course</td>
<td>8</td>
</tr>
<tr>
<td>Social Science</td>
<td>6</td>
</tr>
<tr>
<td>Electives*</td>
<td>18-19</td>
</tr>
<tr>
<td>Total</td>
<td>90</td>
</tr>
</tbody>
</table>

*Mathematics 135, 145; social sciences; organic chemistry; and advanced biology such as genetics, embryology, or cell biology strongly recommended. A year of American history in either high school or college is required for the degree program at UTCHS.

Prepharmacy

Students may be admitted to the School of Pharmacy of The University of Tennessee Center for Health Sciences upon completion of 60 semester hours, excluding physical education or military science, which include the following courses or their equivalents:

<table>
<thead>
<tr>
<th>Courses</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 121, 122</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 351, 352</td>
<td>8</td>
</tr>
<tr>
<td>Physics 103</td>
<td>4</td>
</tr>
<tr>
<td>English 101, 102 and literature courses</td>
<td>8</td>
</tr>
<tr>
<td>Psychology 101</td>
<td>3</td>
</tr>
<tr>
<td>One course from Theatre and Speech 107, 108, 109, 309</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration: Accounting 201</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>10-12</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
</tr>
</tbody>
</table>

*Mathematics strongly recommended. A year of American history in either high school or college is required for the degree program at UTCHS.
Honors and Honor Societies

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 3.25. With an average of 3.5 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 3.75. These honors will be inscribed on the diplomas.

Effective with the graduation class of December 1987, the eligibility for general University honors will be changed as follows on both the cumulative grade point average and on the UTC average: cum laude—3.5, magna cum laude—3.75, summa cum laude—3.9 minimum but restricted to the student with the highest average in the graduating class. More than one summa graduate will be recognized in the event of a tie. These standards will apply to all those who are graduated in December 1987 and later regardless of the catalog under which the students entered.

William E. Brock Scholars Program

Brock Scholars are those students who have been awarded membership in one of the University’s most prestigious honors programs. This program attempts to create an atmosphere, both academic and social, in which its members may develop their capacities for intellectual, moral, and social leadership. The program’s goal is a community of scholars, at various levels, benefiting from each other’s work and providing the University and the community with ideas and new ways to excellence.

In order to achieve this goal, the program provides scholars with a general education curriculum tailored to their talents and needs (see page 106); an integrated program of cocurricular activities; an advisement system that enables each scholar to derive the greatest benefits from the University’s resources; membership in a highly visible and respected group; and a four-year financial scholarship award. In addition, Brock Scholars are recognized as such at graduation and at other official University functions.

Each year the program admits to membership some 20 freshman students. Applicants are expected to have demonstrated outstanding achievement and promise in high school. Continuance is reviewed each year and is contingent upon the scholar’s academic performance, upon the recommendation of the director, and upon the approval of the University’s Scholarship Board.

The Brock Scholars Program is open to adult students with freshman status who otherwise qualify. UTC faculty and staff are encouraged to recommend candidates. Interested adult students should inquire at the Honors Office.

For further information or application form, write Dr. Robert C. Fulton III, Director, William E. Brock Scholars Program, The University of Tennessee at Chattanooga, 615 McCallie Avenue, Chattanooga, Tennessee 37403.

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, have completed an acceptable honors thesis, and have achieved an honors pass on an oral examination. Graduation with departmental honors is recorded on the permanent academic record and on the diploma.

The departmental honors thesis allows each honors candidate to deepen knowledge and increase skills in a special discipline. Original literary analysis, scientific experimentation, artistic expression, or other demonstration of superior proficiency or creativity are normally acceptable forms of expression for the thesis. The thesis will include an approximately two-page abstract in language intended for the intelligent and educated non-specialist. The thesis will be defended by means of an oral examination administered by the major department. The oral defense will be on the thesis and related underlying issues of the discipline.

The chair of the departmental honors committee will appoint for each candidate for honors a member of the departmental honors committee to act as liaison. This member will be kept informed of progress by student and department, will see a copy of the rough draft of the honors thesis, and will sit as a nonvoting member on the oral examination concerning the thesis.

Interested students shall consult with their advisers or departmental heads prior to the beginning of the senior year. The honors program is a two-semester program and should require substantially more work than would be required for the four hours granted were they in regular courses or other independent study courses. Formal application to departmental honors candidacy must be made by the first school day in March for students working in summer and fall or fall and spring terms and by the first school day in November for students working in spring and summer or spring and fall.

Forms for admission to departmental honors candidacy can be obtained from the director of the honors program, 202 Guerry Hall. After the director of records has certified the candidate’s academic standing and grade point averages, the application is submitted to the head of the department by which honors is to be granted.

A student is not formally accepted in departmental honors until he or she receives notice in writing that the
faculty council has approved the student's application. Each candidate must have a copy of current guidelines and is responsible for following the guidelines. Copies can be obtained from the department or from the secretary or chair of the departmental honors committee.

A progress report to the adviser and the chair of the departmental honors committee is due the Monday one week before the last week of classes in the first term of the two terms' work. The progress report must be approved by the adviser before it is sent to the departmental honors committee.

Departmental honors is normally work done by an individual. Joint interdisciplinary projects may be applied for when the work clearly involves students in different disciplines and when certain monitoring procedures are observed. Each such case will be decided on its merits by the departmental honors committee.

Admission to, and continuance in, the program requires an overall grade point average of 3.2 and a grade point average of 3.5 in the major field. Each departmental honors candidate must complete four full semesters (or a minimum of 48 semester hours of course work) at UTC prior to graduation. Honors work will receive four semester hours of credit in the appropriate courses, normally courses numbered 495r, the distribution of hours in the two terms to be one of the following options only: 1-3, 2-2, 3-1. A grade maybe given for the first term or postponed by giving an IP (In Progress), which grade is to be replaced by another grade by the end of the following regular semester. The credit hours so earned will count for graduation whether or not honors is conferred. Credit earned in departmental honors courses will not be calculated as part of the 42-hour maximum in the major.

Any student who has a grade point average of 3.75 in his or her major and 3.5 overall through the next to last semester may become a candidate for highest honors. Standards for the thesis and departmental examination for highest honors appropriately reflect the nature of the superlative designation.

**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.

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. 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.

- **Blue Key** is a national recognition society for men and women.

- **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 Mu Alpha** (marketing)
- **Beta Beta Beta** (biology)
- **Beta Gamma Sigma** (business administration)
- **Beta Sigma Tau** (engineering)
- **Delta Omicron** (music)
- **Delta Tau Omega** (geology)
- **Gamma Sigma Epsilon** (chemistry)
- **Kappa Delta Pi** (education)
- **Kappa Omicron Phi** (home economics)
- **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)
- **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)
Graduate Studies

The Graduate Division 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 Offered

<table>
<thead>
<tr>
<th>Degree</th>
<th>Major</th>
<th>Admission Test</th>
<th>Other Admission Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>M.A.</td>
<td>English</td>
<td>MAT*</td>
<td>3.0 in English major or equivalent coursework.</td>
</tr>
<tr>
<td></td>
<td>Literary Study,</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Criticism &amp; Research</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Professional Writing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.B.A.</td>
<td>Business Administration</td>
<td>GMAT</td>
<td>Business administration major or equivalent.</td>
</tr>
<tr>
<td></td>
<td>Accounting</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Economics</td>
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</tr>
<tr>
<td></td>
<td>Finance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Marketing</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Operations/Production Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>M.Ed.</td>
<td>Administration &amp; Supervision</td>
<td>MAT*</td>
<td>Professional teacher certification: teaching experience recommended</td>
</tr>
<tr>
<td></td>
<td>Elementary</td>
<td></td>
<td>Professional teacher certification.</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elementary Education</td>
<td>MAT*</td>
<td>Twenty undergraduate hours in psychology and letters of recommendation for counseling option.</td>
</tr>
<tr>
<td></td>
<td>Curriculum</td>
<td></td>
<td>Professional teacher certification for school option.</td>
</tr>
<tr>
<td></td>
<td>Reading</td>
<td></td>
<td>Professional teacher certification; major in listed area.</td>
</tr>
<tr>
<td></td>
<td>Guidance and Counseling</td>
<td>MAT*</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Community</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elementary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Secondary Education</td>
<td>MAT*</td>
<td></td>
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*GRE may be substituted on approval
**GRE or LSAT may be substituted on approval.

Graduate offerings at UTC are designed to provide opportunities for both part-time and full-time graduate students. Classes for full-time graduate students in business administration, criminal justice, computer science, education, and music are scheduled in the evenings; classes in psychology are usually offered during the day.

During the summer semester, education students can plan on full-time study in day classes. Graduate courses in business administration and criminal justice are offered primarily during evening hours in the summer.

For more information concerning a specific degree program, please refer to the appropriate department and the UTC Graduate Bulletin.

For application material, write

Director of Graduate Studies
114 Race Hall, UTC
615 McCallie Avenue
Chattanooga, Tennessee 37403

Admission Procedures

Anyone holding the baccalaureate or higher degree who wishes to take courses must make formal application for admission through the Graduate Office. Those who do not qualify for graduate admission or who elect to pursue a second bachelor’s degree may be admitted as post-baccalaureate students.

To insure adequate consideration, the completed application and supporting credentials should be received by the Graduate Office no later than one month prior to the beginning of the semester for which admission is desired. In addition, some departments and schools have established application deadlines. Please refer to the appropriate school or department for this information. Those riling applications after the established submission dates cannot be assured that it will be possible to complete and process credentials in sufficient time to secure admission for that term. An applicant for admission must furnish the following materials to the Graduate Office:

1. A completed, signed application on the form provided by UTC.
2. Payment of the $15, nonrefundable, application fee.
3. Two official transcripts from each college or university previously attended sent directly from the institution to the Graduate Office.
4. An official report of the applicant's score on the prescribed test for admission.
5. Supplemental application materials as required by the school or department.

No action will be taken until the applicant's file is complete.

If an applicant does not enter UTC in the semester or summer term for which application was made, the applicant's file will be destroyed after one year unless he or she requests and is granted permission to enter at a future date.

All application credentials become the property of the University and are not refundable nor forwardable to other institutions.

International Students
The University wishes to encourage qualified graduate applicants from other countries; however, applicants should be aware that UTC has few fellowships, assistantships, or other financial aids for graduate students. The international applicant must submit the following materials to the Graduate Office:

1. A preliminary application form.
2. An application for admission on the form provided by the University.
3. A draft or money order for U.S. $15 which is a nonrefundable, application fee.
4. Copies of authorized school or university records with certified translations if the records are in a language other than English. Translations must include descriptive titles of courses studied and grades gained in final examinations.
5. An official report of scores obtained on the Test of English as a Foreign Language (TOEFL).
6. Official scores on the admission test required by the major department.
7. Evidence of financial resources sufficient to provide adequate support during the applicant's period of residence as a student.

All materials must be received by the Graduate Office approximately six months in advance of the fall semester in which the applicant hopes to enroll. An accepted applicant will receive a certificate of acceptance and an I-20 form which must be shown to the consular officer of the United States to whom the student applies for a student visa.

Graduate Admission Requirements
An applicant for admission to the Graduate Division must hold a baccalaureate degree from a regionally accredited college or university and (1) have a minimum grade point average of 2.5 (based on a 4.0 scale) on all undergraduate work taken prior to receiving the baccalaureate degree or (2) a 3.0 in the senior year or (3) qualify for graduate admission by earning a 6+ average on 9-12 hours of 300 or 400 level courses since graduation. Scores must be submitted on the appropriate admissions test if the applicant is seeking admission to a degree program.

An applicant for admission to a degree program should refer to the appropriate school or department for specific admission requirements since some degree programs require a higher academic average, additional admission requirements, or utilize a formula for determining admission.

In addition to the above requirements, an applicant whose native language is not English must have earned a minimum score of 500 on the Test of English as a Foreign Language.

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) and is recommended by the head of his or her major department. Subject to the approval of the director of graduate studies, a student may earn up to six semester hours 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 Office. The approved application must be submitted to the Registration Office at the time of registration.

Admission Classifications
Several admission classifications are used by the Graduate Division. The applicant should apply for admission according to the one classification which applies to his or her educational objective. International students, however, must apply for admission as degree students only.

Auditor
Applicants with a bachelor's degree who wish to attend classes without earning credit or receiving grades may be admitted as auditors. A graduate application and transcripts are required. Individuals may register as auditors provided space is available in the class desired and if the instructor accepts auditors. The extent to which an auditor may participate in classroom activities is within the jurisdiction of the instructor. Fees for audit are the same as for credit registration.

Degree Graduate
Admission to a degree program is by departmental approval only. Thus, an applicant who wishes to be admitted as a degree graduate must file an application, transcripts, MAT, GRE, or GMAT scores and supplemental application materials far enough in advance to allow for evaluation by the department or school. The evaluation will include a review of the applicant's undergraduate program and the specification of any prerequisite courses needed to insure adequate background for the graduate
program. In addition to the above requirements, international students must submit a TOEFL score.

**Nondegree Graduate**

An applicant who meets graduate admission requirements and wishes to enroll in graduate or undergraduate courses to earn credit without reference to a graduate degree program will be admitted as a nondegree graduate student.

A student classified as nondegree who subsequently wishes to be admitted to a degree program must file a formal request for this change with the director of graduate studies. In addition, the student must submit supplemental application materials as required for the proposed degree program. A maximum of 9 semester hours earned as a nondegree student will be applied toward graduate degree requirements. The Graduate Division cannot assure a student classified as nondegree that any work completed in this status will apply toward a degree.

**Post-master’s Graduate**

An applicant who has a master’s or terminal degree from an accredited institution and who is not working toward a degree may be admitted as a post-master’s graduate student. A graduate application, application fee, and transcripts from the university which awarded the master’s or terminal degree are required.

**Provisional Graduate**

An applicant who meets graduate admission requirements but whose file is incomplete may be admitted as a provisional graduate student. This type of admission is valid for one semester and may not be renewed. Further, the provisional graduate must have his or her file completed by the fifth week of the semester or second week of the summer term he or she enrolls. In the event the student fails to complete the graduate file on the specified date, the student will not be permitted to register for a future term.

**Transient Graduate**

An applicant who has been admitted to a graduate program at another institution and wishes to take courses for transfer to that institution may be admitted as a transient student. A graduate application, application fee, and letter of good standing or certificate of transient admission are required. The letter of good standing or certificate of transient admission must be signed by the graduate dean or major adviser at the institution where the student is pursuing his or her graduate degree.

Upon completion of approved courses, the student should request that the UTC Office of Records forward a copy of his or her transcript to the appropriate institution.

**Post-baccalaureate Admission**

Post-baccalaureate is an undergraduate admission classification which indicates that the applicant has a baccalaureate degree.

1. A student who does not qualify for graduate admission because of an inadequate grade point average may use post-baccalaureate status to demonstrate that he or she can do acceptable work. The attainment of a B+ average (an average greater than 3.0 on a 4.0 scale) on nine to twelve hours of 300-level or 400-level courses recommended by the proposed major department may be accepted as evidence for admission to graduate study, provided all other requirements are met. Upon earning the required grade point average, the student must reapply for admission to graduate study and complete the admission procedures as specified for the proposed degree program. It should be noted that admission as a post-baccalaureate student allows the student to demonstrate ability but does not guarantee admission to a degree program. In addition, courses completed under post-baccalaureate admission may not count toward a graduate degree.

2. A student who has received one bachelor’s degree may receive a second bachelor's degree provided that all specific requirements for both degrees are met, that the curriculum for the second degree includes at least 30 hours (with a 2.0 average) not offered for the first degree, and that an additional year is spent in residence.

3. A student who wishes to take only undergraduate courses for education certification or other purposes may also be admitted in post-baccalaureate status.

**Read mission**

Any student whose attendance has been interrupted for one or more semesters (excluding the summer session) must apply for readmission to the University. A new graduate application must be submitted prior to the beginning of the semester or summer term in which admission is desired.

Due to the competitive nature of some degree programs, readmission as a degree graduate may require departmental approval. In addition, graduate students who have not been admitted to candidacy must follow the regulations in effect at the time of admission to candidacy.

**Graduate Admission Tests**

Applicants who request admission to a specific degree program must submit a report of scores from the appropriate admission test. The scores must be no more than five years old. The admission tests (except for TOEFL) are administered several times each year by the UTC Test Supervisor, 30 Founders Hall. Applicants should schedule all examinations well in advance of the date on which they wish to enter graduate study.

The Miller Analogies Test (MAT) is required for applicants to master’s programs in criminal justice, education, music, and psychology.

The Graduate Management Admissions Test (GMAT) is required of applicants for graduate study in business administration. Information about this test and application
forms are available upon request from the Counseling Center or Educational Testing Service, Box 966, Princeton, New Jersey 08540. A score of 450 is required for all prospective international students.

The Test of English as a Foreign Language (TOEFL) is required of all applicants whose native language is not English. A score of 500 must be submitted before action can be taken on the application. Information about this test and application forms are available upon request from Educational Testing Service, Box 899, Princeton, New Jersey, 08540, USA.

All applicants should note that Educational Testing Service reports GRE, GMAT, and TOEFL scores to institutions named by the applicant at the time he or she applies for the test. A fee is charged for later requests.

Each applicant is individually responsible for requesting an official copy of the scores from Educational Testing Service. Requests for additional reports of MAT scores should be directed to The Psychological Corporation, 304 East 45th Street, New York, NY 10017.
Student Activities

Athletics

As a member of the Southern Conference, the University maintains a vigorous intercollegiate athletic program with varsity teams in basketball, tennis, football, rifle, soccer, wrestling, and golf. The University also has women's intercollegiate athletic programs in basketball, volleyball, golf, and tennis.

Facilities for support of these programs are excellent. Chamberlain Field is adapted to various forms of outdoor athletics. The stadium and permanent bleachers have a seating capacity of 12,000. Scrappy Moore Field is a regulation football practice field.

The DeSales Harrison Racquet Center, which is located adjacent to the Student Village, houses two indoor tennis courts and seven racquetball/handball courts.

The Manker Patten Tennis Center, located at the north end of Douglas Street along the Tennessee River, features eight Teneco courts and two indoor courts that are available throughout the year. The courts are used for local and regional tournaments.

Maclellan Gymnasium, constructed in 1965, provides facilities needed for the University's physical education program and various varsity sports. The UTC Arena seats 12,000 and provides modern facilities for both athletic and entertainment events.

Cultural Opportunities

The University's departments and organizations sponsor many musical and artistic activities for the University community and the Chattanooga area. Conversely, its urban location makes available to the student the cultural resources of the city: the symphony, opera, art gallery, community concerts, and theater.

Both classical and modern plays are presented each year by the University Theatre, an organization open to students and faculty as well as members of the larger community. Students may participate as performers and crew members in these presentations.

Students interested in musical activities may choose from a variety of organizations. Vocalists may perform in the Chattanooga Singers, Chamber Singers, Singing Mocs, Choral Union, and Opera Workshop. Instrumentalists can play in the Marching Band, Concert Band, UTC Orchestra, Jazz Band, Brass Ensemble, Wind Ensemble, Percussion Ensemble, and chamber music groups. Students may also audition to perform in the Chattanooga Symphony or the Chattanooga Opera Association.

Under various auspices, outstanding speakers are brought to the campus each year. Prominent among these programs is the Keese Lectureship, established by W.S. Keese Jr. in memory of his mother and father. Each year the Keese Lecture is delivered by a distinguished figure in the field of the humanities and the fine arts. Seminars and discussion groups explore the nature of society, law and government, questions of national and international policy, and the responsibilities of the individual.

Fraternities and Sororities

The University has chapters of eight national fraternities and seven national sororities that individually and collectively, through the Interfraternity Council and Panhellenic, contribute to the social and cultural life of the campus. Many traditional events—All-Sing, Blue Key Follies, and Greek Week—are supported by these groups.

The sororities Alpha Delta Pi, Alpha Kappa Alpha, Chi Omega, Delta Sigma Theta, Pi Beta Phi, Sigma Gamma Rho, and Zeta Phi Beta have chapters on the UTC campus. Fraternities at UTC include Alpha Phi Alpha, Alpha Tau Omega, Kappa Alpha Psi, Kappa Sigma, Lambda Chi Alpha, Omega Psi Phi, Pi Kappa Alpha, and Sigma Chi.

Intramurals

The University has an outstanding program available to all students. The program includes flag football, tennis, handball, water basketball, swimming, volleyball, basketball, racquetball, badminton, wrestling, softball, and golf.

Facilities for tennis, swimming, wrestling, handball, racquetball, and water basketball are excellent. A lighted intramural field is also available.

Publications

The University Echo, the campus newspaper, provides a continual flow of news and opinion concerning campus activities. The Moccasin is the student yearbook, which presents in text and photographs a record of the academic year. The Sequoya Review provides a selection of poetry, prose, art, and photography from the University community. Under the general direction of the Publications Board, these publications are staffed and managed by students.

Recreation

Through the use of facilities located in Maclellan Gymnasium and the DeSales Harrison Racquet Center, recreational activities are available to students, faculty, and staff. Facilities are open for recreational use when not otherwise scheduled for class or departmental use.

Religious Life

The interest of the University in the religious life of the community is expressed in the existence of denominational centers and groups on campus, occasional religious services, and lectures by representatives of different faiths. Both Patten Chapel and the small Danforth Chapel offer appropriate settings for worship services.

The Baptist Student Union, United Methodist Student Center, Catholic Center, Presbyterian Campus Ministry, and Christian Student Center (Church of Christ) are centers on campus staffed by persons trained in theology and counseling who seek to minister to the religious needs and interests of the students and the community.
Other religious groups are "Bahai," B'nai Brith Hillel, the Christian Science Organization, the Moccasin Christian Fellowship, Seventh Day Adventists, Lutheran, Episcopal, and Christian Church.

**Student Government Association**
The student's single campus-wide representative organization is the SGA, which works to protect student rights, promote progressive change in University policies, and provide services for students. Meeting weekly, the Senate acts as the legislative arm of the students, with its elected membership constantly concerned with any and all actions of the University which affect the lives of students. Entertainment and educational programs are also provided for the students by the SGA.

**The University Center Association for Campus Entertainment**
The Association for Campus Entertainment (ACE) in its advisory role to the University Center staff assists in the development of a broad range of activities for the campus. It is the intention of the association and staff to serve the campus community by providing entertainment activities. Students are encouraged to become members of ACE and participate in planning events through various committees.

Involvement with ACE provides a student with the opportunities to develop leadership skills and to promote campus life. Freshmen are eligible to become ACE members. Interested students should contact the University Center director or the president of ACE.

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**Student Services**

**Bookstore**
Located in the Guerry Center, the University Bookstore is a service-oriented function of the University. Textbooks, both used and new, are supplied for all courses. Paperbacks, art and engineering supplies, campus wear, and health and beauty aids are among the many kinds of merchandise stocked by the store. Students may purchase gift items, magazines, greeting cards, school supplies, and many other items at this location.

**Check Cashing Service**
The bookstore provides a check cashing service and also honors MasterCard and Visa.

**College Access Program**
The College Access Program is designed to provide support services for adult learning disabled students at UTC. (Some type of specific learning disability must have been diagnosed or the student must submit to a diagnostic evaluation through the Year Center).

CAP will provide counseling, tutorial support, diagnostic services, and job counseling for those students who are eligible.

For further information, contact the CAP project director in Holt Hall, Room 310.

**Counseling and Career Planning**
The services of the Counseling and Career Planning Center are available to all students and their dependents without charge. Professionally trained staff members provide assistance in resolving personal, emotional, and marital problems, and in helping students explore curricular and career alternatives. The center also sponsors developmental and educational programs such as assertion training, values clarification, career exploration, human sexuality, interpersonal communication skills, and many others. All services are confidential.

**Food Service Facilities**
The University-operated Food Services provide meals and snacks in the University Center cafeteria and grill. Food Service credit cards are available; otherwise, all purchases are cash.

**Handicapped Student Services**
On June 3, 1977, Section 504 of the Rehabilitation Act of 1973 became effective. Specifically, as it pertains to the
academic and program aspects of colleges and universities, 
Section 504 prohibits discrimination against handicapped 
individuals. It mandates that adjustments and accommo-
dations be made in programs and activities in order to 
provide qualified handicapped persons with opportunities 
equal to those enjoyed by the qualified nonhandicapped.

Phyllis Woods, assistant to the chancellor and director 
of affirmative action, has the responsibility of assuring 
University compliance with Section 504. With her 
direction, the University is working toward better 
integration of services for handicapped students within 
the regular student service system. Dean Betty J. Tucker 
assists Woods in these matters. Handicapped students 
desiring assistance should contact Tucker in Student 
Affairs, 215 University Center, (615) 755-4761.

Health Services

Emergency first aid service under the supervision of a 
registered nurse is available to all members of the 
University community during regular business hours. For 
those on the voluntary University Health Plan (which 
includes all dormitory residents) a physician makes on-
campus sick calls three days a week. In addition, the 
voluntary health plan covers the cost of the physician's 
services for the first visit only in those emergency cases 
referred to the medical center, which is adjacent to the 
campus. The student is responsible for other expenses, 
such as surgery, laboratory, and medicine.

Additional services or hospitalization are not covered 
by the voluntary University Health Plan. The University 
recommends that the student obtain separate hospitaliza-
tion and medical insurance. A voluntary student insurance 
plan is available through the University that covers a 
schedule of expenses for surgery and hospitalization in 
case of accident or illness. The insurance plan should be 
requested at the time of registration. Information is 
available at the insurance desk as the student pays fees, 
and also in the Student Health and Student Affairs Offices.
This plan is particularly useful for parents whose family 
policy does not cover the dependent child after the 19th 
birthday.

Housing

The University feels that a valuable part of college life is 
living for a period of time in close association with others 
following academic pursuits. Accommodations are 
designed and maintained to assure the safety and comfort 
of the residents at a cost that is within the reach of today's 
student. Programs and personnel are selected to enhance 
the academic achievement and personal development of 
the persons who live in these units.

Applications for both men's and women's residence 
halls may be obtained from the Housing Office. Housing 
contracts are a commitment for the academic year, 
August to May, or for shorter periods as required by 
midyear registration or certain special academic programs, 
if arranged for in advance. Only if a student withdraws 
from the University is a housing contract cancelled, and 
then in accordance with policies stated in the contract.

On-campus housing includes the Student Village and 
the Oak Street Apartments, both single-student apartment 
complexes; Pfeiffer Hall; Stagmaier Hall; and the Vine 
Street Dorm.

The Village houses 416 men and women students in 
apartments of four people each. It is carpeted, air 
conditioned, and surrounded by parking and recreation 
areas. Each apartment contains four single bedrooms, a 
living room, and a kitchen area.

The Oak Street Apartments have accommodations for 
188 men and women students. Each apartment has two 
double-occupancy bedrooms, a living room/kitchen 
area, and a bath. Upper floors have access to balconies.

Pfeiffer Hall houses approximately 70 students; 
Stagmaier Hall provides housing for 150 students. 
Stagmaier Hall features four-person suites containing two 
sitting rooms, two bedrooms, and a bath.

The Vine Street Dorm is a traditional facility with double 
rooms off a common hall.

Lounge and reception areas are available for recreation 
and visiting. All halls are air-conditioned. Laundry 
facilities with ticket-operated automatic washers and 
dryers are available for use by the students. Each student is 
normally furnished a bed, desk, chair, and dresser. 
Residents are expected to bring their own linens, 
blankets, towels, mattress covers, trash cans, and pillows. 
All rooms provide lighting, but frequently additional desk 
lamps are furnished by the student to suit particular 
needs.

Students may use small electrical appliances such as 
radios, hair dryers, and clocks in their rooms but are not 
permitted to use hot plates, percolators, popcorn 
poppers, immersion heaters, or other cooking equipment.

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

I.D. Cards

The University provides each full-time student with an 
oficial University I.D. card. This card is used 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.

I.D. cards for new, full-time students are made at 
registration and distributed free of charge. Replacement 
cards cost $2. Lost I.D. cards should be reported to the 
Student Affairs Office immediately. Validation stickers are 
issued each semester and are placed on the back of the 
I.D. card. One card is intended to last throughout a 
student's entire stay at the University.

Part-time students use their fee payment receipt as their 
I.D., or they may pay a fee and receive a plastic I.D. card 
without a picture.

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 free and available year round.

Degree and nondegree job orders are placed on the 
bulletin board in the Placement Center for students to 
peruse at their convenience. Part-time jobs—as well as 
typing, tutoring, and baby-sitting jobs—are posted.

Students should register with the center early in their

final year to take advantage of the employment recruiting season, the center's *Job Opportunities* bulletin, and various seminars and workshops. Individual employment counseling is also available.

**Student Handbooks**

Distributed at the beginning of each academic year, the *Student Handbook* provides detailed information on student services. 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**

*Full-time students:* A student paying the full maintenance fee is entitled to a plastic student ID card with a picture. This card, which must be validated each semester, will provide the student admission to the regular season home football, basketball, and wrestling events. These seats are in the student section and are not reserved. Students take these seats on a first-come basis and the number of seats in the student section is limited to a specific figure.

*Part-time students:* A student paying less than the full maintenance fee may purchase a plastic student ID card with a picture for the difference between the amount paid and the full maintenance fee, or $15, whichever is less. These may be purchased at the University Center Ticket Office Monday through Friday from 9 A.M. until 4 PM. The students must present their fee receipt at the time of purchase. This card is valid for one semester. A part-time student can get an unlaminated ID card which will be used for *identification only.* This may be picked up anytime free in the Student Affairs Office, Second Floor, University Center. Students must present their fee receipt at this time. A laminated ID card can be purchased for $1 which must be paid at the University Center Ticket Office. This card will be used for *identification only:* a student cannot enter the athletic events with this type of card.

*Student guest tickets:* A student may purchase a guest ticket at a discount price to each home football and basketball game. These tickets may be purchased at the University Center Ticket Office. The guest must sit in the student section.

*Spouse tickets:* A full-time student may purchase a spouse or guest ID with a picture for $15 per semester. These may be purchased at the University Center Ticket Office. The director of records or the dean of admissions and records will further explain and clarify the Family Educational Rights and Privacy Act to students, parents, or interested parties upon request.

**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 maintains a permanent record on any student who has ever attended UTC. This record currently includes the student's name, social security
number, address, birthdate, sex, high school and high school graduation date, admission classification, and credits transferred 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 on the student's written authorization. A student is entitled to one transcript without charge; thereafter, $1 is charged for each subsequent transcript. Requests should be made to the Office of Records in advance of the date on which the transcripts are needed.

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

Vehicle Operation and Parking

Each person—student, faculty, or staff member—who operates a motor vehicle while at the University must register that vehicle with the Business Office. A University parking authority determines the parking policy, traffic regulations, and fees. This information is published each year in the University Traffic and Parking Regulations.

The large volume of vehicles operated on campus requires strict adherence to the traffic and parking regulations. Therefore, a system of fees for violations of these regulations is enforced by the University. Copies of the Regulations are available each semester at the time students, faculty, and staff apply for parking permits.

Parking Decals

Reserved decals are sold in the fall semester on the first official day of fee payment on a first come basis. One decal is sold per space for each lot.

General decals are sold in the fall semester on the first official day of fee payment. The general decals are oversold in relation to the lots due to the fact with a general decal one may park in any general lot.

In the spring and summer semesters the decals are sold on an availability basis.

Alumni Association

When the University of Chattanooga became a major campus of The University of Tennessee on July 1, 1969, all former students and graduates of UC automatically became members of the UT National Alumni Association, which encompasses alumni from all campuses of The University of Tennessee.

The UT National Alumni Association is administered by a board of governors drawn from alumni of all campuses. The Chattanooga campus is represented on this governing body by the UTC chancellor, three UTC alumni, and the president of the UTC Student Government Association.

The UTC Alumni Council, whose membership is limited to those who attended the Chattanooga campus, exists to establish a mutually beneficial relationship between the Chattanooga campus and its alumni. The council sponsors all alumni activities on the Chattanooga campus. The UTC Alumni Council maintains its offices at 605 Oak Street on campus.

UTC alumni are represented on the University of Chattanooga Foundation Board by three alumni trustees, one elected each year by the council to serve three years on the board.

In an effort to acquaint students with the activities, goals and purpose of the Alumni Council, the Association sponsors the Undergraduate Alumni Council. This group is comprised of thirty students who work with the Offices of the Chancellor, Development, and Alumni to promote the University to the community and to act as a liaison between the alumni and UTC students. Application for membership in the Undergraduate Alumni Council may be made in the Alumni Office.

Records on file in the Alumni Office include the current addresses of graduates and, upon request, former students who have completed 24 hours of credit. When available, information about later achievements is added to the records and is included in UTC alumni publications, which are mailed to UTC alumni throughout the nation and many foreign countries.

UTC Alumni Council

Dr. D. Frank Trundle '61. President
Joan Reagin McNeill '76. President-elect
David M. Everett '76. Secretary
Joseph H. Petty '58. Treasurer
Carolyn Owen Schaefer '61. Past President
<table>
<thead>
<tr>
<th>No.</th>
<th>Program Name</th>
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</thead>
<tbody>
<tr>
<td>44</td>
<td>Academic Organization</td>
</tr>
<tr>
<td>45</td>
<td>College of Arts and Sciences</td>
</tr>
<tr>
<td>107</td>
<td>School of Business Administration</td>
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<tr>
<td>121</td>
<td>School of Education</td>
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<tr>
<td>145</td>
<td>School of Engineering</td>
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<tr>
<td>157</td>
<td>School of Human Services</td>
</tr>
<tr>
<td>169</td>
<td>School of Nursing</td>
</tr>
<tr>
<td>172</td>
<td>Other Units</td>
</tr>
</tbody>
</table>
Academic Organization and Departments

College of Arts and Sciences
Benjamin H. Gross, Acting Dean

Art ........................................... , Alan White, Acting Head
Biology .................................... , Charles Nelson, Head
Chemistry .................................. , Benjamin H. Gross, Head
Communication .......................... , Peter K. Pringle, Head
English .................................. , Thomas C. Ware, Head
Foreign Languages & Literatures ....... , Ronald G. Bohrer, Head
— Classical Civilization, French, German, Greek,
  Italian, Latin, Modern Languages, Spanish
Geosciences ............................... , Grayson Walker, Acting Head
— Geology, Geography
History ..................................... , Ronald O. Moore, Head
Interdisciplinary Studies ................. , John E. Trimpey, Acting Head
— American Studies .......................... , John E. Trimpey, Coordinator
— Humanities ................................, Robert C. Fulton, Coordinator
— University Studies ......................... , John E. Trimpey, Acting Head
Mathematics ................................, James G. Ware, Acting Head
Music, Cadek Department of ............ , Peter E. Gerschefski, Head
— Graduate Programs ........................, Peter E. Gerschefski, Director
Philosophy & Religion ..................... , Herbert Burhenn, Head
— Philosophy, Religion
Physics & Astronomy ....................... , Grayson Walker, Head
— Astronomy, General Science, Physics
  — Environmental Studies ................. , Patricia Perfetti, Coordinator
Political Science .......................... , Robert H. Swansbrough, Head
Psychology .................................., Edward J. Green, Head
— Graduate Programs ........................, George Helton, Director
Sociology & Anthropology ................ , Edward E. Cahill, Head
— Sociology, Anthropology
Theatre & Speech .........................., Fred D. Behringer, Head
William E. Brock Scholars ............... , Robert C. Fulton, Director

School of Business Administration
Irvin D. Reid, Dean

Accounting & Finance ........................, John G. Fulmer Jr., Head
Economics .................................., Ziad Keilany, Head
Management ................................, Lawrence Ettkin, Head
Marketing and Business Law .............., Richard Casavant, Head
Office Administration/Business Education, Judy Nixon, Head
Graduate Program .........................., Marilyn Willis, Director

School of Education
Roy Stinnett, Dean

Curriculum & Instruction .................., Eugene Bartoo, Head
Educational Administration & Supervision, Colbert Whitaker, Head
Health, Physical Education and Recreation, Robert Norred, Head
Special Education and Counseling ....... , Earl Davis, Head
Graduate Programs ........................, Eugene Bartoo, Director

School of Engineering
Ronald B. Cox, Dean

Computer Science .........................., Jack Thompson, Head
Cooperative Engineering ................... , Betsy Hull, Coordinator
Engineering Management .................. , Jan Evans & John Lovett, Coordinators
Undergraduate Engineering Studies ......., Michael H. Jones, Director
Graduate Studies & Research .............., William Gurley, Director

School of Human Services
Kenneth Venters, Dean

Criminal Justice ........................... , Roger Thompson, Head
Home Economics ........................... , Mary Jo Cochran, Head
Human Sciences ............................, Jan Printz, Head
Military Science ........................... , Guy E. Dorr, Head
Social Work ............................... , Patricia B. Walker, Head
Criminal Justice Graduate Program ......., David Anderson, Director

School of Nursing
Patricia Haase, Dean

Other Educational and Public Service Units

Academic Computing Services ............. , Peter E. Gerschefski, Director
Cadek Conservatory of Music .............., William H. Peterson, Director
Center for Economic Education .........., Jerry Weeks, Dean
— Conferences & Noncredit
Central for Continuing Education ........., William Fulton, Director
— Individualized Education Program ......., Robert Marsh, Director
Division of Special Services/Upward Bound, Paul Beasley, Director
Library ................................. , Joseph Jackson, Dean
Youth Educational Assessment Center ...., Janice Davis, Coordinator

Usage Notes

The letter r following a course number means that, because of a difference in content from semester to semester, a class may be taken more than once for credit. Example: Art 205r.

A capital letter (A, B, C, D, F, or G) prefixed to a course number means that that course can also be used to satisfy the general education requirement of the category indicated. Example: Mathematics F136.

Category E does not apply to the revised general education requirements (effective for new students entering fall 1982) and has been intentionally left out.
College of Arts and Sciences

American Studies
See Interdisciplinary Studies, page 75.

Anthropology
See Sociology and Anthropology, page 100.

Art
Associate Professor White, Acting Head
Professor Cress
Associate Professors Lindsey, Wallace
Assistant Professors LeWinter, Lizza

The Art Department reserves the right to keep one example of the work of each student in each course.

Art (B.F.A.)
General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than art: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

Major
66 hours art including 101, 105, 106, 205r, 206r, 207, 208, 305r or 306r, 333, 334, 498r; 12 hours from 211, 212, 213, 414, 431, 432.

Student must complete one area of concentration as follows:

- Painting: 205r or 206r, 307r, 308r
- Graphic Design: 209, 281, 305r or 306r (whichever course not taken above), 309
- Sculpture: 227, 343, 344r, 433r (six hours)

Remaining hours in art to total 66

Maximum 12 hours in any one "r" course

2.5 GPA minimum in art courses

Participation in senior art show

9 additional hours other than art in supporting courses from the College of Arts and Sciences beyond general education requirements

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

Typical courses of study in art (B.F.A.)
Art (B.F.A.): graphic design

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>Art 101 Visual Fundamentals¹ 3</td>
<td>Art 106 Drawing¹ 3</td>
</tr>
<tr>
<td>Art 105 Drawing¹ 3</td>
<td>General Education Category A 3</td>
</tr>
<tr>
<td>General Education Category A 3</td>
<td>General Education Category B 3</td>
</tr>
<tr>
<td>Foreign Language 4</td>
<td>Physical Education 021 1</td>
</tr>
<tr>
<td>General Education Category C 3</td>
<td>General Education Category F 3</td>
</tr>
<tr>
<td>16</td>
<td>17</td>
</tr>
</tbody>
</table>

| **Sophomore**  |                 |
| Art 205r Advanced Drawing¹ 3 | Art 206r Advanced Drawing¹ 3 |
| Art 207 Beginning Painting¹ 3 | Art 208 Beginning Painting¹ 3 |
| Art History¹ 3 | Elective 3 |
| Foreign Language 3 | Foreign Language 3 |
| General Education Category B 3 | Art 281 Photography 3 |
| 15              | 18              |

| **Junior**     |                 |
| Art 305r Printmaking¹ 3 | Art 306r Printmaking² 3 |
| Art 333 3-D Design¹ 3 | Art 334 3-D Design¹ 3 |
| Art History¹ 3 | Art History¹ 3 |
| Art 209 Typographic Design and Layout¹ 3 | Art 309 Graphic Design² 3 |
| General Education Category B 3 | Physical Education Activity 1 |
| 15              | General Education Category D 4 |
|                 | 17              |

| **Senior**     |                 |
| Art Electives 9 | Art 498r Individual Studies¹ 3 |
| General Education Category C 3 | Electives 12 |
| General Education Category G 3 | 15 |
|                 | TOTAL 128       |

Required course in art.
¹Course required within area of concentration.
²Course required in art.

Art (B.F.A.): painting

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
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<tr>
<td>Art 101 Visual Fundamentals¹ 3</td>
<td>Art 106 Drawing¹ 3</td>
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<td>Foreign Language 4</td>
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<td>General Education Category F 3</td>
</tr>
<tr>
<td>16</td>
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</tbody>
</table>
Art (B.F.A.): Art Education

<table>
<thead>
<tr>
<th>General Education (see pages 26-28 for list of approved courses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category A 2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td>Category B 3 approved courses other than art: one from humanities, one from fine arts, and one from either (3 hours each), plus courses in humanities/ fine arts to total 12 total hours in three fields other than history and art</td>
</tr>
<tr>
<td>Category C 2 approved behavioral or social science courses (6 hours) plus one course KTotal 9 hours behavioral or social science in two fields other than Education; for certification purposes, 3 of the hours may be in history</td>
</tr>
<tr>
<td>Category D 2 approved natural science courses to total 8 hours in natural science (one course must be laboratory science)</td>
</tr>
<tr>
<td>Category F Mathematics F120</td>
</tr>
<tr>
<td>Category C 1 approved perspectives course (3 hours)</td>
</tr>
<tr>
<td>Additional 1 additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences</td>
</tr>
<tr>
<td>Health and Physical Education 021 plus one additional semester physical education activity</td>
</tr>
<tr>
<td>Major and related courses 51 hours art including 101, 103, 105, 106, 205 or 206r, 207, 208, 227, 305, 323, 324, 333, 343, 490; 6 hours from 211, 212, 431, 432; 3 hours from 213, 414</td>
</tr>
<tr>
<td>Participation in senior art show 33 hours from the School of Education including EDCI 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333.</td>
</tr>
<tr>
<td>2.25 average both in teaching field and in School of Education courses Minimum of 30 hours of 300 and 400 level courses Electives to complete 128 hours</td>
</tr>
</tbody>
</table>

Typical course in Art (B.F.A.): art education

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>Art 101 Visual Fundamentals 1</td>
<td>Art 106 Drawing 1</td>
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<tr>
<td>Art 105 Drawing 1</td>
<td>General Education Category A</td>
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<tr>
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<td>General Education Category B</td>
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<td>General Education Category C</td>
<td>General Education Category D</td>
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<td>Foreign Language</td>
<td>Physical Education 021</td>
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<tr>
<td>Foreign Language</td>
<td>General Education Category F</td>
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<tr>
<td>Sophomore</td>
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</tr>
<tr>
<td>Art 205r Advanced Drawing 1</td>
<td>Art 206r Advanced Drawing 3</td>
</tr>
<tr>
<td>Art 333 3-D Design 1</td>
<td>Art Electives</td>
</tr>
<tr>
<td>Art History 1</td>
<td>Art Electives</td>
</tr>
<tr>
<td>Art History 1</td>
<td>Art Electives</td>
</tr>
<tr>
<td>Art 307r Advanced Painting 1</td>
<td>Art Electives</td>
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<td>General Education Category B</td>
<td>General Education Category D</td>
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<td>General Education Category C</td>
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<tr>
<td>Junior</td>
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<tr>
<td>Art 207 Beginning Painting 1</td>
<td>Art 208 Beginning Painting 3</td>
</tr>
<tr>
<td>Art 305r or 306r Printmaking 1</td>
<td>Art 433r Sculpture 3</td>
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<tr>
<td>Art History 1</td>
<td>Art History 1</td>
</tr>
<tr>
<td>Art 343r Introduction to Ceramics 3</td>
<td>Physical Education Activity 1</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>General Education Category D</td>
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<tr>
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<tr>
<td>Art 433r Sculpture 2</td>
<td>Art 498r Individual Studies 1</td>
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<tr>
<td>Art 344r Advanced Ceramics 2</td>
<td>Art Electives</td>
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<tr>
<td>General Education Category C</td>
<td>General Education Category B</td>
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<tr>
<td>General Education Category G</td>
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<tr>
<td>TOTAL 128</td>
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</tbody>
</table>

Required course in art. 
*Courses required within area of concentration.

Art (B.F.A.): sculpture

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
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<td>Art 106 Drawing 1</td>
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<td>Art 105 Drawing 1</td>
<td>General Education Category A</td>
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<td>Foreign Language</td>
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<tr>
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<td>Art 206r Advanced Drawing 3</td>
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</tr>
<tr>
<td>Art 307r Advanced Painting 1</td>
<td>Art Electives</td>
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<td>General Education Category D</td>
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<tr>
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<td>Art 208 Beginning Painting 3</td>
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<tr>
<td>Art 305r or 306r Printmaking 1</td>
<td>Art 433r Sculpture 3</td>
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<tr>
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<td>Art 498r Individual Studies 1</td>
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<tr>
<td>Art 344r Advanced Ceramics 2</td>
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<td>15</td>
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<tr>
<td>TOTAL 128</td>
<td>17</td>
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</tbody>
</table>

Required course in art.
*Courses required within area of concentration.
General Education Category B 3 Elective 1
Art 323 Mat. & Proced. 3 ED Curr. & Instr. 321 3
Art in Art Education 3
Art 333 3-D Design 3
Art 305r Printmaking 3
18 13

Senior
Art 324 Mat. & Proced. 3 ED Curr. & Instr. 436 2
in Art Education 3 ED Curr. & Instr. 437 2
General Education Category D 3 ED Curr. & Instr. 438 9
General Education Category B 3 Senior Art Show
Art History 3
ED Curr. & Instr. 431 2
ED Curr. & Instr. 433 4
18 13

TOTAL 128

Art (B.A.)
General Education (see pages 26-28 for list of approved courses)
Category A
2 approved courses in written communication in the English language (6 hours)
Category B
3 approved courses other than art: one from humanities, one from fine arts, and one from either (3 hours each)
Category C
2 approved behavioral or social science courses (6 hours)
Category D
1 approved physical or natural science course with laboratory (4 hours)
Category F
1 approved mathematics course (3 hours)
Category C
1 approved perspectives course (3 hours)
Health and Physical Education 021 plus one additional semester physical education activity
Foreign language through second college year
Major
40 hours art including 101,105,106,205r or 206r, 207,208,305r or 306r, 333 or 334,498r; 9 hours from 211,212,213,414,431,432; 3 additional hours from 227,333,334,343,433r; 3 additional hours from 209,281.305r, 306r Participation in senior art show
20 average in all art courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Minors
Studio Art (21 hours):
Art 101, 105, 106, 207, 305, 333; 3 hours from Art 227, 343

Graphic Design (21 hours):
Art 101,105,106, 209; Communication 110; 6 hours from Art 281, 305r, 306r, 309, 310r, 381r, Communication 367,465 (Communication majors may not use courses required in their concentration; other courses may be elected from the above group to total 21 hours.)

History of Art (21 hours):
Art 211, 212, 213; 6 hours from Art 414,431,432; 6 hours from American Studies 200; Classics 396; English 203, 204; History 318, 319, 337, 338; Music 315, 316; Theatre & Speech 211, 212; Philosophy 336

Art Courses
101 Visual Fundamentals (3)
Studio experience with visual and tactile components of two and three dimensional composition. Consideration of line, shape, value, texture, and color as design elements. Studio hours 3.

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.

105, 106 First Year Drawing (3,3)
Introductory work in drawing and pictorial composition using basic drawing media. Primary emphasis on observation, analysis, and interpretation through use of line, value, and spatial determinants. Studio hours 6. Courses are sequential: 105 prerequisite to 106.

111 Introduction to Art (3)
Consideration of the formal elements, design principles, and technical factors of significance 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.

199r Special Projects (1-4)

205r, 206r Advanced Drawing (3,3)
Figure, landscape, and still life subjects approached from the standpoint of their compositional and expressive possibilities. Experimentation with various media. Study of art anatomy. Studio hours 6. Prerequisites: 101, 105, 106.

207, 208 Painting and Composition (3,3)
Painting of still life, landscape, and abstract compositions in oil emphasizing color relationships and composition as essential means of pictorial expression. Studio hours six. Prerequisites for art majors: 101, 105, 106. Courses are sequential for art majors; 207 prerequisite to 208.

209 Typographic Design and Layout (3)

211 Prehistoric through Medieval (3)
The arts of the prehistoric, ancient Near Eastern, Egyptian, Greek, Roman, Early Christian, Byzantine, Romanesque, and Gothic periods.

212 Renaissance through Romanticism (3)
Renaissance, Baroque, Rococo, Neo-Classicism, and Romanticism.

213 Realism to the Present (3)
Realism, Impressionism, Post-Impressionism, Expressionism, Cubism, Dada, Surrealism, Abstract Expressionism, and various other post-World War II styles.

222 Teaching Art Appreciation in the Elementary Classroom (3)
Emphasizes importance of art appreciation in the public school at the elementary level. Focus on teaching skills appropriate for the appreciation of the visual arts. Application of traditional and new media at the elementary level of instruction.

223 Teaching Art Appreciation/Field Experience (1)
The application of teaching skills related to the appreciation and knowledge of visual arts for the elementary age child through field experiences and seminars. This course will concern itself with curricular and media development. Prerequisite: 222.

227 Introduction to Crafts (3)
Studio work in a number of craft areas: metals, fibers, and clay. Discussion of historical and contemporary trends in crafts. Studio hours 6.

228 Advanced Crafts (3)
A continuation of Art 227, allowing for more advanced work in selected craft materials and techniques. Studio hours 6. Prerequisite: 227.
48—Biology

250 Graphic Design for Publications (3)
Studio experience in the elements of publication design. Introduction to layout and graphic reproduction techniques used in the print media. Application of typography in communication graphics. Management of print production. (For the nonart major). Studio hours 6. Prerequisite: Communication 110.

251 Photography for Publications (3)
Introduction to black and white photography with an emphasis on photo journalism. Basic camera operation, film processing, and darkroom printing. (For the nonart major). Adjustable lens camera with electronic flash required. Credit not allowed in both Art 251 and 281.

281 Basic Photography (3)
Introduction to black and white photography as an art form with emphasis on composition. Basic camera operation, film processing, and darkroom printing. Prerequisites: Art 101 for Art and Communication majors. Adjustable lens camera required. Credit not allowed in both Art 281 and 251.

301 Art Structure
Slides, demonstrations, and studio experience in drawing, painting, sculpture, and other visual arts. Exposure to selected works of art through exploration of techniques and approaches designed to increase the student's understanding of art, particularly of contemporary styles. For the nonart major.

305r Printmaking: Intaglio and Relief (3)
Work in single and multicolor intaglio, including line etching, and aquatint. Block and woodcut methods. Studio hours 6. Prerequisites: 101, 105, 106, or approval of department head.

310r Advanced Graphic Design (3)
Illustration for the visual communications market, preparation of portfolio, and exploration in photographic layout and design. Prerequisites: 207, 208.

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, grades one through six. Second semester: secondary, grades seven through twelve. Two-dimensional and three-dimensional studio projects, lectures, and discussion included in both courses. Prerequisite to student teaching.

333 Three-Dimensional Design (3)
Basic problems involving mass and space relationships. Experimentation with foundry techniques. Lectures on the historical development of sculpture. Prerequisites: 101, 105, 106.

334 Three-Dimensional Design (3)
Constructions dealing with the manipulation of volumes and surfaces using a variety of materials. Continued development of foundry techniques. Prerequisite: 333.

343 Introduction to Ceramics (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. Studio hours 6. Prerequisites: 101, 105, 106, or approval of department head.

34r Advanced Ceramics (3)
Development of student's individual style through use of design elements and technical skill. Kiln use and general laboratory techniques. Studio hours 6. Prerequisite: 281.

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. Studio hours 6. Prerequisite: 281 or approval of 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 30s. 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. Prerequisite: 211 or 212 or 213.

422 Three-Dimensional Art for Elementary Education (3)
Introduction to techniques of woodworking, metalworking, ceramics, and weaving. Individual research in new materials. Special emphasis placed on equipment and designs suitable for classroom use.

431, 432 Arts of the Far East (3,3)
A selective presentation of the visual arts of China, Japan, India, and other culturally significant regions of Asia. First semester devoted to the earlier phases of Chinese and Japanese art and the art of India from the Indus Valley Civilization through the Medieval period. Second semester presents developments in China from the Han Dynasty onward, and in Japan from the Heian period to the present. Either semester may be taken independently.

433r Sculpture (3)
Development of student's individual style in three-dimensional art. Emphasis on technical skills. Prerequisite: 333 or 334.

452 Research and Studio Problems in Elementary School Art (1-3)
Assigned projects in the history, theory, and innovative approaches in art education at the elementary level. Emphasis on studio problems directed toward the individual's need.

490r Seminar in Art Education (3)
Emphasis on contemporary issues in art education.

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

497r Research (1-4)

499r Group Studies (1-4)

Biology

Professor Nelson, Head
Professors Freeman, Garth, Van Horn, Vredeveeld
Associate Professors Durham, M. Edwards, B. Walton
Visiting Fulbright Lecturer Wurthmann

The Department of Biology offers two degrees: a B.A. in biology and a B.S. in medical technology. The course requirements are listed below.

Students are urged to consider attendance at one of the two institutions affiliated with UTC's Department of
Biology that offer field course experience in the life sciences: Gulf Coast Research Laboratory, Ocean Springs, Mississippi, offering courses in marine biology; and Tech-Aqua, Smithville, Tennessee, a field station offering educational research opportunities in inland, freshwater field biology.

Well-prepared students in biology should avail themselves of the Biology 121, 122 waiver examination offered at the beginning of each semester.

Preprofessional programs in forestry, dentistry, medical technology, medicine, cytotechnology, dental hygiene, pharmacy, veterinary medicine, and physical therapy are described in the Preprofessional Programs section of the Bulletin.

**Biology (B.A.)**

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
- 2 approved courses in written communication in the English language (6 hours)

**Category B**
- 3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

**Category C**
- 2 approved behavioral or social science courses (6 hours)

**Category D**
- 1 approved physical or natural science course other than biology with laboratory (4 hours; approved related courses below will apply)

**Category F**
- 1 approved mathematics course (3 hours; approved related courses below will apply)

**Category G**
- 1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

**Typical course of study in biology (B.A.)**

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
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<tr>
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<tr>
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<tr>
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<tr>
<td>Mathematics 135 or F145</td>
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<tr>
<td>Chemistry 351</td>
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<td>Organismic Biology</td>
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<tr>
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<tr>
<td>Physics D103 or Geology D111</td>
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<tr>
<td>Genetics and Development</td>
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<tr>
<td>15-17</td>
<td>15-18</td>
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</tbody>
</table>

*General Education courses from categories A, B, C, or G maybe taken in any sequence.

**Medical Technology (B.S.)**

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
- 2 approved courses in written communication in the English language (6 hours)

**Category B**
- 3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

**Category C**
- 2 approved behavioral or social science courses (6 hours)

**Category D**
- 1 approved physical or natural science course with laboratory (4 hours; approved related courses below will apply)

**Category F**
- 1 approved mathematics course (3 hours; approved related courses below will apply)

**Category G**
- 1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

**Major and related courses**

Mathematics 135, F136 or F145, F150; F145, F150 recommended for prospective graduate students

Chemistry D121, 122, F136, or F145

Physics D103, 104, or Geology D111, 112

Biology-32 hours including 121, 122, 192, 193, 311, 412; 328 or 423; one from 303, 315, 325, 425, and 426; and one course from 306, 307, or 308;
50—Biology

30 hours from approved school of medical technology
2.0 average in all biology courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in medical technology (B.S.)

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<td>Physical Education Activity (General Education Category C)</td>
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| Sophomore                                           |                                                      |
| Mathematics 135 or F145                             | Mathematics F136 or F150                             |
| 3                                                    | 3-4                                                  |
| Chemistry 351                                       | Chemistry 341 or 352                                |
| 4                                                    | 4-4                                                  |
| General Education Category B                        | General Education Category C                        |
| 3                                                    | 3-4                                                  |
| Biology 192                                         | Biology 311                                         |
| 3                                                    | 4                                                    |
| Biology 193                                         | Elective                                            |
| 1                                                    | 3-4                                                  |
| General Education Category G                        |                                                      |
| 3                                                    |                                                       |
|                                                    |                                                       |
| Junior                                               |                                                      |
| Physics 104                                         | Biology 412                                         |
| 3                                                    | 3                                                    |
| Biology 328 or 423 (Physiology)                     | Genetics & Development                              |
| 4                                                    | 3-4                                                  |
| General Education Category C                        | Population Interaction                               |
| 3                                                    | 3-4                                                  |
| Elective (Foreign Language)*                         | Elective (Foreign Language)*                         |
| _                                                          | 6-7                                                  |
|                                                    |                                                       |

| Senior                                               |                                                      |
|                                                    |                                                       |
|                                                    |                                                       |
|                                                    |                                                       |
|                                                    |                                                       |

30 hours from approved school of medical technology

*Students considering a B.A. in biology as an addition or an alternative to a B.S. degree in medical technology should take a foreign language.

Minor

The Biology Department offers a minor requiring 20 hours of biology including Biology 121, 122 plus any four courses chosen from the organismic, physiological, population, and developmental requirements for the biology major (see major). Two of the four courses must be at the 300 level or above.

Biology Courses

121 Principles of Biology I (4)
An introduction to the basic biological ideas including the methods of the biologist, Darwin’s evolutionary theory, cell structure, digestion, respiration, body fluid regulation, cell division and reproduction, Mendelian and molecular genetics, and animal behavior. Lecture 3 hours, laboratory 2 hours.

122 Principles of Biology II (4)
Continues examination of basic biological principles including energy transformations, hormones, nervous control, effectors, organism development, modern evolutionary theory, ecology, origin of life, and survey of major groups within the kingdoms of organisms. Lecture 3 hours, laboratory 2 hours. Prerequisite: 121.

191 Functional Human Anatomy (4)
The structure of the human body as seen in its various levels of organization: cellular, tissue, organ, and system. Lecture 3 hours, laboratory 2 hours.

192 Human Physiology (3)
Lecture studies of the physiological functions of the human body. Lecture 3 hours. Corequisites: 193; Chemistry 121.

193 Laboratory Studies in Human Physiology (1)
Laboratory studies of the physiological functions of the human body. Laboratory 2 hours. Prerequisite: 122 or equivalent.

194 Human Physiology: Human Sexuality (3)
Examination of many biological and behavioral aspects of human sexuality. Lecture 3 hours.

199r Special Projects (1-4)
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. Lecture 3 hours, laboratory 2 hours. Prerequisite: 122 or equivalent.

210 Microbiology and Health (4)
Microorganisms as related to disease, immunity, food preservation, and sanitation. Lecture 3 hours, laboratory 2 hours. Credit not allowed toward a biology or medical technology major. Prerequisite: Chemistry 121 or equivalent.

225 Invertebrate Zoology (4)
A survey of the invertebrate phyla up to the chordates with an emphasis on the evolution, morphology, and physiological adaptations. Lecture 3 hours, laboratory 2 hours. Prerequisite: 122 or equivalent.

226 Chordate Zoology (4)
The biology of the invertebrate chordates and vertebrate classes with an emphasis on their evolution, morphology, and physiological adaptations. Lecture 3 hours, laboratory 2 hours. Prerequisite: 122 or equivalent.

232 Held Biology (4)
Investigation of regional plants and animals based on observations in their natural habitats. Laboratory studies on classification, conservation, and museum preservation for biological study. Lecture 2 hours, laboratory and field work 3 hours, plus required weekend field trips. Prerequisite: 122 or equivalent.

302 Comparative Anatomy of Vertebrates (4)
Structure and evolution of vertebrates. Dissection of dogfish, amphibian, and cat. Lecture 2 hours, laboratory 4 hours. Prerequisite: 122 or equivalent.

303 Vertebrate Embryology (4)
Comparative development of the body from gamete formation through early organ formation in selected vertebrates. Consideration of advances in experimental embryology. Lecture 2 hours, laboratory 4 hours. Prerequisite: 122; 226 or 302 recommended.

304 Plant Physiology (4)
Vascular plant structure and function emphasizing physiological activities, such as photosynthesis, water relations, mineral nutrition, and hormonal action. Lecture 3 hours, laboratory 2 hours. Prerequisites: 122; Chemistry 121, 122 or equivalent. Pre- or corequisite: Chemistry 351.

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. Lecture 3 hours. Prerequisite: 122 or equivalent, or approval of instructor.

307 Ecology Laboratory (1)
Field application of ecological principles. Laboratory 2 hours. Field trips. Prerequisite: 122 or equivalent. Corequisite: 306.

308 Parasites of Man (4)
Life cycles, ecology, and physiology of the parasites of human beings including the diseases caused by these parasites. Lecture 2 hours, laboratory 4 hours. Prerequisite: 122 or equivalent, or approval of instructor.

311 Principles of Microbiology (4)
Morphology and physiology of microorganisms. Lecture 2 hours, laboratory 4 hours. Credit not allowed in both Biology 210 and 311. Prerequisites: 122, Chemistry 122 or equivalent.
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. Lecture 3 hours. Prerequisite: 122 or equivalent.

325 Genetics (3)
The structure and function of the gene and chromosome; control of protein synthesis; mutation; genetic regulation; genetic transfer and recombination. Viruses, bacteria, and higher organisms will be discussed. Lecture 3 hours. Prerequisites: 122, Chemistry 122 or equivalent.

326 Genetics Laboratory (1)
Genetics investigations utilizing a variety of organisms. Laboratory 2 hours. Prerequisite: 122 or equivalent. Pre- or corequisite: 325.

328 Cellular Biology (4)
Morphological and chemical organization of the cell; cellular metabolism; metabolic energy relationships; nature of enzymes; fermentative and oxidative metabolism; photosynthesis. Lecture 3 hours, laboratory 2 hours. Prerequisites: 122, Chemistry 122 or equivalent. Pre- or corequisite: Chemistry 351.

330 Histology (4)
Structure of animal tissues and organ levels with emphasis on recognition, origin, and function of mammalian tissues. Lecture 2 hours, laboratory 4 hours. Prerequisites: 122, Chemistry 122 or equivalent. Pre- or corequisite: Chemistry 351.

342 Entomology (4)
Principles of entomology including the morphology, development, taxonomy, ecology, and importance of insects. Lecture 3 hours, laboratory 2 hours. Prerequisite: 122 or equivalent.

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. Lecture 2 hours, laboratory 4 hours. Prerequisite: 122 or equivalent. Pre- or corequisite: Chemistry 351.

406 Population Biology (3)
Major aspects of population genetics, population ecology, and evolutionary theory including: mutations, natural selection, genetic drift, genetic load, population growth, K-selection, r-selection, competition, species equilibrium theory, and principles of modern systematics. Lecture 3 hours. Prerequisite: 122 or Environmental Studies 150.

410 Animal Behavior (3)
Behavior of animals as related to their physiology, ecology, and evolution. Lecture 2 hours, laboratory and field work 2 hours. Prerequisites: 122 or equivalent, 2 hours psychology.

412 Immunology and Virology (3)
Reactions of the mammals, including the human body, to foreign substances. A study of viruses using in part immunological and serological procedures. Lecture 3 hours. Prerequisite: 210 or 311.

416 Biogeography (3)
A study of the distribution of plants and animals from a climatic and historical perspective. Lecture 3 hours. Prerequisite: 122.

420 Molecular Genetics (3)
Genetic code, gene control, recombinant DNA, cloned genes, mutagenesis, antibody genes, tumor viruses, transferring genes into mammalian cells, recombinant genes and diseases. Lecture 3 hours. Prerequisite: 325 or 328.

423 Animal Physiology (4)
A detailed analysis of selected aspects of animal physiology. For students whose primary interest is biological science. Lecture 3 hours, laboratory 3 hours. Prerequisites: Biology 122 or equivalent, and a course in organic chemistry.

425 Developmental Biology (3)
Principles of development with emphasis on causal factors in plant and animal embryogenesis. Lecture 2 hours, laboratory 3 hours. Prerequisites: 122, Chemistry 122 or equivalents, and 8 additional semester hours of biology. Pre- or corequisite: Chemistry 351.

430 Plant Pathology (3)
A study of plant diseases caused by physical, chemical, and biological agents. Lecture 3 hours. Prerequisite: 311 or 210.

443 Aquatic Insects (4)
Aquatic insects including their general morphology; collecting, sampling, and rearing methods; ecology and distribution; phylogenetic relationships and evolutionary adaptation; and a taxonomic survey of the orders of aquatic and semiaquatic insects. Lecture 2 hours, laboratory 3 hours. Prerequisites: 225 or 342, Environmental Studies 150.

444 Psychobiology (4)
Bioelectrical theory. Integrative activities, receptor, and effector process in relation to nerve and muscle structure and function. Experimental and theoretical treatment of the brain as a biological entity. Surgery and various drugs used as tools to investigate behavior processes such as aggression, hunger, learning, and motivation. Lecture 3 hours, laboratory 2 hours. Prerequisites: 122, Psychology 101 or equivalents.

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. Lecture 3 hours. Prerequisites: 122 or equivalent.

453r Field Studies in Zoology (1-4)
Collection and identification of animals.

454r Field Studies in Botany (1-4)
Collection, identification, and analysis of plants in a geographical area approved by student and instructor. Prerequisite: 352.

463 Endocrinology (3)
The hormones of animals with emphasis on those of mammals. Lecture 3 hours. Prerequisites: 122, Chemistry 122.

494r Biology Seminar (1)
Prerequisite: approval of instructor and head of the department. Presentation of programs of current biological interest by students, faculty, and outside speakers. Prerequisite: 76 semester hours biology. Maximum credit: 2 hours.

495r Individual Studies (1-4)
Prerequisite: approval of instructor and head of the department. Prerequisite: approval of instructor and head of the department.

499r Group Studies (1-4)

Courses available at Gulf Coast Research Laboratory, Ocean Springs, Mississippi

141 Introduction to Marine Zoology (4)
General introduction to the marine environment with emphasis on local fauna. (Same as GCRL Z0141.) Prerequisite: 122.
341 Marine Botany (4)
Survey based upon local examples of the principal groups of marine algae and maritime flowering plants, treating structure, reproduction, distribution, identification, and ecology. (Same as GCRL BOT 341.) Prerequisite: 226 or 302.

361 Marine Invertebrate Zoology (6)
Study of marine invertebrates, especially those of the Mississippi Sound region. Emphasis placed on the structure, classification, phylogenetic relationships, and functional processes. (Same as GCRL Z0361.) Prerequisite: 15 semester hours of biology. Credit not allowed for 367 and 225.

362 Marine Vertebrate Zoology and Ichthyology (6)
A general study of the marine Chordata, including lower groups and the mammals and birds, with most emphasis on the fishes. (Same as GCRL Z0362.) Prerequisite: 226 or 302.

431 Basic Techniques in Marine Science for Teachers (3)
A course designed to introduce the students, particularly in-service teachers, to the study of marine science and to promote the teaching of marine biology at all grade levels. (Same as GCRL MSE431.) Prerequisite: 122 or consent of instructor.

441 Salt Marsh Ecology (4)
A study with emphasis on the botanical aspects of local marshes; includes plant identification, composition, structure, distribution, and development of coastal marshes. (Same as GCRL BOT 441.) Prerequisites: 122, 306.

442 Marine fisheries Management (4)
A general course in fisheries management designed to acquaint students with the philosophy, objectives, problems, and principles involved in management decisions. Lecturers will include specialists in biology, fisheries statistics, sanitation, and marine law. (Same as GCRL Z0442.) Prerequisite: 122.

452 Marine Microbiology (6)
Role of microorganisms in ecology of oceans and estuaries. Includes sampling procedures, taxonomy and marine bacteria, mineralization, microbial fouling, pollution, and diseases of marine animals. (Same as GCRL MIC452.) Prerequisite: 311 or consent of instructor.

460 Marine Ecology (5)
Relationship of marine organisms to their environment. Includes effects of temperature, salinity, light nutrient concentration, currents, and food on the abundance and distribution of marine organisms. (Same as GCRL Z0460.) Prerequisites: 207, 225, 306; Chemistry 342.

464 Aquaculture (6)
Introduction to history, principles, problems, and procedures relating to culture of commercially important Gulf Coast crustaceans, fish, and mollusks. (Same as GCRL Z0464.) Prerequisite: 122.

Courses available at Upper Cumberland Biological Field Station (Tech Aqua), Center Hill Lake, Tennessee

427 Field Botany (5 quarter hours)
Systematic botany of the flowering plants. Prerequisite: 122.

437 Freshwater Algae (5 quarter hours)
Morphology, systematics, physiology, ecology, and phylogeny of freshwater algae. Prerequisite: 122.

447 Ecosystems Analysis (5 quarter hours)
Structure and function of regional ecosystems, including production, food webs, nutrient cycling, diversity and stability. Prerequisite: 122.

465 Dendrology (5 quarter hours)
Classification, identification, ecology, economic characteristics, and nomenclature of woody plants of middle and eastern Tennessee. Prerequisite: 122.

467 Freshwater Invertebrates (5 quarter hours)
Morphology, physiology, systematics, and ecology of aquatic invertebrates. Prerequisite: 122.

468 Ornithology (5 quarter hour)
General survey of the class Aves with emphasis on morphology, identification, and ecology of local birds. Prerequisite: 122.

484 Limnology (5 quarter hours)
Fundamental concepts of the interrelationships between aquatic organisms and their environments in lakes and rivers. Prerequisite: 122.

487 Ichthyology (5 quarter hours)
Identification, classification, anatomy, physiology, ecology, and adaptations of fishes; emphasis on North American freshwater species. Prerequisite: 122.

Brock Scholars Program
See William E. Brock Scholars, page 106.

Chemistry

Professor Gross, Head
Professors McNeely, Waddell
Associate Professors Kutz, Lynch
Assistant Professors Grant, Mebane, Rybolt
Instructor Meyer

The chemistry curriculum provides programs leading to B.A. and B.S. degrees. The BA program emphasizes the liberal arts with specialization in chemistry and offers the opportunity to develop a broad background in the sciences for students who are preparing for professional study in the health sciences. The B.S. program offers a greater concentration in chemistry, physics, and mathematics and is recommended for students with a career interest in chemistry. This program, which has been approved by the Committee on Professional Training of the American Chemical Society, is recommended for students who are planning for graduate study in chemistry. Both programs provide strong emphasis on theory and laboratory experience. The department also offers a minor in chemistry.

Preprofessional programs in forestry, dentistry, medical technology, medicine, cytotechnology, dental hygiene, pharmacy, veterinary medicine, and physical therapy are described in the Preprofessional Programs section of the Bulletin.

Chemistry (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language, (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)
Category D
1 approved physical or natural science course other than chemistry with laboratory (4 hours; approved related course below will apply)

Category F
1 approved mathematics course (3 hours; approved related courses below will apply)

Category C
1 approved perspectives course (3 hours)
Health and Physical Education 021 plus one additional semester physical education activity
Foreign language through second college year

Major and related courses
Mathematics F145, F150,160
Physics D103, 104
32 hours chemistry including 121,122, 341,351,352,371,386,443; 1 hour of seminar (486r) or research (Chemistry 495r, 496r, 497r, 498r)
2.0 average in all chemistry courses (excluding Chemistry 211)
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in chemistry (B.A.)

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<td>General Education (see pages 26-28 for list of approved courses)</td>
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<th>Category A</th>
<th>2 approved courses in written communication in the English language (6 hours)</th>
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<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)</td>
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<tr>
<td>Category C</td>
<td>2 approved behavioral or social science courses (6 hours)</td>
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Category D
1 approved physical or natural science course other than chemistry with laboratory (4 hours; approved related course below will apply)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course (3 hours)
Health and Physical Education 021 plus one additional semester physical education activity

Typical course of study in chemistry (B.S.)

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<tr>
<td>Chemistry 121 (or 125); Chemistry 122; Chemistry 341; Chemistry 342; Chemistry 351; Chemistry 352. A total of 24 hours.</td>
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Chemistry Courses

111 Chemistry and the Environment (3)
Basic concepts and methods of investigation with applications of chemical principles to the environment. Lecture 3 hours. Credit may not be applied toward a chemistry major.
121 General Chemistry I (4)
Survey of principles and concepts involving structure, properties, and reactions of matter with experiments to demonstrate these principles. Lecture 3 hours, laboratory 3 hours. Prerequisite: 2 years of high school algebra or Mathematics 107. Chemistry 125 may be substituted for Chemistry 121 in meeting all requirements.

122 General Chemistry II (4)
Survey of applications of principles to inorganic, organic, biological, analytical, and physical chemistry. Laboratory experiments in qualitative analysis. Lecture 3 hours, laboratory 3 hours. Prerequisite: 121.

125 Honors General Chemistry (4)
Advanced survey of principles and concepts of chemistry including structure, properties, and chemical reactions. Experimental work with emphasis on advanced laboratory procedures. Lecture 3 hours, laboratory 3 hours. Prerequisites: approval of instructor and either nomination by high school chemistry teacher or a minimum score of 24 on the composite ACT. Chemistry 125 maybe substituted for Chemistry 121 in meeting all requirements.

199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

211 Forensic Chemistry (3)
Survey of the applications of chemical analysis to criminalistics including studies of physical evidence, microscopy, analysis of drugs, toxicology, arson investigation, serology, firearms, and documents. Credit may not be applied toward a chemistry major.

341 Quantitative Analysis (4)
Theory and practice of volumetric, electrochemical, and spectrophotometric analysis applied to the study of stoichiometry and equilibrium. Lecture 3 hours, laboratory 3 hours. Prerequisite: 122.

342 Analytical Methods (4)
Advanced theory and practice of analytical chemistry including instrumental approaches to separation and analysis, lecture 3 hours, laboratory 3 hours. Prerequisite: 341.

351, 352 Organic Chemistry (4,4)
Study of compounds of carbon with emphasis on structure, synthesis, reactions, and reaction mechanisms with experiments to demonstrate principles and reactions. Qualitative organic analysis included in Chemistry 352. Lecture 3 hours, laboratory 3 hours. Prerequisites: 122; 351 is prerequisite to 352.

367 Current Topics in Biochemistry (3)
Study of the biosynthesis of biochemically active molecules, including amino acids, immunoglobulins, and hormones, with special emphasis on current research in these areas. Prerequisite: 352.

371, 372 Physical Chemistry (4,4)
Thermodynamic, kinetic, and other descriptions of laws governing physical and chemical change, lecture 3 hours, laboratory 4 hours. Prerequisites: Chemistry 341, Mathematics 160. Co- or Prerequisite: Physics 104 or 231. Chemistry 371 is prerequisite to Chemistry 372.

386 Chemical Literature (1)
Survey of primary, secondary, and tertiary sources of chemical information including individual assignments in the use of these sources. Prerequisite: 76 semester hours of chemistry.

426 Chemistry in Industry (2)
Survey of the chemical industry including economic aspects, activities of chemists, and case studies in the solving of industrial problems. Prerequisite: 24 semester hours of chemistry.

436 Advanced Inorganic Chemistry (5)
Advanced concepts in theoretical and descriptive inorganic chemistry with emphasis on valence bond, molecular orbital, and crystal field theories. Lecture 3 hours, laboratory 4 hours. Prerequisites: 352, 371.

443 Instrumental Analysis (4)
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. Lecture 3 hours, laboratory 3 hours. Prerequisites: 341 and 351. Co- or Prerequisite: Physics 104 or 231.

453 Advanced Organic Chemistry (4)
Advanced concepts of organic chemistry: principles of synthesis, structure, reaction mechanisms, and stereochemistry as applied to current research problems. Laboratory syntheses involve advanced techniques. Lecture 3 hours, laboratory 3 hours. Prerequisite: 352.

466 Biochemistry (3)
Survey of chemical aspects of metabolism in living systems including respiration, photosynthesis, lipid, and amino acid degradation; significance of nucleic acids, nucleotides, amino acids, and proteins. Prerequisite: 352.

475 Polymer Chemistry (2)
Chemistry of synthetic polymers including mechanisms of polymerization and relation of properties to structure. Prerequisites: 352 and 371 or equivalent knowledge.

486r Seminar (1)
Participation seminar based on student papers, invited speakers, and other activities. Prerequisite: 24 semester hours of chemistry. Maximum credit 2 hours.

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

497 Research (2)
Laboratory or library research on individual chemical problem under staff supervision. Seminar presentation of results. Student should confer with instructor prior to registration. Laboratory 4 hours. Maximum credit 4 hours.

498r Individual Studies (1-4)
Individual or group projects. Credit may be earned through University, governmental, or industrial laboratory experience approved by the department. Maximum credit 4 hours.

499r Group Studies (1-4)
Special topic of a selected area of chemistry as specified in schedule of classes. Student should confer with instructor prior to registration.

Classical Civilization
See Foreign Languages and Literatures, page 64.

Communication

Associate Professor Pringle, Head
Associate Professor Rushing
Assistant Professor De Riemer

The Department of Communication offers a Bachelor of Arts degree requiring a combination of broad liberal learning and specialized study in communication. In addition to meeting the general education requirements, the communication major must study in some depth in one or two departments outside the program. Concentra-
tions in communication are available in advertising, broadcasting and electronic media, broadcast journalism, journalism, and public relations.

**Communication (B.A.)**

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
2 approved courses in written communication in the English Language (6 hours)

**Category B**
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

**Category C**
2 approved behavioral or social science courses (6 hours)

**Category D**
1 approved physical or natural science course with laboratory (4 hours)

**Category F**
Mathematics F210

**Category C**
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester of physical education activity

Foreign Language through second college year

**Related Study**
Completion of one of the following—

1. Two minors* in different departments in the College of Arts and Sciences, including at least one from humanities/fine arts or behavioral/social sciences (economics may be included), approved by the adviser.

2. A major in a department in the College of Arts and Sciences, other than Communication, approved by the adviser.

*Approved courses in the minors may also be used to satisfy general education requirements.

**Major**
Completion of one of the following concentrations—

1. **Advertising:**
   - Communication 101, 110, 260, 271, 365, 450, 451, 465, 480 or 485r; Art 250; English 307; Marketing 313, 362.

2. **Broadcasting and Electronic Media:**
   - Communication 101, 110, 260, 290, 340, 345, 364, 450, 451, 480 or 485r, 490.

3. **Broadcast Journalism:**
   - Communication 101, 110, 260, 290, 340, 345, 360, 381, 450, 451, 480 or 485r, 481.

4. **Journalism:**
   - Communication 101, 110, 260, 360, 361, 363, 367, 450, 451, 462, 480 or 485r; Art 251; English 370.

5. **Public Relations:**
   - Communication 101, 110, 260, 271, 360, 363, 450, 451, 471, 480 or 485r; Art 250, 251; English 370.

2.0 average in all communication courses

Minimum of 30 hours of 300 and 400 level courses.

Electives to complete 128 hours.

**Typical course of study in communication (B.A.)**

**Communication (B.A.): advertising concentration**

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**Communication (B.A.): broadcasting and electronic media concentration**

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56—Communication

Communication (B.A.): broadcast journalism concentration

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Communication (B.A.): journalism concentration

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Communication (B.A.): public relations concentration

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Minor

A total of 18 hours, including Communication 101, 110, and 260. Nine hours of approved Communication courses at the 300 level or above.

Communication Courses

101 Introduction to Mass Communication (3)
History, theory, and practice of mass communication designed to expose beginning students to the broad subject of communication. Major media issues explored. Formerly Theatre & Speech 270.

110 Fundamentals of Media Communication (3)
Application of communication principles to the mass media. Introduction to media technology and procedures, analysis of and practice in the preparation of basic content for electronic and print media.

120 Mass Media in American Society (3)
Course examines the effects of the development and growth of mass media in American society. Mass media effects are discussed as these relate to research findings. The role of mass media in the individual's daily life is studied through discussion of such concepts as selective exposure and perception, agenda setting by mass media, media dependency, video-malaise, and other mass media effects.

199r Special Projects (1-4)
Individual or group studies.

210 History of American Journalism (3)
History of American journalism; examination of current issues in journalism. Formerly English 271.

250 Publication Layout and Design (3)
Practice in publication production. Special attention to typography, graphics, and design techniques. Managing the production of publications. Prerequisites: 101, 110, or approval of instructor.

260 Writing for the Mass Media (3)
Intensive practice in writing techniques used by the print and electronic media. Style, usage, and format will be studied in depth. Prerequisites:
707, 770; English 101 and the ability to type 30 wpm; or approval of instructor.

271 Principles and Practices of 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. Prerequisites: 101, 110, 260, or approval of instructor.

290 Introduction to Broadcasting and Electronic Media (3)

340 Audio Production and Presentation (3)
Producing and presenting content in radio and nonbroadcast audio media, using both studio and portable facilities. Studio, control room, and field production procedures, recording and editing, music and sound effects. Prerequisite: 770.

345 Video Production and Presentation (3)
Producing and presenting content in television, cable TV, and nonbroadcast video media, using both studio and portable facilities. Studio, control room, and field production procedures, recording and editing, lighting, and graphics. Prerequisite: 340.

360 News Writing and Reporting I (3)
Fundamentals of news gathering, news writing, news evaluation, and the structure of news stories. Formerly English 371. Prerequisites: 260, typing proficiency of 36 wpm, or approval of instructor.

361 News Writing and Reporting II (3)
Instruction and practice in reporting news gathered from the traditional news beats (courts, county-city government, university, city, etc.) Prerequisite: 360 or approval of instructor.

363 Feature Writing (3)
Nonfiction writing for magazines and for specialized publications. Formerly English 374. Prerequisite: 360 or approval of instructor.

364 Writing for Broadcast and Electronic Media (3)
Techniques of writing for radio, television, cable TV, and for nonbroadcast audio and video media. News, commercials, public service announcements, continuity, and institutional communication content. Prerequisites/tes: 260, 290; typing proficiency of 36 wpm, or approval of instructor.

365 Advertising Copy Writing (3)
Principles and practices in the preparation of effective advertising copy for a variety of media. Includes basic consumer research, creative conceptual and campaign design, copy testing. Emphasis on print advertising, but radio and TV covered. Prerequisites: Marketing 362, typing proficiency of 36 wpm, or approval of instructor.

367 Newspaper Editing and Design (3)
Principles and practices of editing and evaluating news copy, writing headlines and captions, newspaper layout and design practices, electronic editing, and newspaper production processes. Prerequisite: 360.

361 Broadcast News and Public Affairs I (3)
Researching, writing, reporting, and producing news and public affairs programs for radio and television. Legal, ethical, and managerial concerns. Prerequisites: 340, 360.

450 Communication Research (3)
Analyzing and using research in the mass media. Interpreting audience and message research. Fundamentals of media research methods and participation in a media research project. Prerequisites: junior standing and Math 210.

451 Legal and Ethical Aspects of Mass Media (3)
Rights and privileges, secrecy and censorship, libel, privacy, contempt, broadcasting law, commerce provisions, and copyright. Contemporary case studies.

462 Interpretive and Editorial Writing (3)
Instruction and practice in analytical, interpretive, persuasive writing; concepts of editorial responsibility. Formerly English 372. Prerequisite: 361 or approval of instructor.

465 Advertising Campaign (3)
Planning and implementing the complete advertising campaign, from designing the creative platform to writing and producing advertisements and commercials in the several media; procedures in media buying; methods of evaluating campaign results. Use of case studies and workshops. Prerequisite: 365.

471 Publicity Methods (3)
Planning and implementing the public relations campaign. Using the mass media to achieve publicity objectives. Case studies of publicity campaigns and class implementation of a campaign. Prerequisite: 271 or approval of instructor.

475r Specialized Public Relations Practice (3)
Intensive exploration of specialized application of public relations in such areas as fund-raising, employee communication, consumer behavior, and environmental public relations. Topics vary. Offerings are announced at preregistration. Maximum 6 hours credit. Prerequisite: 271 or approval of instructor.

480 Directed Project (3)
Guided project designed to demonstrate proficiency at preprofessional level in area of concentration. Prerequisites: senior standing and approval of adviser.

481 Broadcast News and Public Affairs II (3)
A continuation of Communication 381 with the emphasis on television news and public affairs. Prerequisite: 381.

485r Individual Internship (3)
Professional service, arranged and supervised individually, with newspapers, radio and television stations, advertising agencies, and other media institutions. Prerequisites: senior standing; approval of adviser one full semester in advance. Maximum 6 hours.

490 Broadcast and Electronic Media Management (3)
Principles of management and their application to radio, television, cable television, and other electronic media systems. Emphasis on personnel, programming, sales, and promotion.

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

497r Research (1-4)
Prerequisite: approval of department head.

499r Individual Studies (1-4)
Prerequisite: approval of department head.

499r Group Studies (1-4)

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**Computer Science**
See School of Engineering, page 154.

**Criminal Justice**
See School of Human Services, page 157.

**Education**
See School of Education, page 121.

**Engineering**
See School of Engineering, page 145.
Professor T. Ware, Head
Professors Barrow, Connor, Herron, Ramsey, Richards, Tinkler, Trimpey
Associate Professors Fulton, R. Jackson, Meagher, Sanderlin, Shawen, R. Vallier
Assistant Professor Bender, Wallin
Instructor Young
Visiting Associate Professor Leonard
Visiting Instructors M. Jackson, J. Vallier, R. Ward

In addition to providing a variety of courses for general education and for electives, the English Department offers programs leading to the B.A. (in English and American language and literature) and to the B.S. (in secondary education: English). Beyond the traditional freshman program in rhetoric and composition, most of the offerings in the English curriculum are based on the study of literature, such as genre studies, courses in major authors, and surveys of literary periods. There are also several upper level courses which stress the development of skills in various forms of writing. It is in fostering and advancing the humanistic traditions, however, that the English Department makes its principal contribution to liberal education.

English and American Language and literature (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than English; one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category C
1 approved perspectives course other than English (3 hours)

Health and Physical Education 021 plus one semester physical education activity

Major and related courses
Foreign language through second college year
39 hours English in addition to general education requirements including: English 203; 207 or 442r; 211 and 212; 213 and 214; 361; at least one course in novel at the 300 or 400 level
At least 9 of the remaining hours must be in 300- and 400- level courses, with one course in English literature before 1800
12 hours additional in supporting courses beyond the general education requirements: these courses chosen in conjunction with the academic adviser
2.0 average in all English courses (excluding general education Category A courses)

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours
For teacher certification see School of Education section.

Writing Concentration
The Department of English permits a Concentration in Writing within the English major. To take a Concentration in Writing a student must complete the major in English including at least 12 hours from the following courses, no more than two courses on the 200 level and at least one at the 400 level: English 270, 277, 278, 279, 300, 370, 375, 376, 410, 471, 495 when topic is appropriate. Communication 260, 363.

Typical course of study for English and American language and literature (B.A.)

Freshman
English 101-102
Behavioral Science
Humanities, Fine Arts
Mathematics, Natural Science
Foreign Language
Physical Education

Sophomore
English 203
English 211, 212
English 213 and 214
Humanities, Fine Arts
Foreign Language
Support course (chosen with adviser)
Electives

Junior
English 207 or 442r
English Electives, including novel course
Support courses (chosen with adviser)
Perspectives
Electives

Senior
English 361
English Electives (300-400 level)
Support course (chosen with adviser)
Electives

Minor
The English Department offers a minor in English, a program of study composed of the following set of courses:
English 103; English 203 or English 204; English 211 or English 212; English 213 or English 214; English 207 or English 442. At least two courses at the 300 or 400 level to be chosen in conjunction with an academic adviser. A total of 21 hours.

English Courses

100 Special Skills in Basic English (3)
A review of basic reading skills, language concepts, sentence types and structures. Requires extensive practice in the writing of sentences and paragraphs as well as in the practice of editing for proper punctuation and accurate grammatical construction. Graded on a satisfactory/no credit basis.

101 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. In rare instances exemption from English 101 may be recommended by the department.

102 Rhetoric and Composition (3)
Review of competencies stressed in English 101 with emphasis on the extended essay; use of research matter in writing; attention to diction, figurative and symbolic language, relationship of style and meaning. Prerequisite: English 101 or placement.

103 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.

111 Values in 20th Century American Fiction (3)
A study of contemporary man's search for values as reflected in selected twentieth century American novels and short stories from World War I to the present.

161 Writing and Study Skills for Foreign Students (6)
A rapid review of English grammatical structures and pronunciation with intensive oral and written drill. Required during the first term of residence of all foreign students who are not excused from it on the basis of the English proficiency examination offered during each fall term.

166 Vocabulary Development (1)
Designed to enhance and strengthen the student's vocabulary by exercises stressing technical as well as general uses of language, the importance of context, and etymology.

190r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours for B.A. in English or B.S., Secondary Education in English. By permission of department head.

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.

204 World Literature from the Renaissance (3)
Selections from English literature of the Renaissance and later periods and from European and American writers.

207 Shakespeare: an Introduction (3)

211 Survey of English Literature to 1800 (3)

212 Survey of English Literature since 1800 (3)

213 American Literature to 1855 (3)
Representative works from the Colonial and Romantic periods.

214 American Literature from 1855 (3)
Representative works from the late 19th and 20th centuries.

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. Prerequisite: one lower level course in written communication in English.

230 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.

233 The Uses of Tradition: India and Japan (3)
A comparison of two mythic and traditional cultures confronting modernism, as reflected in expository reading, documentary films, and the arts, including fiction, poetry, music, and dramatic film.

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.

270 Creative Writing (3)
Instruction and practice in writing imaginative literature for magazines and specialized publications.

277 Professional Writing (3)
An introduction to the theory and practice of the basic forms of writing used in any profession. Emphasis on the processes of communication in addition to their various forms; practice in the reading and writing of memoranda, prospectuses, digests, charts, extended reports, etc.

278 Scientific Writing (3)
An introduction to the theory and practice of science writing. Emphasis on the problems of communicating to specialized audiences and the problems of translating specialized language for general audiences; practice in the translation and writing of technical reports and supporting materials, proposals, articles, reports, etc.; practice in the conversion of technical information and formulas into everyday language.

279 Writing for the Human and Social Sciences (3)
An introduction to the theory and practice of the modes of discourse used in human and 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.

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.

301 The Literature of England to 1300 (3)
Representative works in translation.

302 The Literature of England, 1300-1500 (3)
Representative works including Chaucer.

303 Early Renaissance Literature to 1600 (3)
Representative works from Tudor and Elizabethan periods.

304 Milton and the Seventeenth Century (3)
Representative works from the Jacobean and late Renaissance periods.

305 Age of Dryden, Pope, and Swift (3)
Representative works from the early 18th century.

306 Age of Johnson (3)
Representative works from the mid and late 18th century.

317 English Romantic Period (3)
Representative works from the period 1789-1837.

318 Victorian Literature (3)
Representative works from the period 1837-1901.

319 English Transitional Period (3)
Representative works from the period 1880-1920.

320 Modern British Literature (3)
Representative works from 20th-century England.

332 Southern American Literature (3)
Emphasis on 20th-century authors.

333r Masterpieces of Asian Literature (3)
Study of representative works with emphasis on a country, period, or genre.

334 King James Bible as Literature (3)
Study of selected portions of the Old and New Testaments as literary...
60—Environmental Studies

masterpieces. Focus on study of the Bible as a central book in Western thought and as background for English and American literature.

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.

351 History of Literary Criticism (3)
Selected readings from representative literary critics.

360 Introduction to Linguistics (3)
Designed to make the student aware of language as a field of study; to show the basic assumptions and methods of linguistics; and to introduce the terminology and scholarship in the field.

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. Prerequisite: 102.

370 Persuasion and Propaganda (3)
A study of the powers and abuses of persuasion, using historical and contemporary examples.

375 Creative Writing: Poetry (3)
Instruction and practice in the understanding and writing of poetry.

376 Creative Writing: Fiction (3)
Instruction and practice in the understanding and writing of fiction.

392 Religion and Literature (3)
A critical examination of the possible relationships between religion and literature; reading and discussion of selected literature from both disciplines.

395 Greek and Roman Tragedy in Translation (3)
See Classics 395.

397 Music, Poetry and Ideas (3)
A consideration of technique, meaning, style, form, expression, and value in music and poetry. May be registered as Music 397.

400 Seminar for Majors (3)
A seminar in the senior year designed to integrate the student's understanding of literature.

408 Approach to Literature (3)
Focus on the relationship between the subject matter learned as an English major and the subject matter to be used as a teacher of secondary English; emphasis on the difference between "content" specialist and high school teacher.

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.

412 Approach to Critical Reading (3)
Designed to increase the student's knowledge of the techniques involved in a close reading of literary texts, with special attention to the applicability of these techniques to teaching.

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.

421 Later English Drama, 1660-1800 (3)
Study of English drama from the Restoration through the 18th century.

423 American Novel to 1900 (3)
Representative novels of American romanticism, realism, and naturalism.

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.

431 The Modern British Novel (3)

433 Modern Poetry, British and American (3)

434 Twentieth-Century American Novel (3)

435 Modern Drama (3)
Selected plays of representative dramatists with special emphasis on American drama since 1920.

442 Shakespeare: Special Topics (3)
Maximum credit 6 hours for the degree.

443 Major British Figures (3)
A reading course in the works of a major British writer; the writer to be studied will be specified in the schedule of classes. Maximum credit 6 hours for the degree.

445 Major American Figures (3)
A reading course in the works of a major American writer. Maximum credit 6 hours for the degree.

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. Prerequisites: 360, 361, or special permission of the department head.

471 Writing Workshop (3)
An advanced seminar in writing with individual projects in imaginative, expository, or critical writing. Prerequisites: two writing courses above the 100 level.

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

497 Research (1-3)
Individual research projects by special permission of department head. Maximum 3 hours for B.A. in English or B.S., Secondary Education in English.

498 Individual Studies (1-3)
Individual study projects by special permission of department head. Maximum 3 hours for B.A. in English or B.S., Secondary Education in English.

499 Group Studies (1-3)
Group study projects by special permission of department head. Maximum 3 hours for B.A. in English or B.S., Secondary Education in English.

Environmental Studies

Professor Perfetti, Coordinator
Professors B. Benson, Walker, Weisbaker, Robert Wilson
Associate Professors Litchford, B. Walton
Assistant Professors J. Davis, Honerkamp

The environmental studies 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, geosciences, mathematics, physics, or sociology/anthropology. Environmental studies courses are described below; all other required courses are described in the listings of other departments named.
Environmental Studies (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than discipline concentration (6 hours)

Category D
1 approved physical or natural science course, other than environmental studies or discipline concentration, with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related courses below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester of physical education activity

Major
The following core courses are required of all Environmental Studies majors:

Biology: 306
Environmental Studies 150, 410, 480, 484, 490; and either 460 or 470; and three courses from the following four: 240, 250, 340, or 355; and 3 elective hours from 406, 430, 435, 455, 465, 481, 482, 483, 491, 496. Mathematics F145-F1501, F2102

In addition, each major must complete the requirements for one of the following concentrations —

Biology:
Computer Science 117, 118, or 210
Chemistry D121, 122, 341, 351
Biology 121, 122, 232, 311
Two courses from Biology 225, 226, 342
Two courses from Biology 207, 304, 352

Chemistry:
Computer Science 118 or 210
Biology D121, 122
Chemistry 121, 122, 341, 352, 371, 443

Engineering science:
Computer Science 118
Biology 122
Chemistry D121, 122, 341
Engineering 103, 104, 225, 272, 303, 307, 322, 325, 431
Mathematics 160, 250, 260
Physics 231, 232

Geoscience:
Computer Science 117, 118, or 210
Chemistry D121, 122
Physics 318
Geology 111, 225, 341, 342, 351, 445, geology elective
Geography 206, 465
Plus 8 hours at 400 level from Geology-Geography with permission of Environmental Studies coordinator

Mathematics:
Computer Science 118
Mathematics 160, 250, 260, 295, 308, 350, 407, 408, 412; two courses from 414, 418, 424, 428, 440, 445, 460, or 470
1 two semester sequence from biology, chemistry, engineering, geology, physics

Environmental Studies—61

Physics:
Computer Science 118 or 210
Chemistry D121, 122
Mathematics 160
Physics 103, 104, 231, 232; 12 hours from 303, 304, 307, 310, 318, 341, 342, 411, or 412

Sociology-Anthropology:
Computer Science 117 or 210
Sociology 151, 314, 394; either Anthropology 152 or 208; either Anthropology 302 or Sociology 312; additional 15 hours from Anthropology 211, 335, 356, 410, 425r and Sociology 209, 219, 305, 317, 318, 331, 340, 400r, 415, 430, 440, 455r (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 studies courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

1 Majors in the biology or sociology-anthropology concentration may substitute Mathematics 135, F136
2 This requirement may be satisfied by a concentration-related statistics course if one is available.

Typical courses of study in environmental studies (B.S.)

Environmental studies (B.S.): biology concentration

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<td>General Education Category G</td>
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<tr>
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<td>17</td>
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Environmental studies (B.S.): chemistry concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Sophomore</td>
</tr>
<tr>
<td>Environmental</td>
<td>Environmental</td>
</tr>
<tr>
<td>Studies 150</td>
<td>Studies 240</td>
</tr>
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<td>4</td>
<td>3</td>
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<tr>
<td>Mathematics F145</td>
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<td>Chemistry 121</td>
<td>Mathematics F136</td>
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<tr>
<td>Biology D121</td>
<td>Chemistry 122</td>
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Environmental studies (B.S.): geosciences concentration

<table>
<thead>
<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>Junior</td>
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<tr>
<td>Environmental Studies 150</td>
<td>Environmental Studies 490</td>
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<td>Engineering 103</td>
<td>Environmental Studies Elective</td>
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<tr>
<td>Mathematics F150</td>
<td>Chemistry 443</td>
</tr>
<tr>
<td>Chemistry D121</td>
<td>General Education Category A</td>
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<tr>
<td>Physical Education 021</td>
<td>General Education Category G</td>
</tr>
<tr>
<td>Physical Education Activity</td>
<td>Environmental Studies 480</td>
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<table>
<thead>
<tr>
<th>Sophomore</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Studies 240</td>
<td>Environmental Studies 410</td>
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<td>Engineering 225</td>
<td>Environmental Studies Elective</td>
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<tr>
<td>Mathematics 250</td>
<td>Mathematics 308</td>
</tr>
<tr>
<td>Physics 231</td>
<td>Mathematics 260</td>
</tr>
<tr>
<td>General Education Category A</td>
<td>General Education Category C</td>
</tr>
<tr>
<td>Environmental Studies 250</td>
<td>Environmental Studies 490</td>
</tr>
<tr>
<td>Engineering 272</td>
<td>Engineering 211</td>
</tr>
<tr>
<td>Mathematics 260</td>
<td>Biology 306</td>
</tr>
<tr>
<td>Computer Science 118</td>
<td>General Education Category B</td>
</tr>
<tr>
<td>Physics 232</td>
<td>General Education Category C</td>
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<table>
<thead>
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<th>Junior</th>
<th>Senior</th>
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<tbody>
<tr>
<td>Engineering 303</td>
<td>Engineering 322</td>
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<tr>
<td>Chemistry 341</td>
<td>Environmental Studies 340</td>
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<td>Environmental Studies 340</td>
<td>Environmental Studies 150</td>
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<td>Biology 122</td>
<td>Engineering 103</td>
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<td>Physical Education 021</td>
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<td>Environmental Studies 280</td>
<td>Mathematics F150 (135/145)*</td>
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<td>Engineering 307</td>
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<td>Engineering 211</td>
</tr>
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<td>Environmental Studies 490</td>
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| Environmental studies (B.S.): mathematics concentration |

<table>
<thead>
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<th>First Semester</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>Junior</td>
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<tr>
<td>Environmental Studies 150</td>
<td>General Education Category A</td>
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<td>General Education Category A</td>
<td>General Education Category B</td>
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<tr>
<td>Physical Education 021</td>
<td>General Education Category C</td>
</tr>
<tr>
<td>Mathematics F150 (135/145)*</td>
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<tr>
<td>Biology D121</td>
<td>Mathematics 308</td>
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<tr>
<td>Physical Education Activity</td>
<td>Engineering 307</td>
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<td>General Education Category B</td>
<td>General Education Category C</td>
</tr>
<tr>
<td>General Education Category C</td>
<td>Engineering 211</td>
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<table>
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<td>Environmental Studies 340</td>
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<td>Engineering 325</td>
<td>General Education Category C</td>
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<td>Engineering 431</td>
<td>Environmental Studies Elective</td>
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<td>Environmental Studies 410</td>
<td>Mathematics 350</td>
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<td>Environmental Studies 484</td>
<td>General Education Category B</td>
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<tr>
<td>General Education Category G</td>
<td>Environmental Studies Elective</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>General Education Category C</td>
</tr>
<tr>
<td>Environmental Studies 490</td>
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<table>
<thead>
<tr>
<th>Junior</th>
<th>Senior</th>
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<tbody>
<tr>
<td>Engineering 322</td>
<td>General Education Category G</td>
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<tr>
<td>Engineering 325</td>
<td>Environmental Studies 410</td>
</tr>
<tr>
<td>Engineering 431</td>
<td>Environmental Studies 480</td>
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<tr>
<td>Environmental Studies 410</td>
<td>Environmental Studies 480</td>
</tr>
<tr>
<td>Environmental Studies 484</td>
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*Chosen with permission of the environmental studies adviser.
Environmental studies (B.S.): physics concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>Environmental Studies 150</td>
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<td>General Education Category A</td>
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<td>Physics 103</td>
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<td>Physical Education 021</td>
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<td>Mathematics F145</td>
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<tr>
<td>Elective</td>
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<td>Sophomore</td>
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</tr>
<tr>
<td>Environmental Studies 240</td>
<td>3</td>
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<tr>
<td>Physics 231</td>
<td>4</td>
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<td>Chemistry D121</td>
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<tr>
<td>Mathematics 160</td>
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<td>Environmental Studies 250</td>
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<tr>
<td>Physics 232</td>
<td>4</td>
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<td>Chemistry 122</td>
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<tr>
<td>General Education Category B</td>
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<tr>
<td>Computer Science 118 or 210</td>
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<tr>
<td>Junior</td>
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<td>Environmental Studies 340</td>
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<td>Environmental Studies 421</td>
<td>1</td>
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<td>Physics 341</td>
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<td>Biology D121/Geology 111</td>
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<td>Environmental Studies 460 or 470</td>
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<td>Environmental Studies 484</td>
<td>3</td>
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<td>Physics 318</td>
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<td>General Education Category B</td>
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<td>Environmental Studies 480</td>
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<td>Environmental Studies 490</td>
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<td>Environmental Studies Elective</td>
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<tr>
<td>Physical Education Activity</td>
<td>16</td>
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<tr>
<td>Minors</td>
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<tr>
<td>For science majors: 24 hours including Biology 306 and 307. Environmental studies 150, 250, 253, and 12 additional hours from any of the 300 level offerings, 496, and or any 400 level offering below (and excluding) 490. For non-science majors: 23 hours including all of the above except Biology 307.</td>
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Environmental Studies Courses

150 Concepts of Environmental Science (4)
An introduction to current environmental problems at the global, national, and local levels. Topics to be covered include: ecosystems, geochemical cycles, domestic and industrial wastes, pest control, resources, energy sources, land use, and population dynamics. The laboratory integrates the scientific approach as applied to such environmental problems as population growth and energy alternatives and provides hands-on experience in identification of abiotic and biotic factors affecting environmental quality. Open to all students interested in environmental issues, lecture 3 hours, laboratory 2 hours.

199r Special Projects (1-4)
Maximum credit four hours.

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, lecture 2 hours, laboratory 2 hours.

250 Global Resources (4)
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. Laboratory will include an introduction to remote sensing and computer generated data, and the compilation of maps, graphs, and charts to illustrate the relationships among production, utilization, and consumption of resources. Lecture 3 hours, laboratory 2 hours.

340 Environmental Survey Methods (4)
Field survey methods for compiling of botanical, zoological, geological, and archaeological data. To include mapping, sampling, and recording. Lecture 2 hours, laboratory 4 hours.

355 Energy and the Environment (3)
A study of the methods of energy production used in a technological society. The environmental consequences of energy production are examined together with possible alternatives. Prerequisites: 150, Mathematics 135, and Chemistry 121 or Physics 103. Environmental Studies 250 recommended.

406 Limnology and Reservoir Ecology (3)
Chemical, physical, and biological processes in lake and reservoir systems (nutrient budgets and cycling, hydrodynamics, phytoplankton/benthic dynamics, and physical similarities and differences in lakes and reservoirs). Lecture 2 hours, laboratory 2 hours.
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. Prerequisite: senior standing.

411 Advanced Topics in Environmental Law and Administration (3)
Survey of federal and state environmental law, focusing on the National Environmental Policy Act (NEPA). Environmental Studies 410 recommended.

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.

433 Resources Management (3)
Legal and regulatory requirements affecting industrial processes. Major sampling strategies for biotic communities and techniques of data analysis used in environmental assessment. Aquatic and terrestrial resources management techniques for mitigating adverse environmental impacts. Lecture 3 hours. Prerequisites: Biology 121, 122, and 306.

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.

460 Water Quality Analysis (3)
Monitoring methods for water quality: to include sample-taking, analytical testing, and observation of procedures practiced in established community laboratories. Lecture 2 hours, laboratory 2 hours. Prerequisites: Chemistry 121 and 122.

465 General Toxicology (3)
Basic concepts of toxicology including an overview of toxic agents, the nature of toxic damage, and the methods used in quantitative toxicology. Lecture 3 hours. Prerequisites: 150; Biology, either 121 or 122; Chemistry 121 and 122. Recommended: Chemistry 351.

470 Air Pollution Control and Analysis (3)
The study of the origin, monitoring, and control of air pollutants and their effects on the environment; to include off-campus visits to pollutant source and control locations. Lecture 2 hours, laboratory 2 hours. Prerequisites: Chemistry 121 and 122 and Mathematics 150 or 136 for biology or sociology-anthropology concentrations.

480 Seminar on the Environment (1)
Seminar and discussion of topics of current environmental interest. Student presentation required. 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.

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.

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.

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. Prerequisite: 150.

490 Environmental Studies Senior Project (3)
A group project involving analysis and solution of an environmental problem; oral and written presentation of progress and final results required. Prerequisite: senior standing.

491r Environmental Studies 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. Prerequisite: junior or senior standing and consent of environmental studies coordinator.

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

496 Environmental Field Camp (3)
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. Prerequisite: introductory courses in the natural and behavioral sciences, at least junior level standing, and approval of instructors.

497r Research (1-4)
Prerequisites: approval of instructor and head of the department.

498r Individual Studies (1-4)
Prerequisites: approval of instructor and head of the department.

499r Group Studies (1-4)

Foreign Languages and Literatures

Associate Professor Bohrer, Head
Professors Seay, Sumberg
Associate Professor Campa
Assistant Professors T. Jones, Phillips, Stanley, Sturzer

The department offers the B. A. degree in French, Greek and Latin, Latin, and Spanish. A student may also pursue a major 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 nonforeign language student a broader perspective of other peoples and cultures.

There is no prescribed program which departmental majors should follow other than to meet the required number of hours for the respective major. Upper level courses are offered based on student needs.

The department also offers a minor program in Latin, Greek, 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 permission to enroll.

**Classical Civilization**

110 Major Triumphs of Greece and Rome (3)
Major accomplishments of the Greco-Roman civilization and their impact upon the modern world.

199r Special Projects (1-4)
Individual or group projects. **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.

301 Creek Art and Archaeology (3)
A study of the development of art and archaeology from the Minoan-Mycenae period through the age of classical Greece.

302 Etruscan and Roman Art and Archaeology (3)
The development of Etruscan and Roman art and archaeology including a brief survey of the Hellenistic period.

310 The Greco-Roman World (3)
The history, culture, and lifestyles of the ancient Greeks and Romans. 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. May be registered as English 395.

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.

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

497r Research (1-4)

499r Individual Studies (1-4)

499r Group Studies (1-4)

**French**

**Foreign Languages: French (B.A.)**

**General Education** (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirements</th>
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<tbody>
<tr>
<td>A</td>
<td>2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td>B</td>
<td>3 approved courses other than French: one from humanities, one from fine arts, and one from either (3 hours each)</td>
</tr>
<tr>
<td>C</td>
<td>2 approved behavioral or social science courses (6 hours)</td>
</tr>
<tr>
<td>D</td>
<td>1 approved physical or natural science course with laboratory (4 hours)</td>
</tr>
</tbody>
</table>

**French Courses**

101, 102 Elementary French (4,4)
Basic grammar, elementary reading, and conversation.

199r Special Projects (1-4)
Individual or group projects. **Maximum credit 4 hours.**

211, 212 Intermediate French for Conversation (3,3)
Grammar review, intensive oral practice in French, limited readings. **Prerequisites: 101, 102 or 2 years high school French.**

213, 214 Intermediate French for Reading (3,3)
Grammar review, extensive reading in French with discussion in English. **Prerequisites: 101, 102 or 2 years high school French.**

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. **Prerequisites: 211,212 or approval of the department.**
Foreign Languages

321 Advanced French Grammar (3)
Special problems in syntax, illustrative reading, composition. Prerequisites: 211, 212 or approval of the department.

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. Prerequisites: 211, 212 or approval of the department.

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. Prerequisites: 211, 212 or approval of the department.

401 r 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. By special arrangement with the head of the department and the instructor. Prerequisites: 211, 212 or approval of the department.

407 Seventeenth Century French Literature (3)
Prerequisites: 211, 212 or approval of the department.

409 Eighteenth Century French Literature (3)
Prerequisites: 211, 212 or approval of the department.

411 Nineteenth Century French Literature (3)
Prerequisites: 211, 212 or approval of the department.

413 Twentieth Century French Literature (3)
Prerequisites: 211, 212 or approval of the department.

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

497r Research (1-4)

498 Individual Studies (1-4)

499r Group Studies (1-4)

Greek

Foreign Languages: Greek and Latin (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than Greek and Latin: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category G
1 approved perspectives course other than Foreign Languages (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major
18 hours Latin beyond 101, 102
12 hours Greek
2.0 average in all Greek and Latin courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study for foreign languages:
Greek and Latin (B.A.)

First Semester Second Semester

Freshman
English 101 3 General Education Category A 3
General Education Category B 3 General Education Category B 3
Latin 101 3 Latin 102 3
Physical Education 021 1 Physical Education Activity 1
General Education Category C 3 General Education Category C 3
Elective 3 Elective 3
16 16

Sophomore
Latin 201 3 Latin 202 3
General Education Category B 3 General Education Category D 4
General Education Category F 3 Electives 9
Electives 7 16 16

Junior
Advanced Latin 3 Advanced Latin 3
Greek 101 3 Greek 102 3
General Education Category G 3 Electives 10
Electives 7 16 16

Senior
Advanced Latin 3 Advanced Latin 3
Advanced Greek 3 Advanced Greek 3
Electives 10 10
16 16

German

101, 102 Elementary German (4,4)
Basic grammar, elementary reading, and conversation.

199r Special Projects (1-4)
Individual or group projects. Maximum credit four hours.

211, 212 Intermediate German for Conversation (3,3)
Grammar review, intensive oral practice in German, limited readings. Prerequisites: 101, 102 or two years high school German.

213, 214 Intermediate German for Reading (3,3)
Grammar review, extensive reading in German, with discussion in English. Prerequisites: 101, 102 or two years high school German.

497r Research (1-4)

498 Individual Studies (1-4)

499r Group Studies (1-4)
Minor in Greek
21 hours of Greek with at least 9 hours at the 300 level or above.

Greek Courses

101, 102 Elementary Greek (3,3)
Elements of the Greek language. Reading of Greek prose.

199r Special Projects (1-4)

203 Greek Epic (3)
Readings from the Iliad and the Odyssey of Homer.

310 Readings of Greek Literature (3)
A study of the development of Greek literature with selections from representative authors.

312 Advanced Greek Grammar and Composition (3)

350r Greek Prose (3)
Greek historians, Attic orators, and Greek philosophers considered in different semesters. Maximum credit nine hours.

351r Greek Poetry (3)
Greek tragedy, comedy, and lyric poetry considered in different semesters. Maximum credit nine hours.

425r Special Topics in Greek Literature (2)
Readings in a specific author, genre, or period.

495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)
See "Departmental Honors," page 37.

497r Research (1-4)

498r Individual Studies (1-4)

499r Group Studies (1-4)

Italian

101, 102 Elementary Italian (4,4)
Basic grammar, elementary reading, and conversation.

211, 212 Intermediate Italian for Conversation (3,3)
Grammar review, intensive oral practice in Italian, limited readings. Prerequisites: 101, 102 or 2 years high school Italian.

Latin

Foreign Languages: Latin (B.A.)
General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than Classics and Latin: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category C
1 approved perspectives course other than Foreign Languages (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major
21 hours Latin beyond 101, 102; 9 hours from Classics 310, 395, 396, 397
2.0 average in all Latin courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study for foreign languages:

Latin (B.A.)

First Semester  Second Semester

Freshman
English 101 3  General Education Category A 3
General Education Category B 3  General Education Category B 3
Latin 101 3  Latin 102 3
Physical Education 021 1  Physical Education Activity 1
General Education Category C 3  General Education Category C 3
Elective 3  Elective 3

Sophomore
Latin 201 3  Latin 202 3
General Education Category B 3  General Education Category D 4
General Education Category F 3  Classical Civilization 3
Electives 7  Electives 6

Junior
Advanced Latin 3  Advanced Latin 3
Classical Civilization 3  Classical Civilization 3
General Education Category G 3  Electives 10
Electives 7  16

Senior
2 Advanced Latin Courses 6  Advanced Latin 3
Electives 10  Electives 13

Minor
21 hours of Latin with at least 9 hours at the 300 level or above.

Latin Courses

101, 102 Elementary Latin (3,3)
Elements of the language. Reading of Latin prose.

199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

201 Intermediate Latin (3)
Intensive review of basic Latin grammar; selections from Cicero, Livy, Pliny, and Ovid. Prerequisites: Latin 101, 102 or 2 years of high school Latin. At the discretion of the department properly qualified students with only 1 year of high school Latin may be admitted.

202 Intermediate Latin (3)
Readings from Vergil's Aeneid. Prerequisite: Latin 201.

207 Cicero (3)
Selected readings from the Letters and Orations of Cicero.

208 Horace (3)
Selections from the Odes and Epodes.

310 Readings in Latin Literature (3)
A study of the development of Latin literature with selections from representative authors.
Modern Languages

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. 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. 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. No foreign language credit.

199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours. No foreign language credit.

201 Modern French & 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. 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. 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. No foreign language credit.

310 Masterpieces of Germanic Literature in Translation (3)
Study of representative works from German or Germanic literature in relation to their cultural context. 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. 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. No foreign language credit.

497r Research (1-4)
498r Individual Studies (1-4)
499 Group Studies (1-4)

Spanish

Foreign Languages: Spanish (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than Spanish: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category G
1 approved perspectives course other than Foreign Languages (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major
22 hours Spanish beyond second college year
2.0 average in all Spanish courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in foreign languages: Spanish (B.A.)
(For a student with 2 years of high school Spanish)

First Semester                                      Second Semester

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Spanish Courses

101, 102 Elementary Spanish (4,4)
Basic grammar, elementary reading, and conversation.

190r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

211, 212 Intermediate Spanish for Conversation (3,3)
Grammar review, intensive oral practice in Spanish, limited readings. Prerequisites: 101, 102 or 2 years high school Spanish.

213, 214 Intermediate Spanish for Reading (3,3)
Grammar review, extensive reading in Spanish with discussion in English. Prerequisites: 101, 102 or 2 years high school Spanish.

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. Prerequisites: 211, 212 or approval of the department.

321 Advanced Spanish Grammar (3)
Special problems in syntax, illustrative reading, and composition. Prerequisites: 211, 212 or approval of the department.

322 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. Prerequisites: 211, 212 or approval of the department.

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. Prerequisites: 211, 212 or approval of the department.

331 Masterpieces of Spanish Literature (3)
Readings of representative works from the earliest epics and lyric poetry to the modern novel and theater with attention to cultural, political, and social background. Prerequisites: 211, 212 or approval of the department.

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. Prerequisites: 211, 212 or approval of the department.

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. By special arrangement with the department head and the instructor. Prerequisites: 211, 212 or approval of the department.

402r Topics in Spanish-American Literature (3)
Study of topics such as Spanish-American novel, Spanish-American theater and poetry, and Spanish-American essay. Prerequisites: 211, 212 or approval of the department.

495r Individual Studies (1-4)

499r Group Studies (1-4)

Minor
18 hours in Spanish including second year; 9 hours must be at the 300 level or above. Beginning language students must complete 23 hours.

Spanish Courses

190r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

211, 212 Intermediate Spanish for Conversation (3,3)
Grammar review, intensive oral practice in Spanish, limited readings. Prerequisites: 101, 102 or approval of the department.

213, 214 Intermediate Spanish for Reading (3,3)
Grammar review, extensive reading in Spanish with discussion in English. Prerequisites: 101, 102 or approval of the department.

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. Prerequisites: 211, 212 or approval of the department.

321 Advanced Spanish Grammar (3)
Special problems in syntax, illustrative reading, and composition. Prerequisites: 211, 212 or approval of the department.

322 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. Prerequisites: 211, 212 or approval of the department.

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. Prerequisites: 211, 212 or approval of the department.

331 Masterpieces of Spanish Literature (3)
Readings of representative works from the earliest epics and lyric poetry to the modern novel and theater with attention to cultural, political, and social background. Prerequisites: 211, 212 or approval of the department.

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Study of topics such as Spanish-American novel, Spanish-American theater and poetry, and Spanish-American essay. Prerequisites: 211, 212 or approval of the department.

495r Individual Studies (1-4)

499r Group Studies (1-4)

Geosciences

Professor G. Walker, Acting Head
Professors Wilson, Bergenback
Associate Professors Churnet, McDowell

The Geosciences Department offers the Bachelor of Science degree with a general concentration in geology as well as a special concentration in coal geology, and participates in programs leading to the Bachelor of Science degree in education and environmental studies. The department also offers a minor in either geology or geography.

Geology (B.S.): General Geology, Coal Geology Concentrations

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course, other than geology, with laboratory (4 hours; approved related courses below will apply)

Category F
1 approved mathematics course (3 hours; approved related courses below will apply)

Category G
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester of physical education activity

Major and related courses

General geology concentration:
47 hours geology: 111, 112, 321, 330, 341, 342, 351, 352, 361, 405, 450, 490
Biology D121, 122
Chemistry D121, 122
Physics D103, 104 or Physics 230, 231
Mathematics F150, F210
English 278
Computer Science 117 or 118
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Coal geology concentration:
Biology D121, 122
Chemistry D121, 122
Mathematics F150, F210
Computer Science 117 or 118
English 278
Physics D103, 104 or 230, 231
2.0 average in all geology courses
Through an agreement with Memphis State University, UTC students are encouraged to enroll in a field geology course during the summer following the junior or senior year. In the latter case, graduation will be postponed until August and the requirement that at least 30 hours be completed at UTC will be waived. It is still required, however, that at least 30 hours be completed at UTC.

Field work
Geology majors are encouraged to enroll in a field geology course through an agreement with Memphis State University. UTC students are accepted preferentially for Memphis State's Geology Field Camp (Geology 4622, 6 hours credit) held each summer in the Black Hills of South Dakota. Additional information and application forms are available from the Geosciences Department.

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. Therefore, students intending to pursue a master's degree in geology should take those courses (beyond UTC's major requirements) 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.

Typical courses of study in geology (B.S.)

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<th>Geology (B.S.): general geology concentration</th>
<th>Geology (B.S.): coal concentration</th>
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Minors

**Geology:**
18 hours of geology beyond the 100 level. At least 9 hours 300 level or above. Minors in geology must be approved by the head of the Geosciences Department.

**Geography:**
18 hours of geography beyond the 100 level. At least 9 hours 300 level or above. Minors in geography must be approved by the head of the Geosciences Department.

Geology Courses

111 Physical Geology (4)
Introduction to geology: age and origin of the earth; earth materials, processes, and resultant structures. Field trips. Lecture 3 hours, laboratory 2 hours. Prerequisite: 2 years of high school algebra or Mathematics 107.

112 Historical Geology (4)
Origin of the earth and its geologic history, the concept of geologic time, the fossil record. Lecture 3 hours, laboratory 2 hours. Prerequisite: 111 or permission of instructor.

199r Special Projects (1-4)
Individual or group projects. Prerequisites: consent of instructor, receipt of an acceptable proposal, and permission of the department head. Graded on a satisfactory/no credit basis. Maximum credit 4 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 physiology of ocean basins. Mineral and energy resources of the oceans.

303 Sedimentary Rocks and Stratigraphy (4)
Introduction to the principles of sedimentary rock classification and stratigraphic correlation with an emphasis on the classic stratigraphy of...
the U.S.; the facies concept; correlation, and paleogeographic reconstruction techniques. Field trips. Lecture 3 hours, laboratory 3 hours. Prerequisite: 112.

307 Geology of Tennessee (3)
Geologic resources, structure, and history of Tennessee and adjacent areas. Lecture and field trips. Prerequisite: a previous course in geology.

321 Invertebrate Paleontology (4)
Characteristics of the fossil record, centering on the invertebrate animals; principles of taxonomy and population analysis; interpretation of faunal assemblages; concept of biostratigraphy. Laboratory work centers on the morphology and time range of the major fossil groups. Field trips. Lecture 3 hours, laboratory 3 hours. Prerequisite: 112.

330 Sedimentation (4)
Recognition of modern environments such as tidal flat and beach and stream channel deposits in ancient rocks. Mapping of critical criteria in ancient deposits in outcrop and from well logs to interpret environments of deposition. Extensive field work. Lecture 3 hours, laboratory 3 hours. Prerequisite: 303.

341 Mineralogy and Petrology I (4)
Crystallography, physical properties, and geochemistry of minerals and their occurrence and classification in natural rocks. Field trips on weekends. Lecture 3 hours, laboratory 3 hours. Prerequisite: 111. Pre-or corequisite: Chemistry 121.

342 Mineralogy and Petrology II (4)
Continuation of 341. Field trips on weekends. Lecture 3 hours, laboratory 3 hours. Prerequisite: 341.

351 Field Methods and Mapping (4)
Instruments and methods of geologic mapping, local stratigraphic studies along with the preparation of geologic maps and reports. Variable lecture and laboratory time. Pre- or corequisites: 111 and 342.

352 Structural Geology (4)
Nature, classification, and genesis of geologic structure with emphasis on field relationships. Variable lecture and laboratory time. Prerequisite: 351.

361 Earth Physics (4)
An introduction to geophysics. Consideration of elementary geophysical techniques. Laboratory is oriented toward a group field project. Lecture 3 hours, laboratory 3 hours. Prerequisites: Geology 111 and Physics 104 or 230.

404 Geologic Mapping (3)
Mapping of sedimentary and crystalline rocks with approximately equal emphasis. Techniques of both small-scale and large-scale mapping of a variety of rock types and structural features. Requires drafting, report writing, and weekend field work. Prerequisites: Geology 352 or Environmental Studies 340 and approval of instructor.

405 Principles of Geochemistry (4)
Origin and distribution of the elements. Applications of chemistry to geological problems. Lecture 3 hours, laboratory and recitation 3 hours. Prerequisites: Geology 342 and 1 year of college chemistry.

431 Sedimentary Petrology (3)
Genesis of sedimentary rock clans including arkose, graywacke, orthoquartzite, and carbonates. Microscopic analysis and field studies. Variable lecture and laboratory time dependent on topic. Prerequisite: 330.

433 Coal Geology (2)
Stratigraphic and sedimentological study of coal environments, especially of the Cumberland Plateau. Topics include coal sedimentation and stratigraphy of Tennessee and adjacent areas, coal characterization, reserve evaluation, extraction methods. Extensive field trips. Prerequisite: 330.

435 Coal Petrology (4)
Techniques in microscopic analysis of coal as a heterogenous solid. Lecture 3 hours, laboratory 3 hours. Prerequisite: 303 or permission of instructor.

445 Hydrology (3)

450 Economic Geology (4)
The origin, distribution, and classification of mineral deposits formed by igneous, sedimentary, and metamorphic rocks, as well as secondary processes. Introduction to methods of exploration and development. Lecture 3 hours, laboratory 3 hours. Prerequisites: 115, 342, and Chemistry 122.

470 Engineering Geology (4)

490 Senior Seminar (2)
A culminating senior experience giving students an opportunity to exercise judgment in solving geological problems. Prerequisite: consent of instructor.

495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)
Graded on a satisfactory/no credit basis. See "Departmental Honors," page 31.

497r Research (1-4)
Consent of instructor, receipt of an acceptable proposal, and permission of the department head. Graded on a satisfactory/no credit basis. Maximum of 4 hours.

499r Individual Studies (1-4)
Consent of instructor, receipt of an acceptable proposal, and permission of the department head. Graded on a satisfactory/no credit basis. Maximum of 4 hours.

499r Group Studies (1-4)
Consent of instructor. Maximum of 4 hours.

Geography Courses

101 Physical Geography (3)
The physical environment with emphasis on processes that influence the distribution and pattern of landforms, water, climate, vegetation, and soil.

104 Cultural Geography (3)
Human perception of environment, rural/urban behavior, territoriality, prejudicial use of space, spatial diffusion, migration, and spatial patterns of selected cultural activities.

199r Special Projects (1-4)
Individual or group projects. Graded on a satisfactory/no credit basis. Consent of instructor, receipt of acceptable proposal, and permission of department head. Maximum credit 4 hours.

206 Atmosphere, Climatology, and Mankind (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.

209 Economic Geography (3)
Spatial influences on economic behavior, analysis of the location and spatial structure of world economic activities.

221 Maps and Map Interpretation (3)
Nature and use of maps, with particular reference to the construction of map projections. Use of special maps and the interpretation of aerial photographs.
407 Environmental Conservation (3)
Theories, methods, and practices of environmental management and resource utilization. Emphasis on soil, forest, water, mineral, and human resources.

415 Urban Geography: Urban Land Development & Redevelopment (3)
Settlement of the land, and use, misuse, and reuse of urban land in a changing society. May be registered as Sociology 415.

430 Permitting of Coal, Oil, and Gas Lands (2)
Consideration of the permitting process for exploitation of coal, oil, and gas properties, especially as applied to Tennessee, but emphasizing the common features of state and federal regulations in the adjoining states.

440 Environmental Impact of Coal Extraction (3)
Consideration of the environmental impact of coal's extraction by strip and deep processes. Case study approach to the problem. Emphasis is on most environmentally sound techniques available.

465 Remote Sensing and Imagery Analysis (3)
Principles of aerial and satellite photography and infra-red, multispectral, and microwave sensing. Interpretation of remotely sensed data, including application to problems in a variety of environmental sciences. Lecture 2 hours, laboratory 2 hours. Prerequisites: senior standing and approval of instructor.

497r Research (1-4)
Consent of instructor, receipt of an acceptable proposal, and permission of the department head. Graded on a satisfactory/no credit basis. Maximum of 4 hours.

498r Individual Studies (1-4)
Consent of instructor, receipt of an acceptable proposal, and permission of the department head. Graded on a satisfactory/no credit basis. Maximum of 4 hours.

499r Group Studies (1-4)
Consent of instructor. Maximum of 4 hours.

German
See Foreign Languages and Literatures, page 66.

Greek
See Foreign Languages and Literatures, page 66.

Health, Physical Education and Recreation
See School of Education, page 140.

History

Associate Professor Moore, Head
Professors Bowman, Harbaugh, Ingle, Linnemann, Ward
Associate Professors Deierholz, Rice, Russell, Wright

History (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than history; one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than history (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category G
1 approved perspectives course other than history (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

Major
33 hours history including 101, 102, 301, and either 400 or 401; no more than one-half of the history courses at the 100 and 200 level
12 hours of related courses beyond the general education requirements; 6 in the humanities and fine arts and 6 in the behavioral and social sciences; 6 to be taken at the 300 level or higher. Courses suitable as related courses will vary according to a student's program and will be determined by a student's adviser.
2.0 average in all history courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

Typical course of study in history (B.A.)

First Semester  Second Semester

Freshman

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<th>Hours</th>
<th>Course</th>
<th>Hours</th>
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Sophomore

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Junior

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Senior

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<tr>
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Some of the electives should be chosen to complete the related course requirement for majors. Students should make certain they select enough electives to complete 128 hours.

Minor

A minor in American history requires History 203-204 (6 hours) plus an additional 12 hours in American history at the 300-400 level (total of 18
hours). A minor in world history (European or non-Western history) requires History 101-102 or 207-208 or 211-212 (6 hours) plus an additional 12 hours in European or non-Western history at the 300-400 level (total of 18 hours).

History Courses

101, 102 Emergence of the Modern World (3, 3)
A survey of the processes, ideas, and events that have shaped our contemporary world, emphasizing modernization and industrialization; imperialism, nationalism, and competing ideologies in a world setting. First semester concentrating on the period from approximately 1300-1800; second semester extending from 1800 to the present.

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.

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.

199r Special Projects (1-4) Individual or group projects. Maximum credit 4 hours.

203, 204 United States History (3, 3)
A survey of American history; a brief review of early colonial period; more intensive study beginning with 1783; special attention given to national leaders, their ideas and contributions, as well as to the main currents and developments in American life. First semester study extending to 1865.

207 Introduction to Asian Civilization: Middle East and India (3)
A survey of the major trends of Islamic and Indian history. Emphasis placed on traditional cultural values, periods of power and greatness, problems of modernization, and recent developments. Students should gain perspective on such current issues as the Arab-Israeli conflict and the oil crisis.

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.

211 History of Subsaharan Africa to 1880 (3)
Geography and people of Africa; origin of traditional African societies, major African empires; Islamic impact on Africa; oral traditions; the slave trade; African artistic, musical, architectural, and religious traditions; early European presence in Africa; Swahili city states; African commerce and technology; major central and southern African politics.

212 History of Subsaharan Africa, 1880-Present (3)
Partition of Africa; ideology of imperialism; growth of colonial systems and the African reaction; colonial devolution and independence; apartheid; the European colonial legacy; the European impact on traditional African social and political structures; the nature of modern African cultural trends and developments.

215, 216 Latin American History (3, 3)
A survey of Latin American history from the time of discovery to the present, emphasizing economic, political, and social institutions as well as cultural developments; the first semester, the colonial period (to about 1825); the second semester, since independence.

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.

301 Seminars in History (3)
An introduction to historical interpretation and analysis through an examination of specific topics in American, European, or non-Western history. Required of both those majoring in history or secondary education in history, but other students welcome.

310 The Greco-Roman World (3)
The history, culture, and life-styles of the ancient Greeks and Romans. May be registered as Classics 370.

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.

313 The Age of the Renaissance (3)
Economic, social, artistic, and political developments, 1300-1500; Italian Humanism; Christian Humanism; and ferment in the Church.

314 The Age of the Reformation (3)
Religious, political, social, and economic factors involved in the Protestant and Catholic Reformation in the 16th century.

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.

316 The Enlightenment (3)
Intellectual developments from the mid-17th century through the 18th century, scientific revolutions, virtuosos, and the Philosophes.

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.

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.

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.

323, 324 History of England (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.

325, 326 History of the British Empire and Commonwealth (3, 3)
A study of the rise and fall of the first British Empire, social reform and the rise of opposition to imperialism, mid-Victorian Imperialism, the growth of the second British Empire, the origins of African and Asian nationalism, the impact of World Wars I and II, the emergence of the Commonwealth and colonial devolution. First semester to c. 1867.

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.

331 Colonial North America (3)
The Colonial Period of American history, from the beginnings to 1776; background of English colonization of America, colonial settlements, the development of colonial society and institutions.

333 U.S., 1776-1815 (3)
Founding the American nation. The Revolutionary, Federalist, and Jeffersonian periods of American history.
334 U.S., 1816-1850: The Middle Period (3)
The westward movement and the beginnings of industrialism, Jacksonian democracy, slavery, and Manifest Destiny through the war with Mexico and the Compromise of 1850.

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.

336 The Emergence of Modern America (3)
The United States from the end of the Civil War to 1900.

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.

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."

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.

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.

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.

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 French Revolutions and Napoleon, and the World Wars of the 20th century.

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.

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.

368 The Far East 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.

369 China Since 1949 (3)
Examines the People's Republic of China from its founding in 1949 to the present. Both domestic developments and foreign affairs considered. Topics include: Mao Tse-tung, the Korean War, Great Leap Forward, the Cultural Revolution, and events since Mao's death in 1976.

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. Prerequisites: History 101, 102, or permission of instructor.

372 South Asia in Modern Times (3)
The sunset of the British Raj in India; Gandhi, Nehru, and the Indian independence movement; the partition between India and Pakistan; postindependence years including the government of Indira Gandhi.

385 National History (3)
A course dealing with a selected national history. Prerequisites: by special arrangement with the department head and instructor; specific prerequisites to be given when the topic is announced.

400 Historical Writing: Theory and Practice (3)
Readings in the works of selected, representative historians from the ancient Greeks to contemporary Americans: Herodotus to Hofstadter. Designed to provide an introduction to the development of Western historiography and some familiarity with the great figures and works of our historical tradition. Primarily for senior majors in history and others interested in the development of historical writing.

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.

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.

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.

417, 418 Diplomatic History of the U.S. (3,3)
The history of American foreign relations from their colonial origins to the present.

419 The City in American History (3)
The 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.

420 History of the American Presidency (3)
A seminar on the nature, development, and problems of the American presidency in historical context with emphasis on those presidents who have contributed significantly to its range and scope, from Washington to Reagan. Prerequisites: 203, 204, or permission of instructor.

421 Changing Interpretations in American History (3)
An analysis of changing interpretations of selected topics in American history, from the Puritans to the present. Prerequisites: 203, 204, or permission of instructor.

461 European Diplomatic History (3)
From the defeat of Napoleon to the Cold War; attempts to create a European system, the failure of the Congress system, and the operation of the balance of power; the diplomacy of imperialism; World Wars I and II; 20th-century attempts at a world order.

463 Social and Economic History of Europe (3)
The impact of the social and industrial revolutions on the societies of Europe: agrarian conditions, urbanization, and the population explosion, living standards, status and class and social movements.

465 The History of European Thought, 1600-1789 (3)
A study of the European mind from the rise of modern science through the intellectual revolution of the Philosophes. Special attention to the development of empiricism and rationalism, to Hobbesian absolutism and Lockeian liberalism, to the origins of sociological method in the work of Montesquieu, to currents of radical scepticism and Deism in the Enlightenment, to 18th-century origins of Romanticism, and to the development of the idea of progress in the French Enlightenment.
466 The History of European Thought, 1789 to the Present (3)
A study of the European mind from the French Revolution to the present, emphasizing intellectual responses to the Industrial and French Revolutions, and to the effects of World War I and the growth of mass culture. Special attention to the philosophical and historical origins of Conservatism, Utopian Socialism, Marxism, Darwinism, Nihilism, Freudianism, and Existentialism. Students encouraged to undertake research projects utilizing interdisciplinary techniques in the history of ideas.

470 Psychohistory (3)
Beginning with the contributions of Freud, this course will familiarize the student with the content and method of psychohistory from its modern origins to the present; major emphases will include the Erikson model of biography and the Fromm approach to the development of social character in given historical, social, or institutional environments.

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. Prerequisites: junior standing, average in history courses, and permission of instructor.

495r Departmental Honors (1-3 hours per term, 4 hours for the two terms)
See "Departmental Honors," page 37.

497r Research (1-3)

498r Individual Studies (1-3)

499r Group Studies (3)

Interdisciplinary Studies

Professor John E. Trimpey, Acting Head

The Department of Interdisciplinary Studies coordinates a number of programs leading to baccalaureate degrees as well as several other nondegree programs. Because of their interdisciplinary nature, these programs draw upon the varied resources of a number of departments.

Degree programs: American Studies (B.A.); Humanities (B.A.). Nondegree program: University Studies.

American Studies

Professor John E. Trimpey, Coordinator

The American studies major is a Bachelor of Arts degree consisting to two parts: 1) a core curriculum required of all majors and 2) a concentration of study in one of the following areas: American literature, American history, philosophy and religion, political science, or sociology-anthropology. American studies courses are described below; all other required courses are described in the listing of each named department.

American Studies (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses; one from humanities, one from fine arts, and one from either (3 hours each; approved related courses below will apply)

Category C
2 approved behavioral or social science courses (6 hours: approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category E
1 approved mathematics course (3 hours)

Category F
1 approved perspectives course (3 hours; approved related course below will apply)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign Language through second college year.

Major
The following core courses are required of all majors:
American Studies 200: Introduction to American Studies
American Studies 400: American Studies Seminar
American Studies 499r: Topics in American Studies
Computer Science 210: Computer Information Systems I
Economics C101, C102: Principles of Economics
ED Curr. & Instr. 201: History of Education in U.S.)
76—Interdisciplinary Studies

English 213, 214: American Literature
Geography 204: Geography of North America
History B203, B204: United States History
Mathematics F210: Introductory Statistics
Philosophy 360: American Philosophy
Political Science C101: American Government
Religion 236: Religion in American Life
Sociology C151: Principles of Sociological Analysis

2 courses from:
- Sociology C151: Principles of Sociological Analysis
- Religion 236: Religion in American Life
- Political Science C101: American Government
- Philosophy 360: American Philosophy
- Mathematics F210: Introductory Statistics
- History B203, B204: United States History
- English 213, 214: American Literature


3. Philosophy and Religion: Philosophy 353; Religion 232, 337, 362, 401, 467, 482, 491r

4. Political Science: 213, 214, 222, 234, 322, 331, 332, 335, 431r

5. Sociology-Anthropology: Anthropology 334r; Sociology 215, 305, 345, 365, 394, 400r

3 additional courses from the above list outside one's area of concentration
2.0 average in all American studies courses and also in all concentration courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Only when appropriate topics offered.

Typical course of study in American studies (B.A.)

Below is a typical program of study for an American studies major. The specific courses, however, might vary from student to student since one's area of concentration considerably affects course choices, especially for the junior and senior year.

American Studies (B.A.): American history concentration

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American Studies Courses

199r Special Projects (1-4)
Individual and group studies

200 American Ideals in the Arts (3)
Specific works of art drawn from music, painting, architecture, theater, and literature considered in relation to each other and to American social and spiritual ideals. In addition to the instructor, specialists from various disciplines and the community will serve as guest lecturers.

400 American Studies Seminar (3)
Advanced level discussion of the interrelationship of methodologies and some research project in which each student applies the methodology of an area of concentration to a broad cultural phenomenon within American life. Prerequisite: 200.

489r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

497r Research (1-4)
Prerequisite: approval of the coordinator and the department head.

499r Individual Studies (1-4)
Prerequisite: approval of the coordinator and the department head.

499r Topics in American Studies (1-4)
Special topics, themes, and studies.

Humanities

Associate Professor Fulton, 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.

Humanities (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)
Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

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.

Humanities 490: Senior Educational Experience
2.0 average in the approved program courses

Electives to complete 128 hours

Minimum of 30 hours of 300 and 400 level courses

Typical course of study in humanities (B.A.)

Because each student follows a unique program of study, it is impossible to outline a typical curriculum. Hypothetically, however, supposing a student chose to focus on Medieval and Renaissance Europe, the course of study might look like this.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy 201</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category F</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category C</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>3-4</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>16-17</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Foreign Language 211</td>
<td>3</td>
</tr>
<tr>
<td>English 203</td>
<td>3</td>
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<tr>
<td>Art 211</td>
<td>3</td>
</tr>
<tr>
<td>History 311</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category C</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
</tr>
<tr>
<td>English 301</td>
<td>3</td>
</tr>
<tr>
<td>History 313</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language 331</td>
<td>3</td>
</tr>
<tr>
<td>Political Science 312</td>
<td>3</td>
</tr>
<tr>
<td>English 302</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>Religion 355</td>
<td>3</td>
</tr>
<tr>
<td>Humanities 497r</td>
<td>3</td>
</tr>
<tr>
<td>Humanities 498r</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

**Humanities Courses**

**19r Special Projects (1-4)**
Individual and group studies.

**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. Prerequisite: senior standing, final semester. May not be taken concurrently with 497r.

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

**497r Research (1-4)**
Prerequisite: approval of the coordinator and the department head.

**496 Individual Studies (1-4)**
Prerequisite: approval of the coordinator and the department head.

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

University Studies

**Professor John E. Trimpey, Acting Head**

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.

**19r Interdisciplinary Seminars (1-4)**
Specific topics, themes, and subjects for which the interdisciplinary approach is especially useful.

**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 content 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.

**499r Interdisciplinary Seminars (1-4)**
Specific topics, themes, and subjects for which the interdisciplinary approach is useful.

For current offerings see schedule of classes.

Mathematics

**Professor J. Ware, Head**

**Professors** Jayne, McIntosh, Nymann

**Associate Professors** W. Edwards, Hutcherson, Kuhn, Rozema, Schlereth, R. Smith

**Assistant Professors** Byrd, Cuffe, Danial, Fordyce, B. Smith, W. Walton

**Instructors** Bennett, Fitzmaurice, Fletcher, Criswold, V. Waddeli

**Mathematics Learning Center Coordinators** Grant, Urcavich

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 relatively new 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 areas: actuarial science, computer science, corporate science (formerly business administration), or systems science.

It is also possible for a student to receive a B.S. degree in education with a teaching area in mathematics. See School of Education listing.

The Department of Mathematics also offers a minor in mathematics.

Applied Mathematics (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; courses below will apply)

Category G
1 approved perspectives course (3 hours)

Health and Physical Education Activity 021 plus one additional semester physical education activity

Major and related courses
Mathematics courses (135 and/or F145)*, F150, 130, 260, 295, 308, 350, 407, 408, 412, and either 414 or 424
9 hours of 300 and 400-level mathematics courses excluding 307, 415, 416, 451
Mathematics C101, C102; Computer Science 118

One of the following concentrations—

1. Actuarial Science: courses from the School of Business Administration including Accounting 201, 202; Finance 302, 321; Marketing 336; Finance 337; Marketing 450 or Economics 460; one elective from: Accounting 303, 304; Finance 422, Economics 301, 324, 429.

2. Computer Science: Computer Science 121 or 150, 122, 201, 251, 252, 312; Either Mathematics 418 or 428 (may not be used to satisfy mathematics elective course); two electives from Computer Science 300-400 level courses (excluding 340).

3. Corporate Science (formerly business administration): Accounting 201, 202; Finance 302; Management 311; Economics 324, 429; Marketing 450 or Economics 460; one elective from business administration or economics 300-400 level courses (excluding Management 356).


A student may not elect both the corporate science and the actuarial science concentrations.

No more than 32 hours from the School of Business Administration may be credited toward the degree.

2.0 average in all mathematics courses and also in all 300, 400-level mathematics courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

*Mathematics sequence may begin with 135 and/or F145 rather than 150 depending on preparation.

Typical courses of study in applied mathematics

Applied mathematics (B.S.): actuarial science concentration

First Semester | Second Semester
--- | ---
Freshman | Senior
Economics 101 Category C | Mathematics Elective
General Education Category A | Mathematics Elective
Mathematics F150 (135/F145)* | Mathematics 160 (150)*
General Education Category D | Computer Science 118
Elective | Elective
Physical Education 021 | Physical Education Activity

Junior | Senior
Mathematics 250 | Mathematics 260
Mathematics 295 | Mathematics 308
General Education Category B | Fine Arts Category B
B Accounting 201 | B Accounting 202
Elective | General Education Category B

Sophomore | Junior
Mathematics 160 (150)* | Mathematics 418 or 424
Mathematics 407 | Mathematics 450
Mathematics 350 | B Marketing 450
Mathematics 412 | Economics 460
B Finance 302 | Electives
Elective | Concentration Elective

Elective | Concentration Elective

Moris 160 in Summer School — if needed

Applied mathematics (B.S.): computer science concentration

First Semester | Second Semester
--- | ---
Freshman | Senior
Economics 101 Category C | Mathematics 160 (150)*
General Education Category A | General Education Category B
Mathematics F150 (135/F145)* | Computer Science 122
General Education Category D | Physical Education Activity 1
Computer Science 121 | 1
Physical Education 021 | 1

Sophomore | Junior
Mathematics 250 | Mathematics 418 or 424
Mathematics 305 | Mathematics 450
Computer Science 201 | B Marketing 450
Computer Science 118 | Economics 460
Computer Science 251 | Electives

*Mathematics sequence may begin with 135 and/or F145 rather than 150 depending on preparation.
Applied mathematics (B.S.): corporate science concentration

First Semester  Second Semester
Freshman
Economics 101 Category C 3  Economics 102 Category C 3
General Education Category A 3  General Education Category A 3
Mathematics F150 (135/F145)* 4  Mathematics 160 (150)* 4
General Education Category D 4  Elective 3
Physical Education 021 1  Elective 3
Elective 3  Physical Education Activity 1
Mathematics 160 (150)*, F150,160,250,260,295, and 18 hours 300
(see pages 26-28 for list of approved courses)

Sophomore
Mathematics 250 4  Mathematics 260 4
Mathematics 295 3  Fine Arts Category B 3
General Education Category B 3  B Accounting 202 3
B Accounting 201 3  General Education Category B 3
Elective 3  Mathematics 308 3

Junior
Mathematics 407 3  Mathematics 408 3
Mathematics 350 3  Mathematics Elective 3
Mathematics 412 3  Concentration Elective 3
B Finance 302 3  B Management 311 3
Elective 3  Economics 324 3

Senior
Mathematics Elective 3  Economics 460 or B Marketing 450 3
Economics 429 3  Mathematics 414 or 424 3
General Education Category G 3  Mathematics Elective 3
Electives 6  Electives 7

Mathematics (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory excluding Physics 103,104 (4 hours)

Category F
1 approved mathematics course (3 hours; courses below will apply)

Category C
1 approved perspectives course (3 hours)

Major and related courses

Computer Science 118
Mathematics (135 and/or F145)*, F150,160,250,260,295, and 18 hours 300
and 400-level mathematics courses including 321, 350, but excluding 415, 416, 451
Physics 230, 231

2.0 average in all mathematics courses and also in all 300, 400-level mathematics courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

*Mathematics sequence may begin with 135 and/or F145 rather than 150 depending on preparation.

Applied mathematics (B.S.): systems science concentration

First Semester  Second Semester
Freshman
Economics 101 Category C 3  Economics 102 Category C 3
General Education Category A 3  General Education Category A 3
Mathematics F150 4  Mathematics 160 4
General Education Category B 3  Computer Science 118 3

Sophomore
Mathematics 250 4  Mathematics 260 4
Mathematics 295 3  Fine Arts Category B 3
General Education Category B 3  B Accounting 202 3
Physics 231 4  Mathematics 308 3
Elective 3  Mathematics 350 3

Junior
Mathematics 407 3  Mathematics 408 3
Mathematics 350 3  Mathematics Elective 3
Engineering 325 4  General Education Category G 3
Mathematics 412 3  General Education Category D 4
Elective 3  Electrical Engineering 373 4

Senior
Mathematics Elective 3  Mathematics Elective 3
Mathematics Elective 3  Mathematics Elective 3
Option Elective 4  Mathematics Elective 3
Elective 4  Mathematics Elective 3

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

*Mathematics sequence may begin with 135 and/or F145 rather than 150 depending on preparation.
Typical course of study in mathematics (B.A.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>General Education Category A 3</td>
<td>General Education Category A 3</td>
</tr>
<tr>
<td>Mathematics F150 (135/F140)* 4</td>
<td>Mathematics 160 (150)* 4</td>
</tr>
<tr>
<td>Language 101</td>
<td>Language 102</td>
</tr>
<tr>
<td>General Education Category C 3</td>
<td>General Education Category C 3</td>
</tr>
<tr>
<td>Physical Education 121</td>
<td>Computer Science 118  3</td>
</tr>
<tr>
<td>Elective  3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Elective  3</td>
</tr>
</tbody>
</table>

(Mathematics 160 in Summer School School — if needed)

Sophomore

| Mathematics 250 4 | Mathematics 260 4 |
| Mathematics 295 3 | Fine Arts Category B 3 |
| General Education Category B 3 | General Education Category B 3 |
| Language (2nd year) 3 | Physics 230 4 |
| Elective  3 | Language (2nd year) 3 |
|            | Physical Education Activity 1 |
| Senior     |                       |
| Mathematics Elective 3 | Mathematics Elective 3 |
| Electives  6 | Electives  3           |
|              |                       |

Minor

Required courses: Mathematics 150, 160, 250, 260

Elective courses:

Three courses totaling at least 9 hours from: Mathematics 295 and/or any 300-400 level mathematics course (excluding 415, 416, 451)

(Note: 295 is not required for minor.)

A 2.0 average on all elective courses

At least two elective courses must be taken at this institution

Mathematics Courses

A minimum grade of C must be made on any mathematics course used as a prerequisite for any other mathematics course.

107 Algebra (2)

Review of high school algebra; selected topics from college algebra. Lecture and laboratory. Graded on satisfactory/no-credit/fail basis. Credit not allowed after completion of any college level mathematics course.

115, 116 Mathematical Concepts for Elementary Teachers (3,3)

Mathematics as a postulational system; nature of proof; systems of fundamental operations of arithmetic; sets, relations, functions; concepts of geometry. Prerequisites: 2 years of high school algebra and acceptable test scores or 107. Mathematics 77S (with minimum grade of C) is prerequisite to 116. Restricted to majors in elementary, early childhood, and special education.

120 Introduction to Contemporary Mathematics (3)

A study of the nature and techniques of mathematics, including such topics as number systems, modern geometry, probability, the history and development of mathematical ideas. Prerequisites: 2 years of high school algebra and acceptable test scores or 107.

124 Elementary Linear Programming (1)

Linear programming and other selected topics which would not be covered in a traditional college algebra or precalculus course. Includes use of the computer. Prerequisite: permission of the department.

135 Precalculus I (3)

Solving linear and quadratic equations and inequalities; solving polynomial equations; rational expressions; graphing techniques; functions; exponential and logarithmic functions; systems of linear equations; matrices; geometric linear programming. Prerequisites: 2 years of high school algebra and acceptable test scores or 107. Credit not allowed in 135 after 736, 745, or 750 with grades of C or better.

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. Prerequisites: 4 years of college preparatory mathematics and acceptable test scores or 135 with minimum grade of C. Credit not allowed in 136 after 150.

145 Precalculus II (3)

Exponential and logarithmic functions; complex numbers; the remainder and factor theorems; trigonometry; conic sections; sequences and series; applications; other selected topics. Prerequisites: 2 years of high school algebra, advanced mathematics, and acceptable test scores or 135 with minimum grade of C. Credit not allowed in 145 after 750 with a grade of C or better.

150 Calculus I with Analytic Geometry (4)

Topics in analytic geometry; limits; derivatives of algebraic functions and their applications; integrals of algebraic functions. Prerequisites: 4 years of college preparatory mathematics and acceptable test scores or 145 with minimum grade of C. Credit not allowed in 135 or 136 after 150.

155 Honors Calculus (4)

Calculus of functions of one variable with applications; historical, biographical, philosophical material. Prerequisite: Brock Scholar, others by consent of the department head. Credit not allowed in both 150 and 155 or in 135 after 155. May be substituted for 150 in meeting all requirements.

160 Calculus II with Analytic Geometry (4)

Additional topics in analytic geometry; applications of integration; transcendental functions; hyperbolic functions; techniques of integration, infinite series. Prerequisite: 150 with minimum grade of C.

199r Special Projects (1-4)

Individual or group projects. Max credit 4 hours.

210 Introductory Statistics (3)

An introductory course suitable for students in a variety of disciplines, including such topics as: nature, sources, collection, and presentation of data; measures of central tendency; probability; sampling distributions; hypothesis testing; regression and correlation; analysis of variance; other non-parametric statistics. Prerequisites: 2 years of high school algebra and acceptable test scores or 107. Credit not allowed in 210 after any other statistics course.

225 Topics in Mathematics for Management, Life, and Social Sciences (3)

Topics from mathematical modeling, the calculus, probability, Markov processes, linear programming, game theory, and other applications. Prerequisites: linear programming (124 or 135) and calculus (136 or 150) with minimum grades of C.

250 Introduction to Ordinary Differential Equations (4)

Topics in linear algebra and in differential equations. Prerequisite: 160 with minimum grade of C.

260 Multivariate Calculus (4)

Vector analysis, three dimensional analytic geometry, polar coordinates, multiple integration and partial differentiation. Prerequisite: 160 with minimum grade of C.

295 Foundations of Mathematics (3)

Introductory concepts of sets, functions, equivalence relations, ordering relations, logic, methods of proof, and axiomatic theories.
301 Computer Science 117 or 118 or 121.

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. Prerequisite: 160 with minimum grade of C and Computer Science 117 or 118 or 121.

308 Numerical Methods (3)
Accuracy and significance of approximate calculations, finite differences and interpolation, solutions of non-linear equations, systems of linear equations, numerical differentiation and integration, solutions of ordinary differential equations. Prerequisites: Computer Science 118 or equivalent. Mathematics 250 with minimum grade of C. Pre- or corequisite: Mathematics 260.

321 Introduction to Modern Algebra (3)
Integral domains, rings, fields, groups, elementary number theory, and other selected topics. Required of all B.A. mathematics majors. Prerequisite: 295 with minimum grade of C.

322 Introduction to Point Set Topology (3)
Introductory set theory, topologies and topological spaces, continuous mappings, compactness, connectedness, separation axioms and metric spaces. Prerequisite: 295 with minimum grade 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. Required of all mathematics majors. Prerequisites: 250, 260, 295 with minimum grades of C.

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. Prerequisite: 260 with minimum grade of C.

408 Mathematical Statistics (3)
A continuation of 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. Prerequisite: 407 with minimum grade of C.

410 Number Theory (3)
Divisibility, primes, congruences, Fermat’s Theorem, number theoretic functions, primitive roots and indices, the quadratic reciprocity law. Prerequisites: either 250 or 260 and 295 with minimum grades of C.

412 Introduction to Linear Algebra (3)
Vector spaces, linear transformations, matrix algebra, determinants, systems of linear equations. Applications to science and engineering. Prerequisites: 260, 295 with minimum grades of C.

414 Operations Research (Linear) (3)
Introduction to linear programming, duality, transportation and assignment problems, integer programming. Prerequisites: Computer Science 118, Mathematics 412 with minimum grade of C, or approval of instructor.

415 Numeric Concepts for Elementary Teachers (3)
Designed to reinforce mathematical concepts for those teaching in the elementary grades. Emphasis on the relationship between mathematical ideas and reality. Logic and set operations, algebraic systems, and number systems included. Prerequisites: 115,116 with minimum grades of C or equivalent teaching experience. Not applicable on mathematics major.

416 Geometric Concepts for Elementary Teachers (3)
Designed to reinforce the understanding and use of basic geometric concepts for those teaching in the elementary grades. The inductive and deductive approaches to geometry will be considered. Topics include parallelism, congruence, similarity, perimeter, area, volume, networks, and topological concepts. Prerequisites: 115,116 with minimum grades of C, or equivalent teaching experience. Not applicable on mathematics major.

418 Advanced Numerical Methods (3)
A more extensive treatment of the material of Mathematics 308 with emphasis of the methods of obtaining numerical solutions of ordinary and partial differential equations, and systems of linear equations. Prerequisites: 260, 308 with minimum grades of C, or approval of instructor.

424 Operations Research (Non-Linear) (3)
Network flows, Markov chains and applications, queuing theory and applications, inventory theory, decision theory, and games. Prerequisites: Computer Science 118, 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. Prerequisites: Computer Science 118, Math 250, and one of the following: Math 308, Engineering 225, Computer Science 231 with minimum grades 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: 250, 260 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. Prerequisite: 250, 260 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. Prerequisite: 350 with minimum grade of C.

451 Basic Concepts of Modern Mathematics (3)
Basic mathematical concepts from modern algebra, set theory, logic, probability and statistics, geometry, and number theory including examination of underlying assumptions in these areas. Prerequisite: 1 year of college mathematics. Not applicable on B.A. mathematics major. Restricted to mathematics education majors, teachers currently certified to teach mathematics in grades 7-12, or students approved by instructor.

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. Prerequisite: 295 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. Prerequisite: 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
82—Music

equations arising in applications. Prerequisite: 250, 260 with minimum grades of C.

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. Prerequisites: 250, 260 with minimum grades of C.

475 Research Seminar (1)
Investigation of special topics in mathematics using the directed research technique. Prerequisite: approval of department. Graded satisfactory/no credit.

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

497r Research (1-4)
498r Individual Studies (1-4)
499r Group Studies (1-4)

Music
Cadek Department of Music

Professor Gerschelski, Head
Professors Abril, Breland, Draper, Rivituso, Stroud
Associate Professors Cox, D’Andrea, Littleton, Miller, Pennebaker, Peretz, Temko, Zimmer
Assistant Professors Bokser, Coleman, Coulter, Sanders, Stryker, Tate
Director of Choral Activities Draper
Director of Bands D’Andrea
Director of Orchestras Stroud

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 three degree programs at the undergraduate level: Bachelor of Arts with a major in music, Bachelor of Music, and Bachelor of Science with a major in music education. The B.M. degree provides four concentrations for the major: instrumental performance, vocal performance, sacred music, and theory/composition. The B.S. degree in music education provides two concentrations for the major: instrumental and vocal.

The BA degree is offered students who desire a strong liberal arts background with a major in music. Approximately one-third of the four year 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.S. degree is especially appropriate for students who plan a career teaching public school music. 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 public school 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. The student will also take an entrance test in music theory. All music majors are required to participate in an ensemble for each semester of residence, and must accumulate a minimum of eight hours credit. 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. Applied Music Study is indicated only as "Applied Music;" specific course numbers are determined according to level of study and specific instruments studied.

Music (B.A.)

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
2 approved courses in written communication in the English language (6 hours)

**Category B**
3 approved courses other than music: one from humanities, one from fine arts, and one from either (3 hours each)

**Category C**
2 approved behavioral or social science courses (6 hours)

**Category D**
1 approved physical or natural science course with laboratory (4 hours)

**Category E**
1 approved mathematics course (3 hours)

**Category C**
1 approved perspectives course other than music (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

**Major**
Music 103, 104, 107, 108, 203, 204, 207, 208, 315, 316

Ensemble participation required each semester of residence, minimum 8 hours credit (4 hours of credit permitted beyond 42-hour limit in music).

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

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

---

**Typical course of study in music (B.A.)**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
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<tr>
<td>Music 000</td>
<td>Music 000</td>
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<td>General Education Category A</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>General Education Category B</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>Physical Education Activity</td>
</tr>
<tr>
<td>Music 103</td>
<td>Music 104</td>
</tr>
<tr>
<td>Music 107</td>
<td>Music 108</td>
</tr>
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<td>Applied Music (Primary)</td>
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<td>17</td>
</tr>
</tbody>
</table>

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**Sophomore**

| Music 000 | 0 | Music 000 | 0 |
| Foreign Language | 3 | Foreign Language | 3 |
| General Education Category F | 3 | General Education Category C | 3 |
| Music 203 | 1 | Music 204 | 1 |
| Music 207 | 3 | Music 208 | 3 |
| Music 315 | 3 | Music 316 | 3 |
| Applied Music (Primary) | 1 | Applied Music (Primary) | 1 |
| Ensemble | 1 | Ensemble | 1 |
| 15 | 15 |

**Junior**

| Music 000 | 0 | Music 000 | 0 |
| General Education Category B | 3 | General Education Category D | 4 |
| General Education Category B | 3 | General Education Category G | 3 |
| Non-Music Electives | 9 | Music Elective | 3 |
| Applied Music (Primary) | 1 | Non-Music Electives | 6 |
| Ensemble | 1 | Applied Music (Primary) | 1 |
| 17 | 17 |

**Senior**

| Music 000 | 0 | Music 000 | 0 |
| Music Elective | 3 | Music Elective | 3 |
| Applied Music (Primary) | 1 | Applied Music (Primary) | 1 |
| Ensemble | 1 | Ensemble | 1 |
| Non-Music Electives | 9 | Non-Music Electives | 17 |
| 14 | 16 |

Music (B.M.)

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
2 approved courses in written communication in the English language (6 hours)

**Category B**
3 approved courses other than music: one from humanities, one from fine arts, and one from either (3 hours each)

**Category C**
2 approved behavioral or social science courses (6 hours)

**Category D**
1 approved physical or natural science course with laboratory (4 hours)

**Category E**
1 approved mathematics course (3 hours)

**Category C**
1 approved perspectives course other than music (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

**Major**
Core: Music 103, 104, 107, 108, 203, 204, 207, 208, 315, 316; ensemble participation required each semester of residence, minimum 8 hours credit; 4 semesters (4 hours) piano study for nonkeyboard majors. Performance majors required to present a half-recital in junior year, full recital in senior year.

One of the following concentrations—

1. **Instrumental Performance**: 8 semesters (32 hours) primary applied study, 16 hours at the 200 level and 16 hours at the 400 level; Music 332 (for piano majors). 19-21 hours music electives other than primary applied study

2. **Vocal Performance**: 8 semesters (32 hours) voice study, 16 hours at the 200 level and 16 hours at the 400 level; Music 217, 218; 333. 13 hours music electives other than primary applied study
3. Sacred Music: 8 semesters (24 hours) keyboard or voice study; 4 semesters (4 hours) secondary applied study in keyboard or voice; Music 302, 305r (2 hours), 309, 310,404,405,406,407r (field work). 12 hours music electives other than primary applied study

4. Theory and Composition: 8 semesters (8 hours) primary instrument or voice study; Music 302: 4 hours of 305r; 307: 4 hours from 309,310,327, 328; 8 hours of 401r, or 407, 408, 409, 410. 20-21 hours music electives

2.0 average in all music courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

Typical courses of study in music (B.M.)

Music (B.M.): instrumental performance concentration

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<td>Music 132 or 251</td>
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<td>Music 107</td>
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<td>Ensemble</td>
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<td>Music 141 or 251</td>
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<td>Music 207</td>
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Music (B.M.): theory and composition concentration

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<td>Music 204</td>
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<td>Music 207</td>
<td>Music 208</td>
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<td>Music 315</td>
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Music (B.M.): sacred music concentration

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<td>Ensemble</td>
<td>Music Elective</td>
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</table>

1 For nonkeyboard majors. Course number to be determined by audition.

2 For piano majors.
Music Electives  2
Music 302  2
Music 305r  2
Music 307  2
Music 309 or 327  2
Music Electives  6

Senior
Music 000  0
General Education Category C  3
Applied Music (Primary)  1
Ensemble  1
Music 401 r or 402 r or 409 r  4
Music 310 or 328  2
Music Electives  6

^ or nonkeyboard majors. Course number to be determined by audition.
^or nonkeyboard majors. Course number determined by audition.

Music (B.M.): vocal performance concentration

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<th>Second Semester</th>
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<tr>
<td>Music 131 or 251</td>
<td>Music 132 or 251</td>
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<td>Music 000</td>
<td>Music 000</td>
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<td>General Education Category G</td>
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<td>Music 333</td>
<td>Music 142 or 251</td>
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</table>

For composition majors.

Music Education (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than music: one from humanities, one from fine arts, and one from either (3 hours each), plus courses in humanities/fine arts to total 12 hours in three fields other than history

Category C
2 approved behavioral or social science courses plus one course to total 9 hours behavioral or social science in two fields other than education; for certification purposes, 3 of the hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one course must be approved laboratory science)

Category F
Mathematics F120

Category G
1 approved perspectives course other than music (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
20 hours applied music including: ensemble participation required each semester of residence, with the exception of student teaching semester, minimum of 8 hours credit; 8 semesters (8 hours) primary instrumental or vocal study or 6 hours primary and 2 hours secondary; Music 131, 132, 141, 142, for piano proficiency

One of the following concentrations—

1. Instrumental: Music 221; 3 hours of 223r, 3 hours of 224r; 2 hours of 225r, 226; 307 or 326; 325, 327, 328

2. Vocal: 133, 134, 221, 222; 307, 309, 310, 333, 2 hours applied piano study in addition to piano proficiency study

33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 432, 436r, 437, 439; Special Education 333; Music 321
2.25 average in both teaching field and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

See School of Education section for teacher education, certification, and student teaching requirements.

Typical course of study in music (B.S.)

Music education (B.S.): instrumental concentration

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<td>ED Curr. &amp; Instr. 200</td>
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For nonkeyboard majors. Course number determined by audition.
### 86—Music

#### Sophomore

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<td>Music 223</td>
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<td>Ensemble and Marching Band</td>
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#### Minor

**Requirements for the music minor include a core of 14 required hours plus electives in music for a total of 22 hours. Core courses include Music 100 (2), Music 101 (2), Music 315 (3), Music 316 (3), and 4 hours of applied music instruction at the 200 level. Six of the elective hours must be taken at the 200 level or above. A maximum of 2 hours of ensemble credit will be accepted toward the program.**

### Performing Organizations

The performing organizations mentioned below are open to University students with sufficient technical ability. Regular attendance at public performances and rehearsals by the appropriate group is required.

**020r Chattanooga Singers (1)**
Study of music of all periods for large mixed choir. Rehearsal and extensive performance experience emphasized. Performances in Chattanooga and throughout the world. Prerequisite: audition

**022r Chamber Singers (1)**
Study of repertoire for small choruses through rehearsal and performance. Prerequisite: audition

**023r Choral Union (1)**
Study of problems of ensemble participation through reading and rehearsing of music representing a wide variety of styles and periods.

**025r Singing Mocs (1)**
Study of styles and techniques appropriate to the performance of music in the popular idiom. Prerequisite: audition

**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. Prerequisite: audition

**031r Concert Band (1)**
Reading, rehearsing, and performing contemporary and traditional band literature. Laboratory organization for instrumental conducting and band arranging classes. Offered each 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. Prerequisite: audition

**036r Jazz Band (1)**
Study of types of styles of big band jazz. Emphasis on sight reading, improvisation, and performance. 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. Prerequisite: audition.

041r Opera Theater (1)
Study of extended works for the lyric stage giving students the opportunity to appear with professional singing actors and orchestral musicians from the Chattanooga community and the larger music profession. Emphasis on various aspects of musical theater including musical, dramatic, and stagecraft techniques. Prerequisite: audition.

050r University Orchestra (1)
Rehearsal and performance of selected works from the symphonic repertoire from 1700 to the present. Prerequisite: audition.

051r Chamber Orchestra (1)
Study of the repertoire for small orchestra from 1700 to the present. Particular emphasis on advanced skills of orchestral performance. Prerequisite: audition.

053r Cadet Adult 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 non-competitive atmosphere. For music majors, no more than 2 hours credit will be counted toward degree requirement.

Music Courses

000r Recital (0)

100 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. May not be included as a music elective for music majors.

101 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 100 for music minors. Prerequisite: Music 100.

103, 104 Ear Training I (1,1)
Studies in sight singing and dictation. Interval, melody, counterpoint, diatonic, and chromatic harmonic materials. Class hours 2. Prerequisite: 100 or placement; 103 is prerequisite to 104.

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. Prerequisite: 100 or placement examination; corequisite: 103; Music 107 prerequisite to Music 108. Class hours 4.

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.

111 Introduction to Music (3)
Understanding basic elements and structure of music and the evolution of musical style through performance. Understanding the musical artist in historical context. Extensive use of recorded materials. Credit not permitted toward graduation for music majors.

115 Introduction to Electronic Music (2)
An introduction to the appreciation and composition of electronic music. Basic tape manipulation technique; the vocabulary and usage of synthesizers; rudimentary electronics and acoustics; composition and analysis. For nonmusic majors. Prerequisite: permission of the instructor.

121 Piano Class (1)
For persons without keyboard or music reading experience. Class hours 2.

131, 132 Piano Class (1,1)
For persons without keyboard experience. Class hours 2. 131 prerequisite to 132.

133, 134 Voice Class (1,1)
For persons without vocal experience. 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. Class hours 2. 135 prerequisite to 136.

141, 142 Piano Class (1,1)
Class hours 2. Prerequisite: 132 or audition; 141 prerequisite to 142.

190r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

201r Ensemble (1)
Accompanying, chamber, and other ensemble music.

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. 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. Offered spring semester only. Prerequisite: Music 107 or permission of instructor.

207, 208 Theory II (3,3)

209, 210 Keyboard Harmony (1,1)
The use of harmonic materials at the keyboard. 209 prerequisite to 210.

211 The Literature of the Symphony Orchestra (3)
Symphonic music from the middle of the 18th century to the present. Discussion, analysis, and recorded performance of standard masterpieces in the field.

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.

214 Music in Non-Western Culture (3)
Selected traditions of music other than classical Western art music. The role of music in the society, the uses of music, and changes in music as a result of the spread of Westernization. Four cultures—Chinese, Indian, West African, and U.S. Native American—will be examined.

215 Music of the Tonal Period (3)
A study of the European art music of the tonal period (1700-1920) as it reflected and contributed to contemporary culture. Attention to the impact of the Baroque, Classical, and Romantic periods on the tonal system and on musical style; emphasis on the music of Bach, Haydn, Mozart, Beethoven, Schubert, Verdi, Wagner, Brahms, Mahler, and Schoenberg. For nonmajors; no knowledge of music theory required.

217, 218 Diction for Singers (2,2)
An introduction to the pronunciation of Italian, German, French, and English based on the International Phonetic Alphabet. Open to voice majors; others by permission.

221 String Methods (2)
Class instruction of the string instruments: violin, viola, cello, and double bass. Ensemble playing. Offered fall semester only.
222 Instrumental Methods for Vocal Music Education Majors (3)
Class instruction of woodwinds, brass, and percussion instruments; tuning and care of instruments. Teaching techniques. Flute, single, and double reed instruments; trombone, French horn, and piston valve instruments; drum and mallet instruments. Offered spring semester only. Prerequisite: Vocal Music Education Major status.

223r Woodwind Methods (1)
Class instruction of woodwind instruments; tuning and care of instruments. Teaching techniques. Single reed instruments, double reed instruments, and flute. Offered fall semester only. Class 7 hour, laboratory 1 hour.

224r Brass Methods (1)
Class instruction of brass instruments; tuning and care of instruments. Teaching techniques. Single reed instruments, double reed instruments, and flute. Offered fall semester only. Class 1 hour, laboratory 1 hour.

225r Percussion Methods (1)
Class instruction of percussion instruments; sticking techniques; care of the instruments; teaching techniques. Drum and mallet instruments. Offered spring semester only. Class 1 hour, laboratory 1 hour.

226 Marching Band Techniques (2)
A study of the techniques and style employed in training the marching band. Offered fall semester only.

251r Keyboard Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: audition.

253r String Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: audition.

255r Voice Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: audition.

257r Woodwind Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: audition.

259r Brass Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: audition.

261r Percussion Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: audition.

302 Counterpoint (2)
An analytical survey of contrapuntal techniques. Offered alternate years: offered spring, 1986. Prerequisites: 107, 108, or permission.

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. Offered alternate years: offered spring 1987. Prerequisite: 208 and permission of instructor.

305r Composition (1-4)
Beginning composition study concentrating on small groups and short forms. Prerequisites: 207, 208.

307 Orchestration (2)
Scoring for strings, woodwinds, brasses, and full orchestra. Piano transcriptions from orchestral scores. Offered alternate years: offered fall, 1985. Prerequisites: 207, 208.

309, 310 Choral Conducting (2, 2)
First semester designed to teach the student to train choral groups, read choral scores, and conduct effective rehearsals; basic patterns for choral and orchestral conducting. Second semester devoted to interpretation and building of repertoire of both secular and sacred choral compositions. Actual conducting of works of all periods with and without instrumental accompaniment. Offered alternate years: offered 1985-86. 309 prerequisite to 310. Prerequisites: 207, 208.

315, 316 History of Music (3, 3)
A general survey of the history of music in Western civilization. Prerequisite: 108.

317 Survey of Jazz (3)
A survey of jazz from its ethnic origins through its chronological development to its current styles.

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.

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.

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.

326 Band Arranging (2)
Band instrumentation and general principles of arranging; special reference to writing for bands having incomplete instrumentation and less experienced players.

327, 328 Instrumental Conducting (2,2)
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. Offered alternate years: offered 1985-86. 327 prerequisite to 328. Prerequisites: 207, 208.

332 Piano Pedagogy (2)
Piano methods and materials. For advanced students planning to teach piano. Offered alternate years: offered fall, 1985.

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.

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. Prerequisite: 132, 208, or permission.

397 Music, Poetry, and Ideas (3)
A consideration of technique, meaning, style, form, expression, and value in music and poetry. May be registered as English 397.

401 Composition II (1-4)
Advanced composition study. Prerequisites: 305, 307.

404 Liturgies 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. Offered alternate years: offered spring, 1986. Open to music majors; others by permission.

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. Open to music majors; others by permission.
406 Hymnology (2)
Historical development of the Christian hymn; criteria for use of hymns and hymn tunes; the composition of hymns. Open to music majors; others by permission.

407, 408 Advanced Analysis (2,2)
Compositional, analytic techniques, and formal procedures, with emphasis on the 20th century. Offered alternate years: offered 1986-87. Prerequisite: 208 or permission 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. Offered alternate years: offered 1985-86. Prerequisite: permission of instructor.

411 Music Before 1600 (3)
A study of works, both monodic and polyphonic, characteristic of European music before 1600. Prerequisites: 208 or permission 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. Prerequisites: 208 or permission 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. Prerequisites: 208 or permission of instructor.

414 Nineteenth Century Music (3)
A study of works characteristic of the period and illustrative of musical trends in the era. Prerequisites: 208 or permission of instructor.

415 Twentieth Century Music (3)
A study of works characteristic of the period and illustrative of musical trends in the era. Extensive examination of representative scores. Prerequisites: 208 or permission of instructor.

426 Jazz Arranging (2)
Fundamentals of composing and arranging for the contemporary jazz ensemble. Prerequisites: 208, 307 or 326, or permission of instructor.

451r Keyboard Instruction (1-4)
Four hours per week practice required for each hour credit. Prerequisite: 76 hours of 251r and successful audition for the division jury.

453r String Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: 76 hours of 253r and successful audition for the division jury.

455r Voice Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: 76 hours of 255r and successful audition for the division jury.

457r Woodwind Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: 76 hours of 257r and successful audition for the division jury.

459r Brass Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: 76 hours of 259r and successful audition for the division jury.

461r Percussion Instruction (1-4)
Four hours practice per week required for each hour credit. Prerequisite: 76 hours of 261r and successful audition for the division jury.

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

497r Research (1-4)
90—Philosophy & Religion

2. 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:
   1. Religion 211, 213, 314, 316r, 493r
   2. Religion 232, 337, 355, 362, 467, 482, 492r
   2.0 average in all philosophy and religion courses

3. Combined:
   Total of 30 hours excluding Philosophy 106
   15 hours philosophy including 351, 353, 498r
   15 hours religion including two courses from 337, 355, 362, 467, 482, 492r
   2.0 average in all philosophy and religion courses
   (Religion 103 may be counted toward religious studies and combined concentrations, and one course outside the department may count toward major with any concentration if approved by department head.)

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical courses of study in philosophy and religion (B.A.)

Philosophy and religion (B.A.): religious studies concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>General Education Category A</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td>4</td>
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<tr>
<td>General Education Category C</td>
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<tr>
<td>Philosophy 211 or 212</td>
<td>3</td>
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<tr>
<td>Electives</td>
<td>15</td>
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<tr>
<td>Sophomore</td>
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<tr>
<td>Philosophy 201</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td>3</td>
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<td>3</td>
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<tr>
<td>Electives</td>
<td>15</td>
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<tr>
<td>Junior</td>
<td></td>
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<tr>
<td>Philosophy 351</td>
<td>3</td>
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<tr>
<td>Philosophy 341 or 345</td>
<td>3</td>
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<tr>
<td>General Education Category B</td>
<td>3</td>
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<tr>
<td>Electives²</td>
<td>6</td>
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<tr>
<td>Senior</td>
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<tr>
<td>Philosophy (300 or 400 level)</td>
<td>3</td>
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<tr>
<td>General Education Category G</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Philosophy (200 level)²</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td>3</td>
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<tr>
<td>General Education Category F</td>
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<tr>
<td>Electives²</td>
<td>6</td>
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<tr>
<td>¹This course does not count toward major.</td>
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<tr>
<td>²Major requires 30 hours philosophy beyond the 100 level, including Philosophy 211 or 212, 351, 353, 498r, and one course in ethics, metaphysics, or epistemology. Not more than 42 hours in any one department may be applied toward a B.A. degree. One course outside the department may count toward major with approval by department head.</td>
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Philosophy and religion (B.A.): combined concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>General Education Category A</td>
<td>3</td>
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<td>Foreign Language</td>
<td>4</td>
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<tr>
<td>Religion 103</td>
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<td>General Education Category C</td>
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<td>Physical Education 021</td>
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<tr>
<td>Elective</td>
<td>17</td>
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<tr>
<td>Sophomore</td>
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<tr>
<td>Religion (200 level)²</td>
<td>3</td>
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<tr>
<td>Foreign Language</td>
<td>3</td>
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<tr>
<td>General Education Category F</td>
<td>3</td>
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<tr>
<td>Electives³</td>
<td>6</td>
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<tr>
<td>Junior</td>
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<tr>
<td>Philosophy 351</td>
<td>3</td>
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<tr>
<td>Philosophy 341 or 345</td>
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<tr>
<td>General Education Category B</td>
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<tr>
<td>Electives²</td>
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<tr>
<td>Senior</td>
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<tr>
<td>Philosophy (300 or 400 level)</td>
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<tr>
<td>General Education Category G</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Philosophy (200 level)²</td>
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<td>Electives²</td>
<td>6</td>
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<tr>
<td>¹This course does not count toward major.</td>
<td></td>
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<tr>
<td>²Major requires 30 hours philosophy beyond the 100 level, including Philosophy 211 or 212, 351, 353, 498r, and one course in ethics, metaphysics, or epistemology. Not more than 42 hours in any one department may be applied toward a B.A. degree. One course outside the department may count toward major with approval by department head.</td>
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</tbody>
</table>

Correlative courses in religion should be considered as appropriate electives.
Senior
Philosophy (300 or 400 level)  Philosophy 498r  3
or Religion (300 or 400 level)  Philosophy (300 or 400 level)  or
General Education Category G  Religion (300 or 400 level)  or
Electives  10  Electives  10
 16  16

* A course does not count toward major.

1 Major requires at least 15 hours in philosophy and 15 hours in religion including Philosophy 351, 353, 498r, and two courses from Religion 337, 355, 362, 467, 482, 492r.

2 Not more than 42 hours in any one department may be applied toward a B.A. degree. One course outside the department may count toward major with approval by department head.

Minor
One of the following concentrations—

1. Philosophy:
   18 hours of philosophy beyond 100 level including Philosophy 211 or 212, 313, 353; 9 of these must be earned in courses at 300 level or above.

2. Religious studies:
   Total of 18 hours including Philosophy 333 or 353 and 15 hours religious, with at least one course from each of the following groups:
   - Religion 211, 313, 314, 316r, 493r
   - Religion 232, 337, 355, 362, 467, 482, 492r
   Nine of the 18 hours must be earned in courses at 300 level or above.

Philosophy Courses

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.

199r Special Projects (1-4)
Individual or group projects. 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.

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.

212 Symbolic Logic (3)
Sentential and quantificational logic; techniques of natural deduction; relations, identity, definite descriptions; consistency and completeness of formal deductive systems. Prerequisites: 2 years of high school algebra and acceptable test scores or Mathematics 107.

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.

230 Social and Political Philosophy (3)
An inquiry into various philosophical theories of the state and society, with critical examination of such concepts as law, rights, sovereignty, justice, liberty, and civil disobedience.

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.

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.

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.

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.

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.

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.

351 History of Ancient Philosophy (3)
Selections from the pre-Socratics through the late Greco-Roman writers, including Plotinus. Emphasis on Plato and Aristotle.

353 History of Modern Philosophy (3)
Rationalism and empiricism as developed by leading thinkers; selections from chief representatives from Hobbes and Descartes through Kant.

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, Lewis, and Whitehead.

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.

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.

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.

491r Studies in Philosophy (3)
A seminar or tutorial for the intensive consideration of one philosophical problem, movement, or figure.

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

497r Research (1-4)

498r Individual Studies (1-4)
Must be taken for at least three hours in one semester by all majors.

499r Group Studies (1-4)
Religion Courses

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.

199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

211 Religions of the World (3)
An introduction to major world religions with emphasis on Hinduism, Buddhism, and Islam.

221, 222 Biblical Literature (33)

232 Religion and the Modern Consciousness (3)
Examination of the influence of modern scientific discoveries on the interpretation of some principal Jewish and Christian beliefs. Particular attention to the impact of astronomy, evolutionary theory, and psychoanalysis. Background lectures. Reading and discussion of modern interpreters of Christian faith.

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.

313 Religion in the Middle East (3)
A study of non-Christian religions originating in the Middle East with particular attention to Islam as influenced by Zoroastrianism and Judaism.

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.

316r Religions of Asia (3)
Concentration alternates among three major religious traditions of Asia: (1) Hinduism; (2) Buddhism; (3) interrelated traditions of Taoism, Confucianism, and Shinto as found in China and Japan. Use of primary materials in translation. Philosophical and religious concepts examined along with historical developments and changes.

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.

355 Classics of the Christian Tradition (3)
Selected readings in leading works of Christian literature from the Patristic, Medieval, Reformation, and Enlightenment periods as represented by such authors as Augustine, Anselm, Aquinas, Luther, Calvin, and Wesley.

362 Theology in the Modern Period (3)
An examination of the major post-Kantian developments in Europe, Britain, and America, including such figures as Schleiermacher, Newman, Buber, Niebuhr, Barth, and Tillich.

467 Contemporary Religious Thought (3)
Analysis of changing religious ideas in Europe and America from 1950 to the present; readings selected from Protestant, Catholic, and Jewish writers with emphasis on the interrelationship of faith and culture.

470 Psychology of Religion (3)
Analysis of empirical data and psychological theories involving religious beliefs, practices, and experiences. Prerequisites: 6 units psychology or philosophy-religion. May be registered as Psychology 470.

482 Christian Faith and Recent Philosophy (3)
Recent attempts to utilize philosophy as a resource for theology; special attention to one philosophical tradition—analytic, existentialist, or process philosophy—together with related religious thinkers.

491r Studies in Religion (3)
A seminar or tutorial for the intensive consideration of one problem, movement, or figure in the field of religion.

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.

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.

497r Research (1-4)

498r Individual Studies (1-4)
Must be taken for at least 3 hours in one semester by all majors.

499r Group Studies (1-4)

Physics and Astronomy

Professor Walker, Head
Associate Professors J. Davis, Hetzler, Lane
Assistant Professor Peterson

Physics (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course other than physics with laboratory (4 hours; approved related courses below will apply)

Category F
1 approved mathematics course (3 hours; approved related courses below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity.

Major and related courses
One of the following options:
1. Two semesters of French or German
2. Computer Science 118 or Engineering 124
Mathematics F150,160, 250, 260
Chemistry D121,122
Physics 191 and 230 (or 103 and 104)
Physics 231 and 232
Physics 341, 342, and 411
6 hours from Physics 381 r, 382r, 481 r, and 482r
30 additional hours from physics, astronomy, chemistry, engineering, and mathematics at the 200 level or above or from geology and biology or other fields with prior approval by the department. At least 30 hours of physics and astronomy at the 300 and 400 level 2.0 average in all physics courses.

Electives to complete 128 hours

Typical course of study in physics (B.S.)

<table>
<thead>
<tr>
<th>First semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>Physics 191</td>
<td>1</td>
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<tr>
<td>Chemistry D121</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics F150</td>
<td>4</td>
</tr>
<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Physics 231</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 250</td>
<td>4</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category C</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 124</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
</tr>
<tr>
<td>Physics 341</td>
<td>4</td>
</tr>
<tr>
<td>Physics Electives</td>
<td>8</td>
</tr>
<tr>
<td>General Education Category G</td>
<td>3</td>
</tr>
<tr>
<td>Physics 381 r</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>Physics 411</td>
<td>4</td>
</tr>
<tr>
<td>Physics 481 r</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
<tr>
<td><strong>Minor</strong></td>
<td></td>
</tr>
</tbody>
</table>
| Required courses: Physics 230 (or 103 or Engineering 103 and 104), Physics 231, Physics 232 (or 104). 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.

Astronomy Courses

101 Introduction to Astronomy-The Solar System (4 with lab, 3 without)
Descriptive and conceptual. The structure, nature, and origin of the solar system. Optional 2-hour laboratory illustrates concepts of practical astronomy. Lecture 3 hours.

102 Introduction to Astronomy-Stars to Galaxies (4)
The nature of stars and galaxies. The evolution and structure of the observable universe. Lecture 3 hours, laboratory 2 hours. Prerequisite: two years of high school algebra or Mathematics 107. Corequisite: Astronomy 102 laboratory.

300r Advanced Astronomy Laboratory (1)
Laboratory techniques in astronomy. Applications of spectroscopy, optics, modern photographic techniques, and photometry to observational astronomy. Extensive use of the University’s observatory. Maximum credit 2 hours. Prerequisite: Astronomy 101 or 102 or permission of instructor.

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. Prerequisite: Physics 342.

498r Individual Studies (1-4)

General Science Courses

111 The Physical Environment: Atoms to Galaxies (4)
Explores physical science in three ways: physical science in its historical and sociological significance, the process of science, and the present content of scientific fact and theory. Topics include physics, chemistry, geology, and astronomy. lecture 3 hours, laboratory 2 hours. Prerequisite: 2 units of college preparatory mathematics or Mathematics 107.

Physics Courses

103,104 General Physics (4,4)
The basic principles of physics with applications to problems of modern science and technology. Required in premedical, predental, pre-pharmacy, and physical therapy programs. Lecture 3 hours, laboratory 2 hours. Prerequisites: 3 units of college preparatory mathematics.

191r Laboratory Practice in Physics (1)
An introduction to standard techniques in experimental physics with an emphasis on the design, construction, and use of apparatus for making a variety of measurements. Laboratory 2 hours.

199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

230 Principles of Physics—Mechanics and Heat (4)
Fundamental principles and methods of physics: mechanics and heat. Calculus is used wherever appropriate to the treatment of topics. Lecture 3 hours, laboratory 2 hours. Corequisite: Mathematics 160.

231 Principles of Physics—Electricity, Magnetism, Waves, Light (4)
Fundamental principles and methods of physics: electricity and magnetism, wave motion, light. For all engineering students. Lecture 3 hours, laboratory 2 hours. Prerequisites: Engineering 103,104 or Physics 104; Mathematics 150, 160.

232 Principles of Physics—Optics, Modern Physics (4)
Fundamental principles and methods of physics: modern physics, atomic physics, nuclear physics. For all engineering students. Lecture 3 hours, laboratory 2 hours. Prerequisites: Engineering 103,104 or Physics 230 or 104; Mathematics 150,160.

303 Basic Electronics (4)
Fundamental theory of electronic devices including vacuum tubes and semiconducting devices. Characteristics and applications of components in basic electronic circuits including amplifiers and power supplies. Lecture 3 hours, laboratory 2 hours. Prerequisites: 103, 104 or 231.

304 Electronic Circuits (4)
The theory and use of basic electronic instruments for electrical measurement or control. Multi-stage amplification, feedback, oscillators, and digital/logic circuitry treated with varying emphasis. Lecture 3 hours, laboratory 2 hours. Prerequisite: 303.

307 Optics (4)
Geometrical and physical optics, including reflection, refraction, interference, diffraction, and polarization; introduction to theory of spectra. Lecture 3 hours, laboratory 2 hours. Prerequisites: 230,231,232 (or 103, 104); Mathematics 160.

310 Introduction to Thermal Physics (4)
The laws of thermodynamics, kinetic theory, and statistical mechanics through the macroscopic description and microscopic theory of thermal phenomena. Prerequisites: 230, 231, 232 (or 103, 104). Corequisite: Mathematics 260.

318 Radiation Physics and Introductory Health Physics (3)
An 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. Prerequisite: 104 or 232.
An introduction to the mathematic techniques used in the classical continuous media, wave motion, sound, hydrostatics, rotational and irrotational flow, the equation of continuity, Laplace's equation. Lecture 3 hours, recitation 2 hours. Prerequisites: 230, 231 or 103 & 104. Corequisite: Mathematics 250 or 260.

Methods of Theoretical Physics II—Electricity and Magnetism (4)
Basic laws of electromagnetism, electric and magnetic properties of materials, Maxwell's equations, boundary value problems, electromagnetic waves. Lecture 3 hours, recitation 2 hours. Prerequisite: 341 or Mathematics 250,260.

Methods of Experimental Physics (2)
An introduction to experimental design and techniques. Introduction to timing and timing coincidence measurements, measurement of thermodynamic properties, and electrical and magnetic measurements. Maximum credit 4 hours. Lecture 1 hour, laboratory 2 hours. Prerequisites: 230, 231, 232 (or 103, 104); Mathematics 250, 260.

Classical Physics Laboratory (2)
An 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. Maximum credit 4 hours. Lecture 1 hour, laboratory 2 hours. Prerequisites: 230, 231, 232 (or 103, 104); Mathematics 250, 260.

Physics Seminar (1)
A study of reporting and review for physics research, including the abstracting of published reports. Maximum credit 2 hours.

Atomic Physics: An Introduction to Quantum Mechanics (3)
Elements of atomic theory with emphasis on atomic structure, radiation processes, spectroscopic analysis, crystal structure, and wave phenomena. Prerequisites: 230, 231, 232 (or 103, 104); Mathematics 250.

Nuclear Physics (3)
The theory of nuclear structure; nuclear radiation characteristics; the interaction of radiation with matter; nuclear binding forces; the control and use of nuclear radiation. Prerequisites: 230, 231, 232 (or 103, 104); Mathematics 250.

Advanced Modern Physics (3)
A study of the fundamentals of quantum mechanics and relativity. Emphasis on the relation of experimental evidence to the assumptions of the theories and the predictions. Consequences of the theories obtained for important cases which illustrate the nature of relativistic and quantum physics. Prerequisites: 341; Mathematics 250, 260.

Introduction to Nuclear Reactor Physics (3)
Nuclear reactions and radiation; fission processes, neutron diffusion, reactor design variables, reactor materials and shielding, reactivity coefficients. Prerequisite: 412 or equivalent.

Instruments, Interfacing, and Microcomputers (3)
Interfacing instruments, measuring devices, and controls to mini and microcomputers. Including voltmeters, counters, timers, temperature, and other sensors, CRT's, 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. Lecture 2 hours, laboratory 2 hours. Prerequisites: 104, 232 or equivalent; Computer Science 210 or equivalent.

Radiation Dosimetry (3)
An 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. Prerequisites: 104 or 232.

Radiation Biology (3)
The 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. Prerequisites: 104 or 232.

Atomic Physics Laboratory (2)
An advanced laboratory on experimental methods used in atomic physics. Laboratory experiments may be chosen from a menu of experiments that includes emission and absorption spectra of atoms and atomic ions, the Franck-Hertz experiment, the Stern-Celach experiment, electron-spin resonance, and nuclear magnetic resonance. Analysis of experimental results will be used to study theoretical models of physical processes. Maximum credit 4 hours. Lecture 1 hour, laboratory 2 hours. Prerequisites: 230, 231, 232 (or 103, 104); Mathematics 250.

Nuclear and Health Physics Laboratory (2)
A 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. Maximum credit 4 hours. Lecture 1 hour, laboratory 2 hours. Prerequisites: 230, 231, 232 (or 103, 104, 318); Mathematics 250.

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

Research (1-4)

Individual Studies (1-4)

Group Studies (1-4)

Political Science

Professor Swansbrough, Head Professor Moughrabi
Associate Professors Brodsky, Carrithers, Richard Wilson

Students majoring in political science may earn a B.S. degree, choosing either the public administration concentration, emphasizing preparation for government service and graduate training, or the preprofessional concentration, emphasizing preparation for careers in law, international business, and the diplomatic service.

The department offers courses in five major subfields of the discipline: political behavior and methodology (202, 203, 301, 302, 303, 401r, 402r); political theory (212, 213, 214, 312, 313, 314, 411r); public law and administration (222, 223, 322, 323, 324, 421r); American institutions and processes (232, 233, 234, 331, 332, 335, 431r); and international relations and comparative government (242, 243, 244, 342, 343, 344, 345, 441r, 442r). Certain students may also participate in the State Government Internship Program, the Metropolitan Government Internship Program, and the Dual Degree Program for combined undergraduate and graduate study in political science or public administration. The Dual Degree Program is offered in conjunction with The University of Tennessee, Knoxville.
Political Science (B.S.): Public Administration Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than political science: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than political science (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category C
1 approved perspectives course other than political science (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
3 hours Political Science 101
3 hours Political Science 201
3 hours Political Science 301
9 hours from political science courses at the 200 level (excluding 201) distributed among three of five subfields listed above
9 hours from political science courses at the 300 level (excluding 301)
12 hours from political science courses at the 400 level including at least 3 hours but no more than 6 hours from Political Science 461r, 462r, 463, 464, 471r, 480, 495, 497, 498r or 499r
Related courses (21 hours):
3 hours Mathematics F210
3 hours Computer Science 210 or 340
3 hours Economics C101 or C102
3 hours English 300
9 hours additional from Sociology 209, 317, 318, 340; Philosophy 211, B221, 322, 348, B425; Human Services C300; History at 200, 300, 400 level approved by departmental adviser
2.0 average in all political science courses
Minimum of 30 hours of 300 and 400 level courses

Approved program of elective courses outside the Department of Political Science sufficient to fulfill the general University requirement of 128 credit hours necessary for graduation; list of courses normally prepared by the student and approved by the departmental adviser.

Typical course of study in political science (B.S.): public administration concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Political Science 101</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
</tr>
<tr>
<td>Economics C101 or C102</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>1</td>
</tr>
<tr>
<td><strong>13</strong></td>
<td><strong>16</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Sophomore</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>2 Political Science Courses at the 200 level</td>
<td>6</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
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<tr>
<td>Concentration Elective</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
</tr>
<tr>
<td><strong>18</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Senior

| Political Science Courses at the 300 level | 6 |
| Computer Science 210 or 340 | 3 |
| English 300 | 3 |
| Mathematics F210 | 3 |
| Concentration Elective | 18 |

Political Science (B.S.): Preprofessional Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than political science: one from humanities, one from fine arts, and one from either (3 hours each)

Category D
2 approved behavioral or social science courses other than political science

Category F
1 approved mathematics course (3 hours)

Category C
1 approved perspectives course other than political science (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
3 hours Political Science 101
3 hours Political Science 201
3 hours Political Science 301
9 hours from political science courses at the 200 level (excluding 201) distributed among three of five subfields listed above
9 hours from political science courses at the 300 level (excluding 301)
12 hours from political science courses at the 400 level including at least 3 hours but no more than 6 hours from Political Science 461r, 462r, 463, 464, 471r, 480, 495, 497, 498r or 499r
Related courses (26 hours):
3 years of one foreign language at the college level
3 hours Economics C101 or C102
3 hours English 300
6 hours additional from Philosophy 211, B425; Human Services C300; History at 200, 300 or 400 level approved by the departmental adviser
2.0 average in all political science courses
Minimum of 30 hours of 300 and 400 level courses

Approved program of elective courses outside the Department of Political Science sufficient to fulfill the general University requirement of 128 credit hours necessary for graduation; list of courses normally prepared by the student and approved by the departmental adviser.

Typical course of study in political science (B.S.): preprofessional concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td></td>
<td></td>
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<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td>4</td>
</tr>
<tr>
<td>Political Science 101</td>
<td>3</td>
</tr>
</tbody>
</table>
96—Political Science

Physical Education 021  1
General Education Category A  3
Economics C101 or C102  3
General Education Category F  _3
                    17
Sophomore
Foreign Language  3
General Education Category D  4
2 Political Science Courses  at the 200 level  6
General Education Category B  3
Elective  3
                    19
Junior
2 Political Science Courses  at the 300 level  6
Concentration Elective  3
English 300  3
Elective  3
                    15
Senior
2 Political Science Courses  at the 400 level  6
Electives  9
                    15
Minor
Required and elective courses totaling 18 hours.
Required: 18 hours of political science including Political Science 201, 15 hours distributed among three of the five subfields described above.
Nine hours must be at upper levels with no more than 3 hours from Political Science 461r, 462r, 463, 464, 471r, 480, 495r, 497r, 498r, or 499r.

Political Science Courses

101 American Government (3)  
Contemporary issues in American national politics with emphasis on national political processes and institutions.

102 World Politics (3)  
The evolution of the contemporary international political system with a comparison of ideologies and governments in Western and non-Western countries.

199r Special Projects (1-4)  
Individual or group projects.

201 Introduction to Political Science (3)  
Language, symbols, methods, and data of political discourse and analysis. Required for political science majors.

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.

203 Public Opinion (3)  
Sources, content, and impact of public opinion on the political process.

212 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.

214 Southern Political Ideas (3)  
The political ideas of selected southerners from revolutionary America to the present day.

222 Introduction to American Constitutional Law (3)  
Case studies of key Supreme Court decisions affecting the distribution of power in American society.

223 Introduction to Public Administration (3)  
Principles of government organization, management, financial control, personnel practices, and administration.

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.

234 The Presidency (3)  
The nature of the presidency as an institution. Presidential decision making and relations with other branches of government.

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.

244 Comparative Public Policy (3)  
The formation and implementation of social welfare policies in developed and developing nations.

301 Research Methods (3)  
Basic techniques in political science research. Required for political science majors.

302 Political Psychology (3)  
Psychological bases for political action.

303 Politics and Communication (3)  
Propaganda and other means of political and social control.

312 Classical Political Ideas (3)  
The political ideas of the classical period with emphasis on Plato and Aristotle.

313 Democratic Theory (3)  
The democratic state as seen by selected theorists from antiquity to the present day.

314 Contemporary Political Ideas (3)  
The competing ideologies of the 20th century with emphasis on contemporary political and social thought including Marxism and Fascism.

315 American Political Ideas (3)  
The major sources of American political ideas as a background to analyzing the political theory of the Founding Fathers. Formerly Political Science 213.

322 Civil Liberties (3)  
Case studies of key Supreme Court decisions affecting the rights and freedoms of the individual in American society.

323 Law and Politics (3)  
Lawyers, judges, police, and the political process.

331 Urban Politics and Policy (3)  
An examination of political institutions in urban areas with a focus on public bureaucracies and the policy-making process.

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.

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.

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.

345 American Foreign Policy (3)  
The basic foreign policy problems confronting the United States.
401 r Advanced Topics in Political Behavior (3)
Selected topics in political behavior. May be repeated once.

411r Advanced Topics in Political Theory (3)
Selected topics in political theory. May be repeated once.

421 r Advanced Topics in Public Law and Administration (3)
Selected topics in public law and administration. May be repeated once.

431 r Advanced Topics in American Institutions and Processes (3)
Selected topics in American institutions and processes. May be repeated once.

442r Advanced Topics in Comparative Government (3)
Selected topics in comparative government. May be repeated once.

461 r, 462r, 463, 464 State Government Internship Program (3)
Internship conducted during the legislative session in governor's and legislative offices in Nashville. No more than 6 credit hours may apply toward the major degree requirements in the department. Prior approval of instructor.

471 r Metropolitan Government Internship Program (3-6)
Internship conducted in various governmental offices in Chattanooga. No more than 6 credit hours may apply toward the major degree requirements in the department. Prior approval of instructor.

480 Senior Tutorial (3)
Independent research. Primarily for political science majors.

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

497r Research (1-4)

498r Individual Studies (1-4)

499r Group Studies (1-4)

Psychology

Professor Green, Head
Professor Hood
Associate Professors Biderman, Helton, Oorth, Reid, Watson
Assistant Professors Kleiman, Ozbek, Warren-Leubecker

The Department of Psychology has developed a curriculum which meets the needs of a wide spectrum of interests. 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.

Psychology (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than psychology (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category G
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

Major and related courses
All psychology majors must take either an established minor from another department, or they must take either Philosophy 348, Philosophy of Science, or one of the ethics courses. Philosophy 221, 322 or 425 as part of the major-related degree requirements. In addition, each student must select at least three courses from one of the areas listed below. At least two courses are to be selected from 200 level or above. Courses selected from these areas to fulfill the major-related degree requirements cannot be simultaneously used to meet general education requirements of the University.

The areas:
1. Biology, chemistry, physics
2. History, political science, sociology/anthropology
3. Business administration, education, human services
4. Computer science, mathematics
5. Literature*, theatre & speech, philosophy

27 hours psychology including 101
One course from two of the following:
1) Psychology 311, 312, 314
2) Psychology 308, 331, 448
3) Psychology 406, 407, 484

Both courses from one of the following:
1) Psychology 331, 431
2) Psychology 448, 410
3) Psychology 221, 421
4) Psychology 311, 411
Either Psychology 460 or 461

The same course may not be used to fulfill two different requirements
Maximum of 6 hours of one psychology course labeled "r" and maximum of 9 hours of all psychology courses labeled "r" will count towards the 27 hours required for the major

Recommended: courses in statistics and research methodology
2.0 average in all psychology courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

*including non-English Department literature courses

Typical course of study in psychology (B.A.)

Representative Programs
It is recognized that the particular needs and interests of individual students vary widely. The accompanying typical courses of study are not intended to indicate, with the exception of the statistics and research methods course for the B.S. program, required courses of study. They are intended to serve as a model around which a student may construct his or her own program. Indicated are the general requirements for hours, limitations upon major hours for the B.A., and general education requirements.
General Education Category F

98—Psychology

General Education Category B

Freshman
Psychology 101 3
Foreign Language 4
General Education Category A 3
General Education Category B 3
Physical Education 021 1
Elective 3
17

Sophomore
Psychology 202 or 203 3
Psychology 3
General Education Category F 3
General Education Category B 3
Foreign Language 3
15

Junior
Psychology 3
Psychology 3
General Education Category C 3
Electives 6
15

Senior
Psychology 4
Psychology 3
Major-related course 3
Major-related course 3
Elective 3
16

Psychology (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than psychology (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category G
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester of physical education activity

Major and related courses
All psychology majors must take either an established minor from another department, or they must take either Philosophy 348, Philosophy of Science, or one of the ethics courses, Philosophy 221, 322, or 425 as part of the major-related degree requirements. In addition, each student must select at least three courses from one of the areas listed below. At least two courses are to be selected from 200 level or above. Courses selected from these areas to fulfill the major-related degree requirements cannot be simultaneously used to meet general education requirements of the University.

The areas:
1. Biology, chemistry, physics
2. History, political science, sociology/anthropology
3. Business administration, education, human services
4. Computer sciences, mathematics
5. Literature*, theatre & speech, philosophy

33 hours psychology including 101, 201, or equivalent; either 202 or 203
One course from two of the following:
1) Psychology 311, 312, 314
2) Psychology 308, 331, 448
3) Psychology 406, 407, 484

Both courses from one of the following:
1) Psychology 331, 431
2) Psychology 448, 410
3) Psychology 221, 421
4) Psychology 311, 411

Either Psychology 460 or 461

The same course may not be used to fulfill two different requirements

Maximum of 6 hours of one psychology course labeled “r” and maximum of 9 hours of all psychology courses labeled “r” will count towards the 33 hours required for the major

2.0 average in all psychology courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

+Including non-English Department literature courses.

Typical course of study in psychology (B.S.)

First Semester Second Semester

Freshman
Psychology 101 3
Psychology 201 3
Foreign Language 4
General Education Category A 3
General Education Category B 3
Physical Education Activity 1
Elective 3

Sophomore
Psychology 202 or 203 3
Psychology 3
General Education Category D 4
General Education Category C 3
Foreign Language 3

Junior
Psychology 3
Psychology 3
General Education Category G 3
Elective 4

Senior
Psychology 4
Elective 4
Psychology 3
Major-related course 3
Electives 6

Psychology Courses

101 Introduction to Psychology (3)

Development of the human from infancy to adulthood; selected topics in learning, motivation, emotion, and perception integrated in an exploration of the dimensions and processes of human adjustment from the standpoint of basic psychological theory and research. May not be taken for credit if Psychology 103 has been taken previously.
190r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

201 Research Methodology: Introductory Statistics in Psychology (3)
Descriptive and inferential statistics, research design, and computer analysis of psychological data. Unique applications of quantitative analysis to problems in research techniques in psychology, consideration of requirements for rigorous analysis of special problems in research in behavioral processes. Prerequisite: 2 years of high school algebra or Mathematics 107.

202 Research Methodology: Laboratory Techniques (3)
A study of laboratory methods making use of both human and infrahuman organisms. Conducting original research through the process of laboratory experimentation and analysis of data for preparation of research reports. Prerequisites: 101 and 201 (or equivalent).

203 Research Methodology: Field Research Techniques (3)
A study of psychological research methods appropriate to non-laboratory settings. Emphasis on research utilizing both quantitative and qualitative methods of analysis. Conducting original research. Critical evaluation of the research of others. Prerequisites: 101 and 201 (or equivalent).

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. Prerequisite: 101 or equivalent. Credit not allowed in both Education 203 and Psychology 221.

222 The Psychology of Adolescence and Adulthood (3)
Psychodynamic principles of adolescent functioning. Evaluation of various theories of adolescence. 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 sensori-motor 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. Prerequisite: 101 or equivalent.

241 Psychology of Individual Differences (3)
Consideration of individual differences in the dimensions of intelligence, personality, interests, and values. Discussion of group differences related to sex, age, race, social class, and intelligence. Examination of genetic and environmental factors influencing these differences.

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.

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 bio-social approach to theories of causation, development, and symptomatic behavior in emotional disorder; theoretical bases of the various therapies and of positive means of prevention. Prerequisite: 6 hours of psychology.

311 Learning and Motivation (3)
Study of the effective conditions for various learning phenomena; roles of motivation, reinforcement, and punishment in learning. Prerequisite: 101 or equivalent; 201 recommended.

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. Prerequisite: 101 or equivalent; 201 recommended.

313 Cognitive Processes (3)
Examination of the ways in which people process information; topics from perception, thinking, problem solving, and language behavior. Prerequisite: 101 or equivalent; 201 recommended.

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. Prerequisite: 101 or 6 hours of college biology courses, or permission of instructor.

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. Laboratory. Prerequisite: 101 or equivalent.

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 impersonal attraction. May be registered for as Sociology 331. Prerequisite: 6 hours of psychology or sociology. Credit not allowed in both Psychology 331 and Sociology 331.

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. Prerequisites: 6 hours of psychology and an introductory statistics course.

401 Intermediate Statistics in the Behavioral Sciences (3)
Consideration of the theory and application of nonparametric and parametric measures in research design; introduction to computer utilization in the analysis of data. Prerequisite: introductory statistics course.

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. 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. Prerequisite: 9 hours of psychology or permission 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. 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. 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. Prerequisite: 18 hours of psychology and senior standing, or by permission of the instructor.
421 Advanced Developmental Psychology (3)
The growth of children through high school years with special attention to research methodology and findings in relation to factors of development and the acquisition of skills; understanding the development of attitudes, habits, and personality. **Prerequisites:** 101 or equivalent, 221 or 222, or equivalent.

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. May be registered for 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 bio-social, 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. **Prerequisite:** 6 hours of psychology and junior standing.

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. **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. **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.

470 Psychology of Religion (3)
Analysis of empirical data and psychological theories involving religious beliefs, practices, and experiences. May be registered for as Religion 470. **Prerequisites:** 6 units psychology or philosophy-religion.

484 Social Psychology of Education (3)
Topics in the social psychology of education with particular emphasis on educational issues and problems from a social psychological perspective. **Prerequisite:** 9 hours of psychology or permission of instructor.

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

497r Research (1-4)

498r Individual Studies (1-4)

499r Group Studies (1-4)

**Social Work**

See School of Human Services, page 166.

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**Sociology and Anthropology**

**Professor Cahill, Head**

**Associate Professors** Geervarghese, Kileff, Miles, Pate, Robinson, Thurston

**Assistant Professors** L. Cox, Honerkamp

Any student in good standing with the University may be admitted to the major program. Various concentrations within the major field have been designed to meet the special needs of students majoring in sociology, anthropology, or urban studies.

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.

**Sociology and Anthropology: General, Anthropology, Sociology, Urban Studies Concentrations (B.A.)**

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
2 approved courses in written communication in the English language (6 hours)

**Category B**
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

**Category C**
2 approved behavioral or social science courses other than anthropology and sociology (6 hours)

**Category D**
1 approved physical or natural science course other than anthropology with laboratory (4 hours)

**Category F**
1 approved mathematics course (3 hours)

**Category C**
1 approved perspectives course other than anthropology and sociology (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

**Major**

Completion of one of following concentrations—

1. **General:**
33 hours sociology and anthropology including Sociology 151, 314, 394 or 450; Anthropology 152 or 208; Anthropology 302 or
Sociology 312; plus 18 hours of sociology/anthropology electives of which 9 hours are at the 300-400 level.

2. Anthropology:
33 hours sociology and anthropology including Anthropology 152 and 302; 9 hours selected from Anthropology 208, 209, 210 and 211; Sociology 314 and 394 or 9 hours of approved anthropology field and laboratory courses; 3 additional hours of sociology; additional hours of anthropology electives to complete concentration

3. Sociology:
Mathematics F210
33 hours sociology and anthropology including Sociology 151, 312, 314, 394; Anthropology 152 or 208 plus 18 hours of sociology/anthropology electives of which 9 hours are in sociology at the 300-400 level.

4. Urban studies:
33 hours sociology and anthropology including Sociology 151, 314, 394 or 450; Anthropology 152 or 208; Anthropology 302 or Sociology 312; plus 18 hours of electives of which 9 hours are at the 300-400 level; (6 of the 18 hours must be selected from Sociology 209, 317, 318, 345, 400, 415, 455).
18 hours additional from Economics 306, 455; Geography 415; Human Services 301; Political Science 101, 233, 323, 331, 401r and 421r (when appropriate to urban studies), 461r, 462r, 463, 464, or 471r; Psychology 316, 331, 421, 431, 456r

Recommended: courses in statistics and research methodology
2.0 average in all anthropology and sociology courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical courses of study for sociology and anthropology (B.A.)

Sociology and Anthropology (B.A.): sociology concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>General Education Category A 3</td>
<td>General Education Category A 3</td>
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<tr>
<td>Language 101 3-4</td>
<td>Language 102 3-4</td>
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<tr>
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<td>Anthropology 208 or 209 3-4</td>
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<tr>
<td>Physical Education 021 16-17</td>
<td>Physical Education Activity 16-18</td>
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<thead>
<tr>
<th><strong>Sophomore</strong></th>
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<tbody>
<tr>
<td>Language (2nd year) 3</td>
<td>Language (2nd year) 3</td>
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<tr>
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<td>General Education Category B 3</td>
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<tr>
<td>General Elective 4</td>
<td>General Education Category G 3</td>
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<tr>
<td><strong>Junior</strong></td>
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<tr>
<td>Anthropology 366* 3-6</td>
<td>Anthropology 302 3</td>
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<td>Anthropology Elective* 3</td>
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<td>General Electives 4</td>
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<tr>
<td><strong>Senior</strong></td>
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</tr>
<tr>
<td>Anthropology 498r or elective 4</td>
<td>Elective-Humanities or Fine Arts 3</td>
</tr>
<tr>
<td>General Education Category B 3</td>
<td>Anthropology Elective 2</td>
</tr>
<tr>
<td>Fine Arts 3</td>
<td>General Electives 11</td>
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<tr>
<td>General Electives 9</td>
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Sociology and Anthropology (B.A.): anthropology concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
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</tr>
<tr>
<td>Sociology 151 3</td>
<td>Anthropology 152 or 208 3</td>
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<td>General Education Category A 3</td>
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<td>Physical Education 021 17</td>
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</table>

<table>
<thead>
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<th><strong>Sophomore</strong></th>
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</thead>
<tbody>
<tr>
<td>Sociology or Anthropology Elective 3</td>
<td>Sociology or Anthropology Elective 3</td>
</tr>
<tr>
<td>Language (2nd year) 3</td>
<td>Language (2nd year) 3</td>
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<tr>
<td>General Education Category B 3</td>
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<tr>
<td>Fine Arts 3</td>
<td>General Elective 3</td>
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<tr>
<td>General Education Category C 3</td>
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<tr>
<td><strong>Junior</strong></td>
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<tr>
<td>Sociology 312 3</td>
<td>Sociology 394 3</td>
</tr>
<tr>
<td>Sociology 314 3</td>
<td>Sociology, 300-400 level 3</td>
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<tr>
<td>Other Social Sciences Electives 3</td>
<td>General Education Category C 3</td>
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<tr>
<td><strong>Senior</strong></td>
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</tr>
<tr>
<td>Sociology, 300-400 level 6</td>
<td>Sociology, 300-400 level 6</td>
</tr>
<tr>
<td>Other Social Science Electives 6</td>
<td>Other Social Science Electives 6</td>
</tr>
<tr>
<td>General Education Category G 3</td>
<td>General Elective 3</td>
</tr>
<tr>
<td>General Elective 15</td>
<td>General Elective 15</td>
</tr>
</tbody>
</table>

Sociology and Anthropology:
Anthropology, Sociology, Urban Studies Concentrations (B.S.)

**General Education** (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category A</th>
<th>2 approved courses in written communication in the English language (6 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Category B</td>
<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)</td>
</tr>
<tr>
<td>Category C</td>
<td>2 approved behavioral or social science courses other than anthropology and sociology (6 hours)</td>
</tr>
<tr>
<td>Category D</td>
<td>1 approved physical or natural science course other than anthropology with laboratory (4 hours)</td>
</tr>
<tr>
<td>Category F</td>
<td>1 approved mathematics course (3 hours; approved related courses below will apply)</td>
</tr>
<tr>
<td>Category C</td>
<td>1 approved perspectives course other than anthropology and sociology (3 hours)</td>
</tr>
</tbody>
</table>

Health and Physical Education 021 plus one additional semester physical education activity.
102—Sociology & Anthropology

Major and related courses

Computer Science 210

English through 102; and one course in written communication above the 100 level


Completion of one of following concentrations—

1. Anthropology:

33 hours of sociology and anthropology including Anthropology 152 and 302; 9 hours selected from Anthropology 208 and 209, 210 and 211; Sociology 314 and 394 or 9 hours of approved anthropology field and laboratory courses; 3 additional hours of sociology; additional hours of anthropology electives to complete concentration

2. Sociology:

33 hours sociology and anthropology including 151, 312, 314, 394; Anthropology 152 or 208; plus 18 hours of sociology/anthropology electives (at least 9 hours at 300-400 level) with 12 of the 18 hours in sociology

3. Urban Studies:

33 hours sociology and anthropology including Sociology 151, 314, 394; Anthropology 152 or 208; Anthropology 302 or Sociology 312; plus 12 hours of sociology/anthropology electives of which 12 hours must be at 300-400 level (6 of the 18 hours of electives in the major to be selected from Sociology 209, 219, 317, 318, 345, 400, 415, 455r).

18 hours additional from Economics 306, 455; Geography 415; Human Services 301; Political Science C101, 233, 331, 401r or 421r (when appropriate to urban studies), 461r, 462r, 463, 464, 471r; Psychology 316, 331, 421, 431, 456r.

2.0 average in all anthropology and sociology courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

Typical courses of study in sociology and anthropology (B.S.)

Sociology and anthropology (B.S.): sociology concentration

First Semester | Second Semester
--- | ---
Freshman
General Education Category A | General Education Category A
Anthropology 152 | Anthropology 208
General Education Category C | General Education Category C
Physical Education 021 | Physical Education Activity
Mathematics 135 | Mathematics F136
General Elective | General Elective
 | 16
Sophomore
General Education Category D | Anthropology 209 or 210
Anthropology 210 or 211 | General Education Category B
Computer Science 210 | Humanities
General Education Category B | English 279
Fine Arts Elective | General Education Category G
General Elective | General Electives
 | 16
 | 16-17
Junior
Anthropology 366* | Anthropology 302
Mathematics F210 | Anthropology Elective*
Anthropology Elective* | Sociology Elective
Social Science Elective | General Electives
General Electives | General Electives
 | 15
Senior
Anthropology 498r | Humanities or Fine Arts
General Education Category B | General Electives

*Sociology 314 and 394 may be taken in lieu of 9 hours of anthropology field and laboratory courses. Anthropology 335 offered in summer school (6 hours).

Sociology and anthropology (B.S.): anthropology concentration

First Semester | Second Semester
--- | ---
Freshman
Sociology 151 | Anthropology Elective
General Education Category B | Sociology 152 or 208
General Education Category B | General Education Category B
Mathematics 135 | Mathematics F136
General Education Category A | General Education Category A
General Education Category C | General Education Category C
Mathematics F136 | General Education Category C
General Elective | General Elective
 | 16
Sophomore
Sociology Elective | Sociology 209 or Elective
Mathematics F210 (Statistics) | Sociology Elective
General Education Category G | General Education Category D
Computer Science 210 | General Education Category B
General Elective | General Elective
 | 16
Junior
Sociology 312 | Sociology 394
Sociology 314 | Sociology Elective
General Electives | General Elective
6 | English 279 or 300
Other Social Science Elective | Other Social Science Electives
 | 6
 | 15
Senior
Sociology or Anthropology Elective | Sociology or Anthropology Elective
Other Social Science Electives | Other Social Science Electives
General Electives | General Electives
6 | 6
 | 15
Minors
Anthropology: A student may obtain a minor in anthropology by successfully completing Anthropology 152; 9 hours from Anthropology 208, 209, 210, and 211; and 6 hours of anthropology above the 300 level. Total: 18 hours.

Sociology: A student may obtain a minor in sociology by successfully completing Sociology 151 plus 15 other hours in sociology, at least 6 of which are above the 300 level. Total: 18 hours.

Anthropology Courses

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.

199 Special Projects (1-4)

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.
Sociology & Anthropology—103

209 Physical Anthropology (4)
The origins and relationships of extinct and present forms of humankind from the perspective of the modern synthetic theory of evolution. Mechanisms of heredity and fossil evidence of early primate and hominid populations. The nature of human variation and the development of culture in human evolution. Lecture 3 hours, laboratory 2 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.

211 Introduction to Archaeology (3)
The study of human prehistoric and historic past through the archaeological record. Basic techniques, methods, theoretical approaches, and major conclusions of archaeological investigation.

302 Anthropological Theory (3)
A systematic survey of the development of major theories in anthropology with particular attention to theories of culture. Prerequisite: 3 hours of anthropology.

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.

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.

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. Prerequisite: 3 hours of anthropology 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. Prerequisite: approval of instructor.

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.

356 Archaeological Collections (3)
Principles of organization, analysis, and interpretation of prehistoric and historic archaeological materials. Techniques of preservation and presentation. Lecture 2 hours, laboratory 2 hours. Prerequisite: approval of instructor.

369r Communications Laboratory (3)
Laboratory methods and field techniques of research in human and animal communication. Individual or group projects. Prerequisite: 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. Prerequisites: 3 hours of sociology, anthropology, or psychology or approval of instructor.

411 Sex Roles and Culture (3)
Evolutionary and cross-cultural analysis of sex roles in human societies with special focus on the relative status of women. Prerequisites: 3 hours of sociology, anthropology, or psychology or approval of instructor.

425r Comparative Social Institutions (3)
The application of the comparative method in the analysis of sociocultural systems. Topics specified each semester. Prerequisite: 3 hours of behavioral science or approval of instructor.

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

497r Research (1-4)

499r Group Studies (1-4)

Sociology Courses

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.

151 Principles of Sociological Analysis (3)
Scientific study of human society and 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.

199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

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.

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.

219 Deviance and Conformity (3)
A social and 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.

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.

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 socio-cultural data and their interpretation. Prerequisite: approved computer 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. Prerequisites: 3 hours of behavioral science.

312 History of Social and Cultural Theory (3)
Scientific theories of social relations and culture from the 19th century to the present; the role of theory in an empirical science. Prerequisites: 151, or Anthropology 208, or approval of instructor.

314 Research Methods (Sociology or Anthropology Emphasis) (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. Prerequisite: 151, or Anthropology 152 or 208, or approval of instructor.
104—Sociology & Anthropology

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. Prerequisites: 3 hours of behavioral science.

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. Prerequisites: 3 hours of behavioral science.

320 Sociology of Law (3)
Law as a social phenomenon and as a social process. Historical and cross-cultural comparison of law, legal institutions, and enforcement of law. Special attention given to American law enforcement. Prerequisite: 3 hours of sociology or approval of instructor.

321 Criminology (3)
The nature of crime, criminal statistics, causal factors, theories and procedures in prevention and treatment. Prerequisite: 3 hours of sociology 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. Prerequisite: 3 hours of sociology 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. Prerequisite: 3 hours of sociology or approval of instructor.

331 Social Psychology (3)
See Psychology 331.

340 Collective Behavior (3)
Analysis of the varieties of collective phenomena such as crowds, social movements, public opinion, fads and fashion; examination of theories and research on the social context of this behavior and the social and psychological processes within such groups; case studies and examples from contemporary life. Prerequisite: 3 hours of behavioral science.

345 Social Classes in America (3)
Theories and forms of social stratification: differentials in prestige, power, and wealth; social opportunities and mobility; values and behavior at various levels of American society. Prerequisite: 3 hours of behavioral science.

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. Prerequisite: 3 hours of behavioral science.

365 Sociology of Medicine and Health Care (3)
Social and cultural perspectives on health, illness, and the health professions and institutions. Topics will include social epidemiology, health attitudes and behavior, medical folklore, mental health, the socialization of health professionals, the organization of health care, patient-professional relationships, health and medical care in other cultures. Prerequisite: 3 hours of behavioral science.

391 History of Social Thought (3)
Trends in beliefs and values regarding human society, in their interrelationships in ancient cultures, and in Western thought to the 19th century.

394 Research Seminar (Sociology or Anthropology Emphasis) (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. Prerequisites: 314; Mathematics 210 or Sociology 250 is required for all majors in the sociology concentration under the B.A. degree and for all taking the B.S. degree.
Theatre and Speech

Associate Professor Behringer, Head
Associate Professors Lewis, Wiley
Assistant Professor Smotherman
Visiting Assistant Professor Holmes

Theatre and Speech (B.A.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses other than theatre and speech: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

Major and related courses

Art 101
42 hours Theatre and Speech including Theatre and Speech 101,102,105, 107
6 hours theatre history: 211, 212
6 hours acting: 227, 327
3 hours of design in the theatre: 333
6 hours of performance and production (under special circumstances, with permission of department head, 2 hours may be taken concurrently)
9 hours approved theatre and speech electives at 300 and 400 level
2 courses outside department may count toward major with approval of department head
2.0 average in all theatre and speech courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in theatre and speech (B.A.)

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<thead>
<tr>
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<tbody>
<tr>
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<td>General Education Category C 3</td>
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Sophomore

| Theatre and Speech 102 3 | Theatre and Speech 211 3 |
| Theatre and Speech 227 3 | Theatre and Speech 200r 1 |
| Foreign Language 3 | Foreign Language 3 |
| General Education Category F 3 | General Education Category D 4 |
| General Education Category C 3 | Art 101 3 |
| 15 | Physical Education Activity 1 |
| 15 | 15 |

Junior

| Theatre and Speech 333 3 | Theatre and Speech 212 3 |
| Theatre and Speech 327 3 | Theatre and Speech 400r 1 |
| Theatre and Speech 400r 1 | Non-THSP Electives 6 |
| General Education Category B 3 | Non-THSP Electives 6 |
| Non-THSP Electives 9 | 16 |
| 16 | 16 |

Senior

| Theatre and Speech 400r 1 | Theatre and Speech 400r 1 |
| Theatre and Speech Electives 3 | Theatre and Speech Electives 6 |
| Non-THSP Electives 9 | Non-THSP Electives 9 |
| 16 | 16 |

Minor

Theatre: 21 hours including Theatre and Speech 101,105 or 111 or 115, 211 or 212, and 227; 3 semesters of 200r and 400r; 6 hours of approved Theatre and Speech courses at the 300 level or above.

Theatre and Speech Courses

101 Theatre Theory and Practice: Scenery and Lighting (3)
Understanding of traditional forms and types of drama combined with the application of modern techniques of scenery and lighting to the production of University Theatre plays.

102 Theatre Theory and Practice: Costumes (3)
Relationship of the forms and types of dramatic art to theatrical costume; application of contemporary costuming techniques to University Theatre productions.

105 Play Analysis (3)
Nature of drama and theatre with emphasis upon analysis of playscript as basis for performance and creation of theatrical images.

107 Voice and Diction (3)
Systematic training of the speaking voice for controlled articulation, volume, and tone in interpersonal communication.

108 Oral Interpretation (3)
Systematic teaching of the principles and skills of effective oral reading with a continuing study of voice and diction.

109 Public Speech Communication (3)
Practical application of the principles of public speaking and group discussion.

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.

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.

199r Special Projects (1-4)
Individual or group projects. 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. Prerequisite: permission of department head. Graded by faculty jury. May be repeated for credit.
106—William Brock Scholars

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.

211 The Theatre from 1700 (3)
History of the theatre as an art and as an institution from its beginnings through the 17th century. Prerequisite: 105 or permission of instructor.

212 The Theatre from 1700 to the Present (3)
History of the theatrical arts in their social setting from the 18th century to the contemporary period. Prerequisite: 105 or permission of instructor.

215 Stage Lighting: Technology and Design (3)
Organization and responsibilities of the stage lighting crew, basic electricity, lighting instruments and optics; control and memory systems. Elements of lighting design and color theory; rehearsal and performance procedures.

227 Fundamentals of Acting (3)
Exercise in traditional and contemporary techniques of theatre speech, movement and gesture, character and scene analysis; emphasis upon ensemble acting. Prerequisite: 105.

280 Introduction to Film (3)
The history and language of motion pictures studied by viewing and analyzing selected film masterpieces.

306 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.

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.

311 Comedy (3)
Types of comedy, farce, satire, and related forms examined in theoretical studies and representative works. Emphasis on theatrical techniques of communicating the comic vision to the audience.

313 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.

317 Directing (3)
Close study of the 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. Prerequisites: 211 or 212, 227, and/or permission of instructor.

320 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.

327 Advanced Acting (3)
Continued development of vocal technique, movement, and character study through improvisation, selfexploration, and textual analysis. Emphasis on scene work drawn from the modern realist repertory. Prerequisite: 227 and permission of instructor.

333 Scene Design (3)
Introduction to the basic techniques and methods of modern scene design and graphics in interpretation of representative examples of dramatic literature. Prerequisites: 101, 105; Art 101; and permission of instructor.

335 Costume Design (3)
Basic procedures and principles of costume design for representative types and styles of drama. Prerequisites: 102, 105; Art 101; and permission of instructor.

400r Performance and Production (1)
Upper division laboratory course in all aspects of theatre performance and production. Projects assigned in departmental productions and workshops. May be repeated for credit. Prerequisite: 2 semesters of 200r and permission of department head. Graded by faculty jury.

412 Theatre for Youth (3)
All phases of producing plays for or by junior audiences examined, including the techniques of creative dramas.

485 Film Topics (3)
Directors, genres, styles, or theories of film studied by viewing and analyzing representative films.

490r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

497r Research (1-4)

498r Individual Studies (1-4)

499r Group Studies (1-4)

University Studies
See Interdisciplinary Studies, page 75.

William E. Brock Scholars Program

Associate Professor Fulton, Director
June McEwen, Assistant to the Director
Professor Garth (Biology)
Associate Professors Brodsky (Political Science), Burhenn (Philosophy-Religion), Jackson (English), Kileff (Sociology-Anthropology), Lindsey (Art)
Assistant Professors Cox (Music), Peterson (Physics)

Brock Scholars are those students who have been awarded membership in the University's four-year honors program. The following University Honors courses are required of and restricted to Brock Scholars.

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. Satisfy general education requirement of Category A and Category B.

105 Introduction to the Social Sciences (3)
Introduction to the social sciences through intensive study of one of the social sciences; attention to problems of method, concept formation, theory construction, and the ethics of research. Empirical research project required.

106 The Social Sciences and Public Policy (3)
A case study of a public policy issue to which social science research is relevant. Appropriate background readings. Empirical research project
required. Prerequisite: 105. Together with 105 satisfies general education requirement in Category C.

107,108 Science and Technology (4,4)
Selected topics and experiments in science and technology designed to illustrate the methods, purposes, philosophical foundations, and implications of scientific and technological research. Consideration of societal influences and restraints upon and cultural effects of science and technology. Seminar and lecture 3 hours, laboratory 2 hours. Prerequisite: admission to the UTC Honors Program

School of Business Administration

Professor Irvin D. Reid, Dean

The principal objective of the School of Business Administration is to foster an appreciation and understanding of the function of the organization in today's environment, to develop effectively the student's analytical abilities, and to prepare the student to obtain employment in the private, public, and not-for-profit sectors. The school emphasizes breadth in management education necessary for lifelong professional career development. The curricula also provide essential skills for employment opportunities in related career fields. Career preparation is offered in the following areas:

- Accounting
- Economics
- Finance
- General Management
- Industrial Management
- Personnel Management
- Marketing
- Office Management
- Secretarial Science

The school is organized into five departments, Accounting and Finance, Economics, Management, Marketing and Business Law, and Office Administration/Business Education.

It offers four degree programs: Bachelor of Arts with a major in economics; Bachelor of Science with a major in business administration and concentrations in accounting, finance, general management, industrial management, personnel management, marketing, office management, and secretarial science; Bachelor of Science with a major in economics; and Master of Business Administration.

The design of the B.S. degree programs enables the graduate to move directly into the M.B.A. program with advanced status, thereby significantly shortening his or her M.B.A. program requirements.

The Bachelor of Science with a major in business administration is accredited by the American Assembly of Collegiate Schools of Business (AACSB). The MBA program is currently under review for AACSB accreditation.

The letter B used before a course name is an abbreviation for "Business." Example: B(usiness) Accounting.
Accounting and Finance

Professor Fulmer, Head
Professor Hale
Associate Professors Gavin, McLaurin, Willis
Assistant Professors Albin, Alvis, Berlin, Bowen, Pauley, N. Riley, W. Riley

The Department of Accounting and Finance offers concentrations designed to prepare students for professional positions in the profit and nonprofit sectors. The Bachelor of Science degree in business administration may be obtained with concentrations in accounting or finance.

Business Administration (B.S.):
Accounting concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (9 hours)

Category C
2 approved behavioral or social science courses other than economics (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity.

Major and related courses
6 hours selected from Political Science C101, Psychology C101, or Sociology C151
Mathematics 135, F136
Computer Science 210
One course from English 277, 300, 410, or Office Administration 310 (minimum of 8 hours in written communication including required courses in Category A)
37 hours common body of knowledge in the School of Business Administration including: Accounting 201, 202; Economics 101, 102; Finance 302; Management 211, 212, 311, 315, 440, 441; Marketing 313, 335

Accounting concentration:
Computer Science 211
18 hours from the School of Business Administration including: Accounting 303, 304, 305, 307, 405; Management 356
15 hours: 9-12 hours chosen from Accounting 306, 309, 401, 406, 407, 408, 409; 3-6 hours chosen from Finance 321, 322, 403; Marketing 336; Economics 301, 429
2.0 average in all accounting courses
A minimum of 54 hours of the 128 total must be taken at the 300-400 level Electives to complete 128 hours
Maximum of 72 hours total accepted in School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

Typical course of study in business administration (B.S.): accounting concentration

The program for the first two years in business administration is the same for all concentrations and is designed to do two things: (1) Give the student background in the basic disciplines and areas required to fulfill the general education requirements of the University and (2) prepare a foundation for the advanced courses in business administration to be taken during the junior and senior years.

First Semester Second Semester

Freshman
Economics 101 3 Economics 102 3
Mathematics 135 3 Mathematics F136 3
General Education Category A 3 General Education Category A 3
Physical Education 021 1 Computer Science 210 3
General Education Categories* 3-6 Physical Education Activity 1

13-16 16-19

Sophomore
B Accounting 201 3 B Accounting 202 3
B Management 211 3 B Management 212 3
General Education Category D 4 English 277, 300, 410, or Office Administration 310 3
General Education Categories 3-9

Computer Science 211 3
General Education and Electives 3-6

13-19 15-18

Junior
B Accounting 303 3 B Accounting 304 3
B Accounting 307 3 B Accounting 305 3
B Finance 302 3 B Management 315 3
B Management 311 3 B Management 356 3
B Marketing 313 3 Electives 3-6

15 15-18

Senior
B Marketing 335 3 B Accounting 405 3
B Accounting Electives 6 B Management 440 3
Finance, Management or Economics Elective 3 B Management 441 1
Elective 3 B Accounting Elective 3

Accounting, Finance Management, or Economics Elective 3
Elective 3

15 16

Accounting Electives (9-12 Hours):
B Accounting 306 3
B Accounting 309 3
B Accounting 401 3
B Accounting 406 3
B Accounting 407 3
B Accounting 408 3
B Accounting 409 3
B Marketing, Economics Electives (3-6 Hours):
B Finance 321 3
B Finance 322 3
B Marketing 336 3
B Finance 403 3
Economics 301 3
Economics 429 3

A minimum of 54 hours of the total 128 must be taken at the 300-400 level

Mf exempted, student may take Mathematics F136.
2Six hours must be selected from Political Science C101, Psychology C101 or Sociology C151.

Business Administration (B.S.): Finance concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)
Category B
3 approved courses: one from humanities, one from fine arts, and one from either (9 hours)

Category C
2 approved behavioral or social science courses other than economics (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category G
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
6 hours from Political Science C101, Psychology C101, or Sociology C151
Mathematics 135*, F136
Computer Science 210

One course from English 277, 300, 410, or Office Administration 310 (minimum of 8 hours in written communication including required courses in Category A)
37 hours common body of knowledge from the School of Business Administration including: Accounting 201, 202; Economics 101, 102; Finance 302; Management 211, 212, 311, 315, 440, 441; Marketing 313, 335

Finance concentration:
12 hours including Finance 321, 322, 422, 423
6 hours including Economics 325, 429
3 hours chosen from Finance 284, 337
9 additional hours chosen from Accounting 305; Finance 284, 337, 403, 424; Marketing 336; Management 356; Economics 304, 306
2.0 average in all finance courses

A minimum of 54 hours of the 128 total must be taken at the 300-400 level
Electives to complete 128 hours

Maximum of 72 hours accepted in the School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

*If exempted, student may take Mathematics F136.

Typical course of study in business administration (B.S.): finance concentration

The program for the first two years in business administration is the same for all concentrations and is designed to do two things: (1) Give the student background in the basic disciplines and areas required to fulfill the general education requirements of the University and (2) prepare a foundation for the advanced courses in business administration to be taken during the junior and senior years.

First Semester

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Second Semester

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Senior

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Accounting Courses

201, 202 Principles of Accounting (3,3)
Accounting principles underlying the balance sheet and the income statement as they apply to proprietorships, partnerships, and corporations. 207 is prerequisite to 202.

303 Intermediate Accounting (3)
The theoretical foundations and structure of accounting as they relate to the presentation of financial statements. Emphasis is on current generally accepted accounting principles. Prerequisites: 202, Management 211.

304 Intermediate Accounting (3)
A continuation of the theoretical foundations and structure of accounting as they relate to the presentation of financial statements. Emphasis is on current generally accepted accounting principles. Prerequisites: 303, Management 212.

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. Prerequisite: 202.

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. Prerequisite: 202.

307 Federal Tax Accounting (3)
Fundamentals of federal income tax with major emphasis upon tax law and regulations applicable to individuals. Prerequisite: 202.

309 Advanced Tax Accounting (3)
Continuation of 307 with attention given to the study of the federal
income tax problem areas of various accounting and legal entities. 
Prerequisite: 307.

401 Advanced Accounting (3)
Accounting for partnerships, consignments, insurance, installment, sales, receivership, branches, estates and trusts, and public accounts. Application of accounting principles to consolidations. Prerequisite: 304.

405 Auditing (3)
Kinds of audits, systems of accounts, and methods of conducting audits. Preparation of working papers and reports. Prerequisite: 304.

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. Prerequisites: 305; Finance 302; Management 356; Computer Science 211.

407 Governmental Accounting (3)
Accounting systems of institutions and various governmental units. Fund transactions, revenues and expenditures, appropriations, and form and content reports. Prerequisite: senior standing or permission of instructor.

408 Accounting Information Systems (3)
Review of the strategies, goals, and methodologies available for designing, installing, and evaluating accounting information systems. Prerequisites: 304, 305; Computer Science 211; Management 356.

409 Accounting Problems (3)
Advanced accounting problems including areas covered by the C.P.A. examination. Prerequisite: 405.

496r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

497r Research (1-3)

498r Individual Studies (1-3)

499r Group Studies (1-3)

Finance Courses

281 Real Estate Fundamentals (3)

282 Real Estate Law (3)
Acquisition and transfer of property; rights of adjoining owners; mortgages and liens; abstracts of title; recording; drafting of deeds; leases, options, and other legal aspects of property.

283 Real Estate Appraisal (3)
The fundamentals of appraising various types of real estate; the concept of value; the influence of architecture and construction; depreciation; analysis of city and neighborhood; different approaches to real estate property valuation.

284 Real Estate Finance (3)
Elements of mortgage finance; source of mortgage funds; construction loans; interest rates; servicing mortgages; V.A., F.H.A., conventional, and other loans.

301 Personal Finance (3)
Designed to help the individual and family make intelligent, informed decisions on personal financial management.

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. Prerequisites: Accounting 202; Economics 101, 102; 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. Prerequisites: 302; Accounting 202; Economics 101, 102; junior standing.

322 Commercial Banking (3)
A course designed to introduce the student to the decisions facing a commercial banker. Topics covered include banking history, role of money in the economy, the commercial banking system, Federal reserve rules, regulations and monetary management, and special topics such as credit analysis, installment lending, management of a bank’s cash balances, loan policy, and money management services. Prerequisites: Accounting 202; Economics 101, 102.

337 Principles of Insurance (3)
Types of insurance, insurance coverage, policy protection, and company organization and regulation. Prerequisites: Economics 101, 102.

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. Prerequisites: 302; Accounting 202, senior standing, and permission of instructor.

422 Financial Institutions (3)
Capital markets and institutions; sources and uses of capital funds; impact of changes in flow of funds on the economy. Prerequisites: Accounting 202; Economics 101, 102; senior standing or permission of instructor.

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 302 using the case discussion approach. Prerequisite: 302.

424 Theory of Finance
A lecture/discussion course which teaches the theory behind financial decisions. Topics covered include investments and securities, capital budgeting, risk analysis, and application of operations research to finance. Prerequisites: 302, 321.

496r Departmental Honors (1-3 hours per term, 4 hours for the two terms)

497r Research (1-3)

498r Individual Studies (1-3)

499r Group Studies (1-3)
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.

Economics (B.A.)

General Education (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td>B</td>
<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)</td>
</tr>
<tr>
<td>C</td>
<td>2 approved behavioral or social science courses other than economics (6 hours)</td>
</tr>
<tr>
<td>D</td>
<td>1 approved physical or natural science course with laboratory (4 hours)</td>
</tr>
<tr>
<td>F</td>
<td>1 approved mathematics course (3 hours; approved related courses will apply)</td>
</tr>
</tbody>
</table>

Category C

1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Foreign language through second college year

Major

Management 211 and 212 or Mathematics F210
24 hours economics including 101,102, and electives
2.0 average in all economics courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Maximum of 72 hours accepted in School of Business Administration courses with maximum of 42 hours in economics; i.e., at least 56 hours other than School of Business Administration courses must be completed

Typical course of study in economics (B.A.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Economics 101</td>
<td>Economics 102</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>3-4</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category A</td>
<td>General Education Category A</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>Physical Education Activity</td>
</tr>
<tr>
<td>3-6</td>
<td>1</td>
</tr>
<tr>
<td>General Education</td>
<td>General Education</td>
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<tr>
<td>3-6</td>
<td>3-6</td>
</tr>
<tr>
<td>13-17</td>
<td>13-17</td>
</tr>
</tbody>
</table>

Sophomore

Mathematics F210 or
B Management 211
Foreign Language

Foreign Language
B Management 212 or Elective

13-16

Economics (B.S.)

General Education (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td>B</td>
<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)</td>
</tr>
<tr>
<td>C</td>
<td>2 approved behavioral or social science courses other than economics (6 hours)</td>
</tr>
<tr>
<td>D</td>
<td>1 approved physical or natural science course with laboratory (4 hours)</td>
</tr>
<tr>
<td>F</td>
<td>1 approved mathematics course (3 hours; approved related courses below will apply)</td>
</tr>
</tbody>
</table>

Category C

1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses

Mathematics 135 and F136 or Mathematics F145 and Mathematics F150
Accounting 201
Management 211 and 212
Computer Science 210
15 hours core courses including Economics 101,102, 301, 304, 325
15 hours from the following: Economics 306,317,404,425,426,429,444, 450, 453, 455, 460, 465, 470, 480, 498r, 499r; Accounting 202; Finance 302 (other courses may be substituted with approval of department)
2.0 average in all economics courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Maximum of 72 hours accepted in School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

Typical course of study in economics (B.S.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Economics 101</td>
<td>Economics 102</td>
</tr>
<tr>
<td>Mathematics 135 or F145*</td>
<td>Mathematics F136 or F150</td>
</tr>
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<td>General Education Category A</td>
<td>General Education Category A</td>
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<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 210</td>
<td>Physical Education Activity</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
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<td>Physical Education 021</td>
<td>General Education</td>
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<td>3</td>
<td>3-6</td>
</tr>
<tr>
<td>13-16</td>
<td>13-17</td>
</tr>
</tbody>
</table>
112—Economics

Sophomore
B Management 211  3  B Management 212  3
B Accounting 201  3  General Education Category B  4
Economics 301  3  General Education and Electives  6-12
General Education  3-9  Electives  6-12
  12-18  13-19

Junior
Economics 324  3  Economics 325  3
General Education and Electives  9-15  General Education and Electives  3-9
  12-18  12-18

Senior
Economics Elective  3  Economics Electives  6
General Education and Electives  9-15  General Education and Electives  6-12
  12-18  12-18

*If exempted, student may take Mathematics F136. Students not eligible for Mathematics 135 must first take Mathematics 107. Students eligible to waive F145 may start in F150.

Minor
A student may obtain a minor in economics by taking Economics 101 and 102 plus 12 additional hours of 300 or 400-level economics courses (minimum of 18 hours).

Economics Courses

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.

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.

199r Special Projects (1-3)
Individual or group projects. Maximum credit 3 hours.

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. Prerequisites: 707, 702.

306 Public Finance (3)
Public expenditures and revenues, principles of taxation, public debt, and fiscal policy. Prerequisites: 101, 102.

317 Labor Economics and the Labor Process (3)
Wage and employment theories, labor law, and history of the labor movement. Prerequisites: 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. Prerequisites: 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. Prerequisites: 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. Prerequisites: 101, 102, or equivalent.

425 Industrial Organization (3)
The structure of industry, business conduct, and economic performance; analysis of antitrust law and government regulation. Prerequisites: 101, 102.

426 Comparative Economic Systems (3)
Communism in Russia, socialism in England, and capitalism in the United States; fascism and other economic systems. Prerequisites: 101, 102, or graduate standing.

429 Managerial Economics (3)
The solution of business problems by use of economic theory, accounting, marketing methods, financial techniques, etc. Prerequisites: 101, 102; Management 212.

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. Prerequisites: 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. Prerequisites: 707, 702.

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. Prerequisites: 101, 102.

455 Urban Economics (3)
A study of the metropolitan economy with a problem orientation in areas of intra-metropolitan industry location, urban residential location and travel behavior, the urban ghetto, housing markets, urban transportation, and environmental quality. Prerequisites: 101, 102.

460 Introduction to Econometrics (3)
Introduction to the use of mathematical models in economic analysis and the statistical verification of those models. Prerequisites: 101, 102; Management 212; or equivalent.

465 Economics of Regulated Industries (3)
Presentation and analysis of economic aspects of regulation of public service industries. Prerequisites: 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.

480 Philosophy of Enterprise (3)
Course seeks out the philosophical roots and bases of the capitalistic order, denotes the derivation of entrepreneurship, private property, limited government and the market system, and weighs economic public policy in terms of cost-benefit criteria. Prerequisites: 101, 102, or equivalents.

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

497r Research (1-3)

498r Individual Studies (1-3)

499r Group Studies (1-3)
General Business Administration

Professor Irvin D. Reid, Coordinator

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.”

General Business Administration Courses

459r Small Business Practicum (3)
Opportunity to integrate and apply specialized disciplinary skills to practical business problems of company-wide scope. Students are assigned as consultants to assist businesses under supervision of a faculty member. Prerequisites: Finance 302; Management 311 or permission of the SBI Director; Management 315; Marketing 313. Maximum credit: 6 hours.

Management

Professor Ettkin, Head
Professors Ahmadi, Cook, Hammer
Associate Professors Macomber, Sen, White
Assistant Professors DeDee, Johnson, Raiszadeh

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, personnel management, or industrial management.

Business Administration (B.S.): General Management concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (9 hours)

Category C
2 approved behavioral or social science courses other than economics (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course (3 hours)

Major and related courses

6 hours selected from Political Science C101, Psychology C101, or Sociology C151
Mathematics 135*, F136
Computer Science 210
One course from English 277, 300, 410, or Office Administration 310 (minimum of 8 hours in written communication including required courses in Category A)
37 hours common body of knowledge from the School of Business Administration including: Accounting 201, 202, Economics 101, 102; Finance 302; Management 211, 212, 311, 315, 440, 441; Marketing 313, 335

General management concentration:
15 hours including Management 330, 332, 396, 434; Economics 301
9 hours chosen from Management 410, 435, 438, 454, 456, 460; Business Administration 459r
2.0 average in all management courses
A minimum of 54 hours of the 128 total must be taken at the 300-400 level
Electives to complete 128 hours
Maximum of 72 hours total accepted in School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

*If exempted, student may take Mathematics F136.

Typical course of study in business administration (B.S.): general management concentration

The program for the first two years in business administration is the same for all concentrations and is designed to do two things: (1) Give the student background in the basic disciplines and areas required to fulfill the general education requirements of the University and (2) prepare a foundation for the advanced courses in business administration to be taken during the junior and senior years.

First Semester | Second Semester
--- | ---
Economics 101 | Economics 102
Mathematics 135* | Mathematics F136
General Education Category A | General Education Category A
Physical Education 021 | Computer Science 210
General Education Categories* | Physical Education Activity
Category A | General Education and Electives
Category B | 3-6
Category C | 3-6
Category D | 3-6
Category E | 13-19
Category F | 16-19
Category C | 13-19
Junior | 15-18

Economics 301 | B Management 330
B Finance 302 | B Management 332
B Management 311 | B Marketing 335
B Management 315 | B Management 356
B Marketing 313 | Electives
Elective | 18

Health and Physical Education 021 plus one additional semester physical education activity

Typical course of study in business administration (B.S.): general management concentration

The program for the first two years in business administration is the same for all concentrations and is designed to do two things: (1) Give the student background in the basic disciplines and areas required to fulfill the general education requirements of the University and (2) prepare a foundation for the advanced courses in business administration to be taken during the junior and senior years.

First Semester

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Economics 101, Mathematics 135*, Physical Education 021</td>
</tr>
<tr>
<td>B</td>
<td>Accounting 201, Management 211, General Education Category D</td>
</tr>
<tr>
<td>C</td>
<td>General Education Categories, General Education and Electives</td>
</tr>
<tr>
<td>D</td>
<td>1 approved physical or natural science course with laboratory</td>
</tr>
<tr>
<td>F</td>
<td>1 approved mathematics course</td>
</tr>
<tr>
<td>C</td>
<td>1 approved perspectives course</td>
</tr>
</tbody>
</table>

Second Semester

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Economics 102, Mathematics F136, General Education Category A</td>
</tr>
<tr>
<td>B</td>
<td>Management 212, General Education and Electives</td>
</tr>
<tr>
<td>C</td>
<td>1 approved physical or natural science course with laboratory</td>
</tr>
<tr>
<td>D</td>
<td>1 approved mathematics course</td>
</tr>
<tr>
<td>C</td>
<td>1 approved perspectives course</td>
</tr>
</tbody>
</table>

Electives to complete 128 hours

Maximum of 72 hours total accepted in School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

*If exempted, student may take Mathematics F136.
114—Management

Senior
B Management 434 B Management 440 3
General Management B Management 441 1
Electives 3-9 General Management
Electives 6 Electives 3-9
12-18 13-19

General Management Electives (any 9 hours):
B Management 410 B Management 456
B Management 435 B Management 460
B Management 438 B Administration 459r
B Management 454

A minimum of 54 hours of the total 128 must be taken at the 300-400 level

1 If exempted, student may take Mathematics F136.
2 Six hours must be selected from Political Science C101, Psychology C101, or Sociology C151.

Business Administration (B.S.): Personnel Management concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (9 hours)

Category C
2 approved behavioral or social science courses other than economics (6 hours, one must be Psychology C101; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related courses below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
6 hours, one course being Psychology C101 and the other either Political Science C101 or Sociology C151
Mathematics 135*, F136
Computer Science 210
One course from English 277, 300, 410, or Office Administration 310 (minimum of 8 hours in written communication including required courses in Category A)
37 hours common body of knowledge from the School of Business Administration including: Accounting 201, 202; Economics 101, 102; Finance 302; Management 211, 212, 311, 315, 440, 441; Marketing 313, 335

Personnel management concentration:
18 hours consisting of Management 330, 332, 356, 410, 434, 435
9 hours chosen from Management 438, 456, 460; Business Administration 459r (maximum 3 hours); Economics 317 or Business Finance 337 (minimum of 7 hours from Psychology including Psychology 241 and remaining hours from 203, 316, 345, 411
2.0 average in all management courses

A minimum of 54 hours of the 128 total must be taken at the 300-400 level

Electives to complete 128 hours
Maximum of 72 hours total accepted in School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

2 If exempted, student may take Mathematics F136.

Typical course of study in business administration (B.S.): personnel management concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td><strong>Second Semester</strong></td>
</tr>
<tr>
<td>English 101 Category A 3</td>
<td>English 102 Category A 3</td>
</tr>
<tr>
<td>Economics 101 3</td>
<td>Economics 102 3</td>
</tr>
<tr>
<td>Mathematics 135* 3</td>
<td>Mathematics F136 3</td>
</tr>
<tr>
<td>Psychology 101 Category C 3</td>
<td>Category B elective 3</td>
</tr>
<tr>
<td>General Education Category D 4</td>
<td>Category G elective 3</td>
</tr>
<tr>
<td>Category B elective</td>
<td>Physical Education 021 1</td>
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<tr>
<td>Category G elective</td>
<td>16</td>
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<tr>
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<table>
<thead>
<tr>
<th><strong>Sophomore</strong></th>
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<tbody>
<tr>
<td>B Management 211 3</td>
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<tr>
<td>B Management 315 3</td>
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<tr>
<td>Office Administration 310 3</td>
</tr>
<tr>
<td>Psychology 241 3</td>
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<td>Computer Science 210 3</td>
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<tr>
<td>Physical Education Activity 1</td>
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<tr>
<td>15</td>
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<tr>
<td>16</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Junior</strong></th>
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</thead>
<tbody>
<tr>
<td>B Management 311 3</td>
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<tr>
<td>B Management 315 3</td>
</tr>
<tr>
<td>B Marketing 313 or 335 3</td>
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<tr>
<td>Psychology elective 3</td>
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<td>Category B elective 3</td>
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<table>
<thead>
<tr>
<th><strong>Senior</strong></th>
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</thead>
<tbody>
<tr>
<td>B Management 410 3</td>
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<tr>
<td>B Management 434 3</td>
</tr>
<tr>
<td>Personnel Management electives 6</td>
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<tr>
<td>Electives 6</td>
</tr>
<tr>
<td>17</td>
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<tr>
<td>18</td>
</tr>
</tbody>
</table>

A minimum of 54 hours of the total 128 must be taken at the 300-400 level.

Personnel Management Electives (any 9 hours):
B Management 438 B Finance 337
B Management 456 Business Administration 459r
B Management 460 (maximum 3 hours)
Economics 317

Psychology Electives (any 6 hours):
Psychology 203
Psychology 316
Psychology 345
Psychology 411

W exempted, student may take Mathematics F136.
2 Six hours, one course being Psychology C101 and the other Political Science C101 or Sociology C151.
Business Administration (B.S.): Industrial Management concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (9 hours)

Category C
2 approved behavioral or social science courses other than economics (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course (3 hours)

Medical and related courses
Six hours selected from Political Science C101, Psychology C101, or Sociology C151
Mathematics 135*, F136
Computer Science 210
One course from English 277, 300, 410, or Office Administration 310
(minimum of 8 hours in written communication including required courses in Category A)
37 hours common body of knowledge from the School of Business Administration including: Accounting 201, 202; Economics 101, 102; Finance 302; Management 211, 212, 311, 315, 440, 441; Marketing 313, 335

Industrial management concentration:
18 hours including Accounting 305; Management 356, 451, 452, 460; Engineering 458
9 hours chosen from Management 332, 410, 434, 435, 454, 456; Marketing 319; Economics 429; Engineering 452, 454, 455, 457
2.0 average in all management courses
A minimum of 54 hours of the 128 total must be taken at the 300-400 level
Electives to complete 128 hours
Maximum of 72 hours total accepted in School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

*If exempted, student may take Mathematics F136.

Typical course of study in business administration (B.S.): industrial management concentration

The program for the first two years in business administration is the same for all concentrations and is designed to do two things: (1) Give the student background in the basic disciplines and areas required to fulfill the general education requirements of the University and (2) prepare a foundation for the advanced courses in business administration to be taken during the junior and senior years.

First Semester  Second Semester
Freshman Economics 101  Economics 102
Mathematics 135†  Mathematics F136

Management—115

General Education Category A  3  General Education Category A  3
Physical Education 021  1  Computer Science 210  3
General Education Categories 2  3-6  Physical Education Activity  1
General Education and  3-6  General Education and
Electives  13-16  Electives  16-19

Sophomore
B Accounting 201  3  B Accounting 202  3
B Management 211  3  B Management 212  3
General Education Category D  4  Office Administration 310
General Education Categories  3-9  or Equivalent
13-19  General Education and
Electives  6-9  Electives  15-18

Junior
B Finance 302  3  B Accounting 305  3
B Management 311  3  B Marketing 335  3
B Management 315  3  B Management 356  3
B Marketing 313  3  Electives  6-9
Electives  3-6  15-18  15-18

Senior
Engineering 458  3  B Management 440  3
B Management 451  3  B Management 441  1
B Management 460  3  B Management 452  3
Industrial Management  3  Industrial Management
Elective  3  Elective  3-6
Elective  3  Elective  6  15-18  13-19

Industriaa Management Electives (any 9 hours):
Economics 429  B Management 410
Engineering 452  B Management 434
Engineering 454  B Management 435
Engineering 455  B Management 454
Engineering 457  B Management 456
B Management 332  B Marketing 319

A minimum of 54 hours of the total 128 must be taken at the 300-400 level

*Six hours must be selected from Political Science C101, Psychology C101, or Sociology C151.

Management Courses

103 Introduction to Business (3)
General characteristics of business enterprise and business terminology. (junior and senior majors in business administration will not receive credit for the course.

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 application. Prerequisite: Mathematics 135.

212 Statistical Methods for Business II (3)
Probability and statistical inference with emphasis on decision-making in business. Computer application of statistical analysis. Prerequisites: 211 with a grade of C or better; Mathematics 136.

311 Operations Management (3)
An introduction to the design, operation, and control of a product or service oriented environment. Major emphasis is placed on the following decision tools and models: forecasting, linear programming, simulation, quality control, inventory control, network analysis, job design, and standards. Prerequisites: 212; Economics 101 and 102; junior standing.
315 Management Concepts, Theory, and Practice (3)
Inter- and intra-group relations in administration with special emphasis on superior-subordinate relations in a business environment. Comparison of classical concepts of leadership, structure, and development with contemporary research. Prerequisite: junior standing.

330 Concepts in Organizational Behavior (3)
An examination of theory and research dealing with the behavior of organizations with primary emphasis on individual and group behavior. Topics covered include motivation, communication, group dynamics, leadership, and change. Prerequisite: 315.

332 Personnel Management (3)
Principles and practices involved in the effective administration of personnel. Prerequisite: 315.

356 Management Science (3)
Quantitative decision-making techniques under deterministic and stochastic conditions; topics to include decision model building, linear programming, goal programming, assignment problem, transportation problem, network models, queuing, dynamic programming and simulation. Prerequisite: 311.

357 Nonparametric Methods for Business (3)
An introduction to nonparametric techniques with applications in such areas as marketing research, management science, production, and finance. Computer applications. Prerequisite: 212.

410 Industrial Relations (3)
Union-management relations including the legal framework, the techniques and practices used, and a bargaining simulation. Prerequisites: 332, senior standing.

434 Problems in Personnel Management (3)
A case course in human relations dealing with problems drawn from actual business experience. Prerequisite: 332.

435 Wage and Salary Administration (3)
Job evaluation using both quantitative and nonquantitative methods. Control of wages and salaries. Wage incentive principles and systems. Actual application of job evaluation techniques. Prerequisites: 315, senior standing or permission of instructor.

438 International Management (3)
A case course exploring the differences in managerial techniques involved in operations in foreign cultures. Particular attention given to the constraints imposed as a result of different cultural, educational, legal, and economic systems. Prerequisite: 315.

440 Business Policy (3)
An integrating course using cases for management decision-making and management simulation. A culminating educational experience for the senior. Prerequisites: 311, 315; Finance 302; Marketing 313; senior standing. May not be used for graduate 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. Course graded on a pass-fail basis. Prerequisite: senior standing.

451 Production Planning and Control (3)
A study of the principles and practices of production; planning and control covering objectives, policies, and techniques. The planning and control of production in a variety of manufacturing systems is examined. Prerequisite: 311 or permission of instructor.

452 Problems in Production (3)
A case course designed to show the relationship of production problems to other functions of business such as finance, personnel, and marketing. Prerequisites: 356, Finance 302, senior standing or permission of instructor.

454 Comparative Industrial Systems (3)
Observes, discusses, and describes the problems, techniques, and economics of a variety of different types of production organizations. Combines class work with field trips through factories in the area. Prerequisite: 311 or permission of instructor.

456 Business Forecasting (3)
A basic analysis of the forecasting process and an exposure to the fundamental techniques. A series of business cases to illustrate forecasting in such areas as marketing, production, finance, and general management. Emphasis on forecasting at the firm and industry level. Computer applications for the individual forecasting techniques. Prerequisites: 311, Finance 302, Marketing 313, or permission of instructor.

460 Information Systems (3)
Systems and information concepts; structure of systems in organizations; systems tools; decision making; data base concepts; information systems analysis and design; implementation; decision support systems; societal issues. Prerequisites: 311, Accounting 202, Computer Science 210.

49r Department Honors (1-3 hours per terms, 4 hours for the two terms)

497 Research (1-3)

49r Individual Studies (1-3)

49r Group Studies (1-3)

Marketing

Professor Casavant, Head
Professor Reid
Associate Professor Himes
Assistant Professors Haynes, Reagan, Williams

The marketing curriculum is designed to prepare students for careers in both the public and private sectors as well as for graduate studies.

Business Administration (B.S.):
Marketing concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (9 hours)

Category C
2 approved behavioral or social science courses other than economics (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity
**Major and related courses**

6 hours selected from Political Science C101, Psychology C101, or Sociology C151
Mathematics 1351, F136
Computer Science 210
One course from English 277, 300, 410, or Office Administration 310 (minimum of 8 hours in written communication including required courses in Category A)
37 hours common body of knowledge from the School of Business Administration including: Accounting 201, 202; Economics 101, 102; Finance 302; Management 211, 212, 311, 315, 440, 441; Marketing 313, 335

**Marketing concentration:**

18 hours including Management 356; Marketing 365, either 3612 or 3622, 450, 461; Economics 425
6 hours chosen from Marketing 318, 319, 361, 362, 363, 364, 415, 417, 430
2.0 average in all marketing courses

A minimum of 54 hours of the total 128 must be taken at the 300-400 level
Electives to complete 128 hours
Maximum of 72 hours total accepted in School of Business Administration courses; i.e., at least 56 hours other than School of Business Administration courses must be completed

If exempted, student may take Mathematics F136.
2Either 361 or 362 is required. The course not chosen to meet this requirement may be taken as elective.

**Typical course of study in business administration (B.S.): marketing concentration**

The program for the first two years in business administration is the same for all concentrations and is designed to do two things: (1) Give the student background in the basic disciplines and areas required to fulfill the general education requirements of the University and (2) prepare a foundation for the advanced courses in business administration to be taken during the junior and senior years.

**First Semester**

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<table>
<thead>
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<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>Economics 101</td>
<td>3</td>
<td>Economics 102</td>
</tr>
<tr>
<td>Mathematics 1351</td>
<td>3</td>
<td>Mathematics F136</td>
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<td>General Education Category A</td>
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<tr>
<td>Physical Education 021</td>
<td>1</td>
<td>Computer Science 210</td>
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<td>General Education Categories1</td>
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<td>General Education Activity</td>
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<td>13-16</td>
<td>16-19</td>
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**Second Semester**

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<tbody>
<tr>
<td>Sophomore</td>
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<tr>
<td>B Accounting 201</td>
<td>3</td>
<td>B Accounting 202</td>
</tr>
<tr>
<td>B Management 211</td>
<td>3</td>
<td>B Management 212</td>
</tr>
<tr>
<td>General Education Category D</td>
<td>4</td>
<td>Office Administration 310 or Equivalent</td>
</tr>
<tr>
<td>General Education Categories3</td>
<td>3-9</td>
<td>General Education and Electives</td>
</tr>
<tr>
<td></td>
<td>13-19</td>
<td>15-18</td>
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**Junior**

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<tbody>
<tr>
<td>B Finance 302</td>
<td>3</td>
<td>B Management 315</td>
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<tr>
<td>B Management 311</td>
<td>3</td>
<td>B Management 356</td>
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<tr>
<td>B Marketing 335</td>
<td>3</td>
<td>B Marketing 361 or 3622</td>
</tr>
<tr>
<td>B Marketing 313</td>
<td>3</td>
<td>B Marketing 365</td>
</tr>
<tr>
<td>Electives</td>
<td>3-6</td>
<td>Electives</td>
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<tr>
<td></td>
<td>15-18</td>
<td>15-18</td>
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</table>

**Senior**

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<table>
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<tr>
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<tbody>
<tr>
<td>Economics 425</td>
<td>3</td>
<td>B Management 440</td>
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<tr>
<td>B Marketing 450</td>
<td>3</td>
<td>B Management 441</td>
</tr>
<tr>
<td>Marketing Electives</td>
<td>3-6</td>
<td>B Marketing 461</td>
</tr>
</tbody>
</table>

**Marketing Electives (any 6 hours):**

- B Marketing 318
- B Marketing 364
- B Marketing 319
- B Marketing 415
- B Marketing 361
- B Marketing 417
- B Marketing 362
- B Marketing 430
- B Marketing 363

1A minimum of 54 hours of the total 128 must be taken at the 300-400 level.

If exempted, student may take Mathematics F136.
2Six hours must be selected from Political Science C101, Psychology C101, or Sociology C151.
3Either Marketing 361 or 362 is required. The course not chosen to meet requirement may be taken as elective.

**Marketing Courses**

**313 Basic Marketing (3)**
Principles and methods involved in the movement of goods and services from producers to consumers; strategies the firm may use to take advantage of market opportunities; how the social, political, and economic environment alters these market opportunities. Prerequisites: Economics 707, 702; junior standing.

**318 International Marketing (3)**
Management of the international marketing activities of the firm. Planning, organizing, and implementing international marketing programs for industrial and consumer goods. Emphasis on the influence of environmental differences on marketing decisions in various countries. Prerequisite: 313.

**319 The Logistics of Physical Distribution (3)**
The interaction and interdependence of transportation, warehousing, order processing, inventory control, packaging, and plant location in the effective and efficient movement of products and services from producer to consumer. Prerequisite: 313.

**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.

**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.

**355 Fundamentals of Purchasing (3)**
The role of purchasing and materials management in modern business organizations; planning, policies, procedures, and control of purchasing operations; inventories and their control; buying for institutions and government purchasing. Prerequisites: junior standing or permission of instructor.

**361 Principles of Selling (3)**
Basic principles of selling and their practical application to sales situations. The economic and psychological motivations underlying customer purchases and product performance as they affect sales of industrial and consumer goods and services. Prerequisite: 313.

**362 Advertising (3)**
The nature of advertising, its role in society and in demand-stimulation. A conceptual foundation is made upon which specialized knowledge can be built. Research, copy, layout, production, budgeting, advertising organization, and the history and economics of advertising are covered. Prerequisite: 313.

**363 Sales Management (3)**
Sales department organization and its relation to other departments; the sales manager; sales planning and forecasting; territories; selection and
118—Office Administration

training of salespeople; sales policies; analysis and control of
distribution costs; the organizing, controlling, motivation, and
evaluation of the field sales force to accomplish market objectives. 
Prerequisite: 313.

364 Retailing (3)
Organizing, financing, staffing, and operating retail institutions.
Prerequisites: 313, junior standing.

365 Consumer Behavior (3)
An analysis of consumer motives, attitudes, expectations, buying
behavior, market adjustment, and product innovation, including a
survey of related explanatory theories. The decision-making process by
consumers is evaluated with reference to economic and socio-
psychological factors. Prerequisites: 313, junior standing.

415 Industrial Marketing (3)
Determination of market opportunity; planning of marketing effort;
industrial product pricing; financing; managing the industrial sales
force; legal aspects. Prerequisite: 313.

417 Distribution Channels (3)
Distribution channels, formal and informal business organizations
which effect the transfer of possession and title of goods and services
from producers to users. The development of channels, functional and
behavioral dimensions, environmental forces, power, conflict and
communication within the channel. Current and future trends in the
development and management of channels. Prerequisite: 313.

430 Entrepreneurship and Enterprise (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. Prerequisites: 313 and Finance 302, or permission of
instructor.

450 Marketing Research (3)
Study of the role of research in marketing decision-making; the research
process; scientific method; analysis and interpretation of research
findings. Prerequisites: 313, Management 212.

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. Prerequisite:
313.

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

497 Research (1-3)

498r Individual Studies (1-3)

499r Group Studies (1-3)

Office Administration/ Business Education

Professor Ettkin, Acting Head
Associate Professors Nixon, West

The office administration curriculum leading to the Bachelor of Science degree is designed to prepare students for careers as secretaries or office managers in business. The curriculum provides essential skills for employment opportunities in either of the following concentrations: office management, secretarial science.

Business Administration (B.S.): Office Management concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one
from either (3 hours each)

Category C
2 approved behavioral or social science courses other than economics (6
hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours: approved related course
below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical
education activity

Major and related courses
6 hours selected from Political Science C101, Psychology C101, or
Sociology C151
Mathematics 135, F136
Computer Science 210
37 hours common body of knowledge from the School of Business Administration including Economics 101, 102; Accounting 201, 202;
Finance 302; Management 211, 212,311, 315,440,441; Marketing 313,
335
18-21 hours office administration including 121, 309, 310, 400, 410, 450
and 460
Students who have had previous training in typewriting may be
exempted from Office Administration 121.
2.0 average in all office administration courses

Minimum of 54 hours of 300 and 400 level courses
Maximum of 72 hours accepted in School of Business Administration
courses; i.e., at least 56 hours other than School of Business Administra-
tion courses must be completed
Electives to complete 128 hours
Typical course of study in business administration (B.S.): office management concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
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<tr>
<td>General Education Category A 3</td>
<td>General Education Category A 3</td>
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<tr>
<td>Economics 107 3</td>
<td>Mathematics 107 3</td>
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<tr>
<td>Office Administration 121 3</td>
<td>Computer Science 210 3</td>
</tr>
<tr>
<td>Physical Education 021 1</td>
<td>Physical Education Activity 1</td>
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<tr>
<td>Humanities Elective 3</td>
<td>Fine Arts Elective 1</td>
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<tr>
<td><strong>Sophomore</strong></td>
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<tr>
<td>Mathematics F136</td>
<td>B Management 211</td>
</tr>
<tr>
<td>B Accounting 201</td>
<td>B Accounting 202</td>
</tr>
<tr>
<td>Office Administration 310</td>
<td>Humanities/Fine Arts Elective</td>
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<tr>
<td>Behavioral/Social Science Elective</td>
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<td></td>
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<tr>
<td><strong>Junior</strong></td>
<td></td>
</tr>
<tr>
<td>B Management 212 3</td>
<td>Office Administration 309 3</td>
</tr>
<tr>
<td>B Marketing 335 3</td>
<td>Office Administration 410 3</td>
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<tr>
<td>B Marketing 313 3</td>
<td>B Management 311 3</td>
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<tr>
<td>Electives 6</td>
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<tr>
<td><strong>Senior</strong></td>
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<tr>
<td>Office Administration 400 3</td>
<td>Office Administration 460 3</td>
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<tr>
<td>Office Administration 450 3</td>
<td>B Management 440 3</td>
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<td>B Management 315 3</td>
<td>B Management 441 1</td>
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<tr>
<td>B Finance 302 3</td>
<td>Perspectives Elective 3</td>
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<tr>
<td>Elective 3</td>
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</tbody>
</table>

Minimum of 54 hours of 300 and 400 level courses
March 30 hours office administration including Economics 101, 102; Accounting 201, 202; Finance 302; Management 211,212,311,315,440,441; Marketing 313, 335

MCT score must be 19 or greater in order to waive Mathematics 107. If exempted from Math 135, may take only F136.

Placement test required.

Business Administration (B.S.): Secretarial Science concentration

Note: The faculty of the School of Business Administration has voted unanimously to eliminate the concentration in secretarial science. This recommendation has been forwarded to the University curriculum committee.

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than economics (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category G
1 approved perspectives course (3 hours)

Typical course of study in business administration (B.S.): secretarial science concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
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<tr>
<td>General Education Category A 3</td>
<td>General Education Category A 3</td>
</tr>
<tr>
<td>Economics 107 3</td>
<td>Mathematics 107 3</td>
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<tr>
<td>Mathematics 135 3</td>
<td>Mathematics 135 3</td>
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<tr>
<td>Office Administration 121 3</td>
<td>Office Administration 121 3</td>
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<tr>
<td>Physical Education Activity 1</td>
<td>Physical Education Activity 1</td>
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<tr>
<td>Humanities Elective 3</td>
<td>Fine Arts Elective 3</td>
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<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Mathematics F136</td>
<td>B Management 211</td>
</tr>
<tr>
<td>B Accounting 201</td>
<td>B Accounting 202</td>
</tr>
<tr>
<td>Office Administration 228</td>
<td>Behavioral/Social Science Elective</td>
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<tr>
<td><strong>Junior</strong></td>
<td></td>
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<tr>
<td>B Management 212</td>
<td>Office Administration 309</td>
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<td>Office Administration 310</td>
<td>B Marketing 335</td>
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<td>Office Administration 229</td>
<td>B Management 311</td>
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<td><strong>Senior</strong></td>
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<tr>
<td>Office Administration 400 3</td>
<td>B Management 440 3</td>
</tr>
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<td>B Management 315 3</td>
<td>B Management 441 3</td>
</tr>
<tr>
<td>B Finance 302 3</td>
<td>Perspectives Elective 3</td>
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<td>Elective 3</td>
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Minimum of 54 hours of 300 and 400 level courses
March 30 hours office administration including Economics 101, 102; Accounting 201, 202; Finance 302; Management 211,212,311,315,440,441; Marketing 313, 335

MCT score must be 19 or greater in order to waive Mathematics 107. If exempted from Math 135, may take only F136.

Placement test required.
### Office Administration/Business Education Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>109</td>
<td>Business Mathematics (3)</td>
<td>Fundamental fractions, percentage, interest, bank discount, insurance, graphs, square root, and other aspects of mathematics important in business control and statistical research.</td>
</tr>
<tr>
<td>121</td>
<td>Keyboarding (3)</td>
<td>Includes learning the keyboard, operating the parts of the machine, writing of different styles of business letters, manuscript copy, and tabulation. Class 3 hours, laboratory 2 hours. Terminal speed required is 30 wpm/three minute timing with three errors.</td>
</tr>
<tr>
<td>125</td>
<td>Elementary Shorthand (3)</td>
<td>A study of Gregg shorthand theory with emphasis on reading and dictation from the beginning. Class 4 hours. Prerequisites: typing speed of 30 net words a minute or corequisite: 121.</td>
</tr>
<tr>
<td>199r</td>
<td>Special Projects (1-4)</td>
<td>Individual or group projects. Maximum credit 4 hours.</td>
</tr>
<tr>
<td>220</td>
<td>Microcomputing Applications in Office Administration (3)</td>
<td>Designed to familiarize students with office equipment to include word processing equipment and transcribing machines. Class 3 hours, laboratory 2 hours. Prerequisite: 121 or one year of high school typewriting.</td>
</tr>
<tr>
<td>223</td>
<td>Secretarial Office Typewriting (3)</td>
<td>A thorough review of writing business letters, manuscript copy, tabulation, business reports, legal documents. Emphasis on speed development and production. Class 3 hours, laboratory 2 hours. Prerequisite: 121 or one year of high school typewriting.</td>
</tr>
<tr>
<td>227</td>
<td>Intermediate Shorthand (3)</td>
<td>Dictation and transcription with a review of theory and with a speed of 90 words a minute on new material with 95 percent accuracy required. Prerequisites: 121, 125, or 2 years of high school typewriting and shorthand.</td>
</tr>
<tr>
<td>228</td>
<td>Transcription (3)</td>
<td>Dictation and transcription with a further review of theory and vocabulary; speed of 100 words a minute on new material with 95 percent accuracy required. Prerequisites: 223 and 227.</td>
</tr>
<tr>
<td>229</td>
<td>Office Procedures (3)</td>
<td>The role of the office employee in facilitating managerial operations. Considerations include improving human relations, information retrieval systems, handling correspondence, arranging schedules and itineraries, using communication media effectively, and simplification of office tasks. Prerequisites: 121, 220.</td>
</tr>
<tr>
<td>309</td>
<td>Records and Information Management (3)</td>
<td>Study of problems related to the selection of equipment and systems used for information storage and retrieval, including automated and nonautomated filing; microfilming systems; tape processing; forms design; retention and disposal of records; and supervision, standards and work measurement. Spring only, offered alternate years.</td>
</tr>
<tr>
<td>350r</td>
<td>Office Administration Internship (1-4)</td>
<td>A supervised work experience program designed to strengthen the student’s technical competencies and fundamental knowledge in Office Administration. Repeatable up to 4 hours. Prerequisite: permission of department head.</td>
</tr>
<tr>
<td>400</td>
<td>Office Management (3)</td>
<td>Office management and organization; office controls; forms and layout; management supervision of personnel and service units. Fall only, offered alternate years. Prerequisite: 310 or permission of instructor.</td>
</tr>
<tr>
<td>410</td>
<td>Administrative Communications (3)</td>
<td>Study of business communications including inter-office memos; minutes of meetings; newspaper articles; oral presentations; and report writing, including tabular and graphic presentation of data essential to writing formal business reports. Spring only, offered alternate years.</td>
</tr>
<tr>
<td>450</td>
<td>Office Information Systems (3)</td>
<td>Study of the relationships of the various types of office systems and the application of classroom learning to the problems of analyzing and determining appropriate office systems for various kinds of business. Fall only, offered alternate years. Prerequisite: 309 or permission of instructor.</td>
</tr>
<tr>
<td>460</td>
<td>Seminar: Problems in Office Management (3)</td>
<td>Selected topics from the following: systems analysis, form design, records, mechanization, correspondence, supervision, work simplification, training work measurement. Spring only, offered alternate years. Prerequisite: 400 or permission of instructor.</td>
</tr>
<tr>
<td>495r</td>
<td>Departmental Honors (1-3 hours per term, 4 hours for the two terms)</td>
<td>See &quot;Departmental Honors,&quot; page 31.</td>
</tr>
<tr>
<td>497r</td>
<td>Research (1-4)</td>
<td></td>
</tr>
<tr>
<td>499r</td>
<td>Individual Studies (1-4)</td>
<td></td>
</tr>
<tr>
<td>499r</td>
<td>Group Studies (1-4)</td>
<td></td>
</tr>
</tbody>
</table>
School of Education

Professor Stinnett, Dean
Associate Professor D. Baker, Director of Student Teaching and Certification Officer

The primary goal of the School of Education is to prepare qualified people to be professional educational leaders in various roles within educational institutions and similar agencies, both public and private.

All teacher certification programs through the master's level are fully accredited by the National Council for Accreditation of Teacher Education and the Tennessee State Department of Education.

Successful completion of all degree requirements of any undergraduate program administered by the School of Education, excluding the recreation specialist, qualifies the graduate for initial certification in Tennessee.

The School of Education is organized into four departmental units for academic programming, communications, and administrative accountability. Each unit has a department head who serves as the official spokesperson and administrative head responsible for all programs, faculty, and activities assigned to that particular department. Since a department may have several programs or activities within its jurisdiction, certain faculty are identified as program leaders of specific program areas. Names of the program leaders may be obtained by contacting the department head responsible for the particular program or the School of Education office.

Curriculum and Instruction
Associate Professor Bartoo, Head
Professors B. Benson, Bibler, W. Butterfield
Associate Professors Hunt, Kingdon, Renneisen
Assistant Professors Area, Snyder, Wofford

Educational Administration and Supervision
Associate Professor Whitaker, Head
Professors L. Davis, Hales, Hyder, Whittacre
Associate Professor D. Baker

Health, Physical Education and Recreation
Associate Professor Norred, Head
Professors Stinnett, L. Fanning
Associate Professors Ezell, Ford
Assistant Professor Norris
Instructors Jadin, Shea, Underwood

Special Education and Counseling
Professor E. Davis, Head
Professor De Vivo
Associate Professors Fowler, T. Miller
Assistant Professors J. Davis, Ligon, Marotz, Sitzman, Taylor

Courses of Study
Undergraduate—The School of Education offers approved undergraduate programs leading to the Bachelor of Science degree with a major in education and to eligibility for teacher certification in Tennessee and in those states which grant reciprocity privileges to graduates of institutions accredited by NCATE. Courses of study include:

- Early childhood education
- Elementary education
- Music education
- Special education (noncategorical)
- Secondary education with concentrations in art education (BFA), biology, business, chemistry, earth and space science, economics, English, foreign languages (French, Latin, Spanish), health and physical education, history, home economics, mathematics, physics, political science, psychology, and sociology.

In addition to initial certification, the school offers the following certificate endorsement areas:

- Art education; elementary education; early childhood education; music education; special education; secondary education: biology, chemistry, earth and space science, economics, English, foreign language (French, Latin, Spanish), general science, health (K-12), physical education (grades 7-12), history, mathematics, physics, political science, psychology, sociology, social science. Contact the certification officer for details.

Graduate—The School of Education, through the UTC Graduate Division, offers NCATE accredited and Tennessee approved programs which lead to the Master of Education degree (M.Ed.). For further information refer to the UTC Graduate Bulletin and the Office of Graduate Admissions.

Also, any student desiring to pursue doctoral-level study in education or to gain admission to candidacy for the Doctor of Education (Ed.D.) or the Educational Specialist degree (Ed.S.) granted by The University of Tennessee, Knoxville, may complete all degree requirements at the UTC campus. For further information contact the director of the UTK Graduate Education Center located in 105 Hunter Hall.

Admission to Teacher Education Program (TEP)
Applicants who demonstrate evidence of possessing 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 a transfer student who is required to complete a semester of study at UTC before the application will be reviewed by the TEP Committee. Applications must be filed no later than the student's completion of 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 400-level professional education courses. Freshman and sophomore students, prior to formal application to the teacher education program, must consult with an adviser in the School of Education to plan their programs. This advisory procedure also applies to every student seeking teacher certification.

A post-baccalaureate or transfer student must meet all of the official admission standards set by UTC, the State Department of Education, and those School of Education requirements for admission to TEP effective at the time of entry to the TEP. A student who has earned a degree or earned 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 certification or endorsement is being requested through a UTC recommendation of approval. Any student seeking admission to the TEP is encouraged to confer with a faculty adviser from the School of Education and, preferably, with an adviser from the particular department in which the program of study being pursued is located to ensure that the appropriate course work and admission criteria have been completed.

To be admitted to the TEP prior to September 1, 1986, a student must have met the following requirements:

1. Filed a formal application signed by a School of Education faculty adviser. Application forms may be obtained from the TEP office.
2. Filed a medical certification record signed by a licensed physician. Form may be obtained from the TEP office.
3. Earned a 2.25 cumulative grade point average and a 2.25 average on all courses taken at UTC. A student officially admitted to the Teacher Education Program (TEP) after September 1, 1986, must have established a 2.5 minimum overall grade point average on all college-level courses attempted.
4. Demonstrated competency in basic English communication skills. Evidence of competency is verified by the applicant's writing an acceptable essay on a topic assigned by the TEP office and evaluated by a faculty committee. Essays may be written on any Friday from 8:30 A.M.-4:00 P.M. in the TEP office.
5. Shown evidences of reasonable physical fitness, emotional maturity, high moral character, and a commitment to professional education. Violations of the honor code or student behavior policies as stated within the current UTC Student Handbook may be reviewed by the TEP Committee.
6. Demonstrated competency in reading skills. Verification of this competency is met by the student passing the California Achievement Test Battery at the 12th grade level. A transfer student, a post-baccalaureate student, or any student who has not taken this test should refer to the TEP office for an appointment to complete the test.
7. Filed in the TEP office results of the speech and hearing test, which will be arranged by the TEP office. The student will be notified by mail of the appointment date, time, and location. A fee is assessed for this service by the Chattanooga Speech and Hearing Center.
8. Completed the California Achievement Test Battery (basic skills in language arts, reading, and mathematics) and earned at least the minimum score on each section as mandated by the state Board of Education for the particular year in which the battery is taken.

The final responsibility for satisfying each and all of these requirements for official entry in the TEP rests with the student.

The TEP office will notify by letter each applicant and his or her faculty adviser (and department head of the teacher education degree being sought by the applicant) of the action taken by the TEP Committee.

Only two types of action are taken by the TEP Committee on applications submitted: approval or rejection. An applicant who is rejected will be notified of the requirement(s) not fulfilled, and the applicant should take the necessary action as quickly as possible to satisfy the designated requirement(s) for approval.

The teacher education program (TEP) office is located in 212 Hunter Hall.

State Board of Education

Effective November 1978, the Tennessee State Board of Education mandated that all students preparing for a teaching career in Tennessee must pass a standardized test of basic skills (mathematics, reading, and language), the California Achievement Test Battery, prior to official admission to the teacher education program. UTC will administer this specified battery of tests at the beginning of each semester to permit students planning to enter teacher education programs to fulfill this certification requirement set forth by the state Board of Education. Furthermore, the state board mandated retesting criteria for applicants taking the standardized test of basic skills:

1. If an applicant for candidacy to the TEP fails to pass any required area of the standardized test battery, the test for that area may be retaken after remediation for at least one semester following the initial testing.
2. If an applicant fails any part of the required test battery on the second testing, then at least one academic year (two consecutive semesters) must be spent in remediation before retesting is permitted. Candidates retaking any portion of the test must attain cut-off scores in effect at the time retesting occurs.
3. Candidates failing to meet the standards after three attempts shall not be admitted to TEP candidacy. However, after a period of at least three years the student may again start the series of tests.

UTC is committed to strict adherence to these state Board of Education policies regarding these criteria.
And finally, the state Board of Education made (effective January 1981) the National Teacher Examinations (NTE) a prerequisite for granting the teacher's professional certificate. At this time, only the "Core Battery" section of this examination is required for initial certification; yet, many school systems within Tennessee—as well as other states—require that teachers employed by their systems also take the specialty area examinations in those areas for which they are seeking employment. Consequently, students are advised to take both the "core battery" and specialty area sections.

The NTE battery of examinations is given on campus through the UTC Counseling Center at least two times a year in accordance with the schedule published by the Educational Testing Service of Princeton, New Jersey, for nationwide administration of the test. Information, bulletins, and applications for the NTE are available in the UTC Office of Institutional Research and Planning, 30 Founders Hall.

**Admission to Student Teaching**

The application for admission to the student teaching semester must be filed with the director of student teaching (212 Hunter Hall) no later than six months preceding the actual experience. For example, 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 July 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 TEP; therefore, a student should apply for student teaching to comply with the required deadline dates. A student, however, will not be permitted to actually student teach until he or she has fulfilled all requirements for admission to the TEP.

Before gaining official approval for admission to the student teaching semester from the School of Education, the student must have fulfilled the following requirements:

1. Gained official admission to the TEP one semester prior to the actual student teaching semester.
2. Completed student teaching application with signature of assigned faculty adviser (in triplicate).
3. Satisfactorily completed appropriate professional education core courses.
4. Satisfactorily completed at least 90 percent of course work completed in endorsement area(s). If the percentage of course work completed is questionable, director of student teaching and appropriate department head within School of Education will make the decision.
5. Received recommendation of the major departments (for a degree candidate in Secondary Education or K-12 initial certification, the recommendation of the department in which the teaching area concentration is based).
6. Maintained a minimum grade point average of 2.25 on courses completed at UTC and a cumulative 2.25 grade point average along with senior standing. The students admitted to TEP after September 1, 1986, must maintain a 2.5 cumulative CPA and a 2.5 at UTC for admission to student teaching.
7. Demonstrated competency in manuscript and cursive handwriting. This requirement applies to all Elementary, Early Childhood, and Special Education majors (assessment of these skills will be completed during EDCI 403).
8. Completed a biographical sketch (in triplicate to be returned with completed application for student teaching to the TEP office).

Final responsibility for insuring that all of these requirements are fulfilled prior to being admitted to student teaching rests with the student.

**Student Teaching**

The professional semester schedule sequence in which student teaching usually occurs includes these courses:

- Elementary Education—EDCI 405, 407, 423
- Early Childhood—EDCI 407, 419, 423
- Special Education—EDSP 440, 461, 465, 469
- Secondary Education—EDCI 436, 437, 438

All education majors, excluding those concentrating in special education, will student teach for a full semester (16 weeks). Placement of a student will include an inner-city and a suburban/rural school environment divided equally during the semester. In addition to the opportunity for dual locations, the student teacher will be expected to teach on two distinct grade levels when possible. For example, the elementary student teacher will teach in one of grades 1-3 for half of the semester and in one of grades 4-6 during the other half of the semester. Secondary student teachers will be assigned to a junior high or upper middle school, grades 7-9, for one-half semester and to a high school, grades 10-12, for the other half.

When appropriate and educationally feasible, the secondary student teacher may teach a different subject matter concentration for which he or she has been professionally prepared.

Special Education majors are scheduled for EDSP 440, 461, 465 during the first half of the semester and conclude the semester enrolled in EDSP 469.

Student teaching is evaluated on a satisfactory/fail basis. A student not satisfactorily completing student teaching will receive a failing grade and will have the opportunity to repeat the course.

Department heads have the opportunity to recommend placements for a student teacher and the student may request a particular school(s); however, final authority for the student teaching placement and teaching assignment rests with the director of student teaching and dean. A student is never placed in the school from which he or she graduated or under the supervision of a close family relative.

**Student Teaching Orientation**

General orientation seminars concerning student teaching and the professional education semester are held for all prospective student teachers during the semester immediately preceding the student teaching
experiences semester. Each candidate is required to attend these scheduled conferences. Particular dates and locations for these conferences may be learned from reviewing the student teaching bulletin board at the TEP office, 212 Hunter Hall.

Recommendation for Certification

The School of Education will recommend certification for only those students who have successfully completed one or more of the UTC initial certification or endorsement programs approved by the Tennessee State Department of Education. Application for a professional teacher's certificate should be completed during the last week prior to graduation. Application forms may be obtained from the Office of Records, 128 Hooper Hall.

Application for a Tennessee Teacher's Professional Certificate must have been completed within the 5-year period preceding the issuance of the certificate; otherwise, the applicant must have earned 8 semester or 12 quarter hours of resident credit within the last year.

Tennessee state regulations stipulate that the applicant for a professional certificate must be recommended by the designated certifying officer or dean of an approved teacher training institution. To receive this recommendation, the applicant must have fulfilled the following requirements:

1. A minimum cumulative grade point average of 2.5.¹
2. Satisfactory student teaching performance.
3. A minimum grade point average of 2.5 in the teaching fields and in all professional education courses with no grade less than C.¹
4. Official admission to the TEP and fulfillment of all special recommendations set forth by the TEP Committee and specific departmental requirements in the area(s) of concentration (refer to particular departmental program or course of study).
5. Completion of the National Teachers Examinations (NTE) with earned scores no less than the minimum cut-off scores established by the state Board of Education for the particular year in which initial certification is requested (administered by the UTC Office of Institutional Research and Planning—score must be sent to UTC and Office of Certification, Tennessee State Department of Education).

These requirements apply to both undergraduate (B.A. and B.S.) and post-baccalaureate students desiring a certification recommendation from UTC.

The final responsibility for satisfying each and all of these requirements for certification recommendation by UTC rests with the individual applicant.

A person who does not currently hold or has never held a valid professional teacher's certificate must satisfactorily complete a UTC approved endorsement program to earn the official UTC recommendation for certification. To learn of the particular endorsement requirements, a student should inquire through the appropriate departmental office within the School of Education. Written guidelines for earning UTC approval in the various endorsement areas may be obtained from the respective department head responsible for the certification endorsement area being sought.

Any student who anticipates teaching outside of Tennessee is strongly encouraged to request a checksheet of certification requirements from the state Department of Education, Office of Certification, for the state in which he or she plans to teach. This information should be gained by the student before the end of the sophomore year so that an appropriate course of study might be scheduled. Course and competency requirements to satisfy out-of-state certification standards may be in addition to Tennessee certification requirements and UTC approved degree requirements.

Particular attention should be noted, however, for any student who has never held a valid teacher's certificate to the fact that graduation alone from a master's degree program at UTC does not guarantee certification. All certification requirements of the particular state awarding the license must be fulfilled also. In some instances a student may satisfy all of the requirements for the certification endorsement by completion of a state approved master's degree program at UTC.

Application for Teacher Certification

An application for all teacher certification, adding a teaching area, and professional school service personnel endorsement may be obtained from the Office of Records, 128 Hooper Hall. The state Department of Education, Office of Teacher Certification, requires that an application for any type of certification finally approved by that office must be initiated through a Tennessee institution with an approved program. This includes in-state and out-of-state applicants for certification.

UTC does not guarantee that satisfactory completion of a program listed in the UTC Bulletin upon initial admission to the University by the student will meet all of the certification requirements at the time the person applies for certification. This means that UTC will recommend only those applicants who have met all of the certification requirements effective at the time of recommendation.

In view of this Tennessee mandate, a student or any other person seeking teacher certification or endorsement recommendation from UTC is strongly encouraged to confer with the appropriate faculty adviser(s) within the School of Education upon entry into the TEP or as soon as possible to gain faculty assistance in planning course schedules and to learn of the requirements effective at that time or at the projected date of applicant's graduation.

A fact sheet to assist an applicant in completing the certification application is available upon request to the Records Office. Applicants are encouraged to follow closely the procedures listed within this fact sheet to insure completion of all information which will be reviewed by the UTC certification officer and then forwarded to the state Department of Education, Office of Teacher Certification. The teacher's professional certificate is valid for 10 years and is renewable.

Clarification of any of these above mentioned requirements should be referred to the appropriate department head and, finally, to the certification officer, if necessary.

¹ These grade point average requirements apply only to those students officially admitted to TEP after July 1, 1986.
**Career Education Resource Center**

The Career Education Resource Center contains various types of materials for use by students in counseling, practitioners in the field, and teachers who are implementing career education in their curriculum. The center contains career games, sound filmstrips, the complete Information Needed for Occupational Entry system, numerous cassettes, and other pertinent career publications and materials. Materials are geared for grades K-12. The center is located in Hunter Hall and operates under the direction of the Special Education and Counseling Department.

**Center for Environmental/Energy Education**

In conjunction with TVA, the Department of Curriculum and Instruction provides instruction and academic support services for preservice and in-service teacher education programs. Instructional resource materials focusing on environmental and energy education along with professional consultants are also available. The center is located in Hunter Hall on campus.

**Certification Office**

The Certification Office is responsible for processing initial applications and approval of additional endorsements for certification to teach in the state of Tennessee. Students should refer questions concerning certification to the certification officer. This office, located in Hunter Hall, will also provide some assistance in processing certification application to states other than Tennessee.

**Art (B.F.A.): Art Education**

**General Education** (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td>B</td>
<td>3 approved courses other than art: one from humanities, one from fine arts, and one from either (3 hours each), plus courses in humanities/fine arts to total 12 hours in three fields other than history and art</td>
</tr>
<tr>
<td>C</td>
<td>2 approved behavioral science courses (6 hours plus one course to total 9 hours behavioral or social science in two fields other than education; for certification purposes, 3 of the hours may be in history</td>
</tr>
<tr>
<td>D</td>
<td>2 natural science courses to total 8 hours in natural science (one course must be approved laboratory science)</td>
</tr>
<tr>
<td>F</td>
<td>Mathematics F120</td>
</tr>
<tr>
<td>C</td>
<td>1 approved perspectives course (3 hours)</td>
</tr>
</tbody>
</table>

**Major and related courses**

<table>
<thead>
<tr>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>51 hours Art including 101, 103, 105, 106, 205r or 206r, 207, 208, 227, 305r, 323, 324, 333, 343, 400r 6 hours from 211, 212, 431, 432; 3 hours from 213, 414</td>
</tr>
</tbody>
</table>

**Typical course of study in art (B.F.A.): art education**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics F120</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective, Category D</td>
<td>4</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>1</td>
</tr>
<tr>
<td>Art 103</td>
<td>3</td>
</tr>
<tr>
<td>Art 105</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Sophomore</td>
<td></td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
</tr>
<tr>
<td>Humanities</td>
<td>3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 204</td>
<td>3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 205</td>
<td>1</td>
</tr>
<tr>
<td>Art 205r or 206r</td>
<td>3</td>
</tr>
<tr>
<td>Art 207</td>
<td>3</td>
</tr>
<tr>
<td>Art 227</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Apply for student teaching</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category G</td>
<td>3</td>
</tr>
<tr>
<td>ED Special Education 333</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective</td>
<td>3</td>
</tr>
<tr>
<td>Art 305r</td>
<td>3</td>
</tr>
<tr>
<td>Art 323</td>
<td>3</td>
</tr>
<tr>
<td>Art 333</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Art 324</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
</tr>
<tr>
<td>Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>Art History</td>
<td>3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 431</td>
<td>2</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 433</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

**Early Childhood Education (B.S.)**

**General Education** (see pages 26-28 for list of approved courses)

| Category A | 2 approved courses in written communication in the English language (6 hours; approved courses below will apply) |
| Category B | 3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each; approved related courses below will apply) |
| Category C | 2 approved behavioral or social science courses (6 hours; approved course below will apply) |
| Category D | 1 approved physical or natural science course with laboratory (4 hours; approved course below will apply) |
purposes they are recognized by the state Department of Education in different areas. The total hours specified in each area are the state’s minimum requirements. In several areas UTC’s requirements exceed those of the state.

Written and oral communication: total of 12 hours required including 6 hours of English A101, A102 English 228
One course from Theatre and Speech 107,108,109,115
Humanities: total of 12 hours required including 6 hours in English, American, or World Literature
Art 222 and 223
Music 110 or 111 and 321
Behavioral and social sciences (not necessarily corresponding to UTC’s general education categories) 12 hours required including Human Services C101
One approved Category C course
One course from Geography 101,104, or 209
6 hours of History B203 and B204
Natural science: 12 hours with laboratory required including 4 hours of biology including Biology D121
4 hours from physics, chemistry, geology, general science
4 hours of any laboratory science (may include Environmental Studies D150)
Mathematics: 6 hours required including Mathematics F115,116
Health and physical education: 10 hours required including Health courses: HPER 154 and HPER 302
Physical education courses (6 hours required) including: HPER 224 and HPER 330 plus a minimum of two lifetime activities (may include HPER 021)
Professional education: 43 hours required from the School of Education including Curriculum and Instruction 200,201,203,206,320,401,402, 403, 404, 407, 410, 419, 423, and Special Education 332
2.25 average in all School of Education courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

<table>
<thead>
<tr>
<th>Faculty</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biology</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>HPER</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fine Arts Elective</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Human Services</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Music 110 or 111</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Written and oral communication: total of 12 hours required including 6 hours of English A101, A102 English 228
One course from Theatre and Speech 107,108,109,115
Humanities: total of 12 hours required including 6 hours in English, American, or World Literature
Art 222 and 223
Mathematics: 6 hours required including Mathematics F115,116
Health and physical education: 10 hours required including Health courses: HPER 154 and HPER 302
Physical education courses (6 hours required) including: HPER 224 and HPER 330 plus a minimum of two lifetime activities (may include HPER 021)
Professional education: 43 hours required from the School of Education including Curriculum and Instruction 200,201,203,206,320,401,402, 403, 404, 407, 410, 419, 423, and Special Education 332
2.25 average in all School of Education courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Elementary Education (B.S.)

General Education (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
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<tr>
<td>F</td>
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<td>G</td>
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Note: Courses prefixed by letters satisfy the corresponding general education categories above even though for teacher certification purposes they are recognized by the state Department of Education in different areas. The total hours specified in each area are the state’s minimum requirements. In several areas UTC’s requirements exceed those of the state.

Written and oral communication: total of 12 hours required including 6 hours of English A101, A102
One course from Theatre and Speech 107,108,109,115
Humanities: total of 12 hours required including 6 hours in English, American, or World Literature
Art 222 and 223
Mathematics: 6 hours required including Mathematics F115,116
Health and physical education: 10 hours required including Health courses: HPER 154 and HPER 302
Physical education courses (6 hours required) including: HPER 224 and HPER 330 plus a minimum of two lifetime activities (may include HPER 021)
Professional education: 43 hours required from the School of Education including Curriculum and Instruction 200,201,203,206,320,401,402, 403, 404, 407, 410, 419, 423, and Special Education 332
2.25 average in all School of Education courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in early childhood education (B.S.)

<table>
<thead>
<tr>
<th>First Semester</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>English A101</td>
<td>3</td>
</tr>
<tr>
<td>Biology D121</td>
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<tr>
<td>HPER 154</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1</td>
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<tr>
<td>Fine Arts Elective</td>
<td>3</td>
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<tr>
<td>Human Services C101</td>
<td>3</td>
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<tr>
<td>Music 110 or 111</td>
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<tr>
<td>Sophomore</td>
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<tr>
<td>English 228</td>
<td>3</td>
</tr>
<tr>
<td>Art 222</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics Lib</td>
<td>3</td>
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<tr>
<td>ED Curr. &amp; Instr. 203</td>
<td>3</td>
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<tr>
<td>ED Curr. &amp; Instr. 206</td>
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<tr>
<td>History B203</td>
<td>3</td>
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<tr>
<td>Music 110 or 111</td>
<td>3</td>
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<tr>
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</tr>
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</table>

Apply for admission to TEP
Art 223
Speech 3
ED Curr. & Instr. 320
ED Special Education 332
Music 321
History B204

Apply for student teaching
ED Curr. & Instr. 401
Physical Education 330
ED Curr. & Instr. 402
Geography 3
HPER 224
Physical Education Activity 1

Health Education 302
ED Curr. & Instr. 403
ED Curr. & Instr. 404
ED Curr. & Instr. 410
Literature

ED Special Education 407
ED Curr. & Instr. 423
ED Curr. & Instr. 419
General Education Category G 3
Electives 5

ED Curr. & Instr. 410
ED Curr. & Instr. 403
ED Curr. & Instr. 404
ED Curr. & Instr. 410
Edward 302

Elementary Education (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours; approved courses below will apply)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each; approved courses below will apply)

Category C
2 approved behavioral or social science courses (6 hours; approved course below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours; approved course below will apply)

Category F
Mathematics F115

Category G
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses

Note: Courses prefixed by letters satisfy the corresponding general education categories above even though for teacher certification purposes they are recognized by the state Department of Education in different areas. The total hours specified in each area are the state’s minimum requirements. In several areas UTC’s requirements exceed those of the state.

Written and oral communication: total of 12 hours required including 6 hours of English A101, A102
One course from Theatre and Speech 107,108,109,115
Humanities: total of 12 hours required including 6 hours in English, American, or World Literature
Art 222 and 223
Mathematics: 6 hours required including Mathematics F115,116
Health and physical education: 10 hours required including Health courses: HPER 154 and HPER 302
Physical education courses (6 hours required) including: HPER 224 and HPER 330 plus a minimum of two lifetime activities (may include HPER 021)
Professional education: 43 hours required from the School of Education including Curriculum and Instruction 200,201,203,206,320,401,402, 403, 404, 407, 410, 419, 423, and Special Education 332
2.25 average in all School of Education courses
Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours
Physical education courses (6 hours required) including: HPER 224 and HPER 330 plus a minimum of two lifetime activities (may include HPER 201).

Professional education: 40 hours required from the School of Education including Curriculum and Instruction 200,201,203,206,320,401,402,403,404,405,407,423, and Special Education 332.

2.25 average in all School of Education courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

**Typical course of study in elementary education (B.S.)**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
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</tr>
<tr>
<td>English A101</td>
<td>English A102</td>
</tr>
<tr>
<td>Biology 121</td>
<td>Laboratory Science</td>
</tr>
<tr>
<td>HPER 154</td>
<td>ED Curr. &amp; Instr. 200</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>ED Curr. &amp; Instr. 201</td>
</tr>
<tr>
<td>Fine Arts Elective</td>
<td>Mathematics F115</td>
</tr>
<tr>
<td>Human Services C101</td>
<td>Social Science Elective</td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>English 229</td>
<td>Apply for admission to TEP</td>
</tr>
<tr>
<td>Art 222</td>
<td>Art 223</td>
</tr>
<tr>
<td>Mathematics 116</td>
<td>Speech</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 203</td>
<td>ED Curr. &amp; Instr. 320</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 206</td>
<td>ED Special Education 332</td>
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<tr>
<td>History B203</td>
<td>Music 321</td>
</tr>
<tr>
<td>Music 110 or 111</td>
<td>History B204</td>
</tr>
<tr>
<td></td>
<td>19</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
</tr>
<tr>
<td>Apply for student teaching</td>
<td>Health Education 302</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 401</td>
<td>ED Curr. &amp; Instr. 403</td>
</tr>
<tr>
<td>Physical Education 330</td>
<td>ED Curr. &amp; Instr. 404</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 402</td>
<td>Literature</td>
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<tr>
<td>Geography</td>
<td>Elective</td>
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<tr>
<td>Physical Education 224</td>
<td></td>
</tr>
<tr>
<td>Physical Education Activity</td>
<td>15</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>ED Special Education 407</td>
<td>Literature</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 423</td>
<td>Laboratory Science</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 405</td>
<td>General Education Category G</td>
</tr>
<tr>
<td></td>
<td>Electives 3</td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

**Music Education (B.S.)**

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
2 approved courses in written communication in the English language (6 hours)

**Category B**
3 approved courses other than music; one from humanities, one from fine arts, and one from either (3 hours each), plus courses in humanities/fine arts to total 12 hours in three fields other than history

**Category C**
2 approved behavioral or social science courses plus one course to total 9 hours behavioral or social science in two fields other than education; for certification purposes, 3 of the hours may be in history

**Category D**
2 natural science courses to total 8 hours in natural sciences (one course must be approved laboratory science)

**Category F**
Mathematics F120

**Category C**
1 approved perspectives course other than music (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

**Major and related courses**

Note: The state of Tennessee has adopted new certification requirements in Music Education that will become effective in 1988. These requirements may necessitate a change in the distribution of music coursework listed below.


20 hours applied music including: ensemble participation required each semester of residence, with the exception of student teaching semester, minimum 8 hours credit; 8 semesters (8 hours) primary instrumental or vocal study or 6 hours primary and 2 hours secondary; Music 131, 132 plus 141, 142 for piano proficiency

One of the following concentrations—

1. **Instrumental**: Music 221, 3 hours of 223r, 3 hours of 224r; 2 hours of 225r, 226, 307 or 326, 325, 327, 328

2. **Vocal**: 133, 134, 221, 222; 307, 309, 310, 333; 2 hours applied piano study in addition to piano proficiency study

33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 432, 436r, 437, 439; Special Education 333; Music 321

2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

**Typical courses of study in music education (B.S.)**

**Music Education: Instrumental (B.S.)**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>Mathematics F120</td>
<td></td>
</tr>
<tr>
<td>General Education Category A</td>
<td></td>
</tr>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>Category C</td>
<td></td>
</tr>
<tr>
<td>Music 000</td>
<td></td>
</tr>
<tr>
<td>Ensemble-Marching Band</td>
<td>Applied Music (Primary)</td>
</tr>
<tr>
<td>Music 131</td>
<td></td>
</tr>
<tr>
<td>Music 103</td>
<td></td>
</tr>
<tr>
<td>Music 107</td>
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</tr>
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</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>General Education Category D</td>
<td>Apply for admission to TEP</td>
</tr>
<tr>
<td>Physical Education Activity</td>
<td></td>
</tr>
<tr>
<td>Music 000</td>
<td></td>
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<tr>
<td>Ensemble-Marching Band</td>
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<tr>
<td>Music 203</td>
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<td>Music 207</td>
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</tr>
<tr>
<td>Music 223r</td>
<td></td>
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<tr>
<td>Music 226</td>
<td></td>
</tr>
<tr>
<td></td>
<td>17</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
</tr>
<tr>
<td>Apply for student teaching</td>
<td></td>
</tr>
<tr>
<td>Physical Education Activity</td>
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<tr>
<td>General Education Category B</td>
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<td>General Education</td>
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</tr>
<tr>
<td>Category C</td>
<td></td>
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<td>Applied Music (Primary)</td>
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<td>Music 141</td>
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<td>Music 142</td>
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</tbody>
</table>
Secondary Education (B.S.): Biology Concentration

**General Education** (see pages 26-28 for list of approved courses)

**Category A**
2 approved courses in written communication in the English language (6 hours)

**Category B**
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/fine arts in three fields other than history

**Category C**
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education; for certification purposes, 3 of the hours may be in history

**Category D**
1 approved physical or natural science course other than biology with laboratory (4 hours; approved related courses will below apply)

**Category F**
1 approved mathematics course (3 hours; approved related courses below will apply)

**Category G**
1 approved perspectives course (3 hours)

**Major and related courses**
NOTE: The state of Tennessee has adopted new certification requirements in Science Education that will become effective in 1988. These requirements may necessitate a change in the distribution of biology coursework required below.

- Mathematics 135, F136 or F145, F150; Recommended: F145, F150 for prospective graduate students
- 16 hours chemistry including D121, 222, 351, and 352
- Physics D103, 104 or Geology D111, 112
- Recommended: Computer Science 118 or 210
- 26 hours of biology including D121, 222; 8 hours at the 300 level or above; at least 3 hours must be a single course at the 400 level, and one course from each of the following areas—
  - Organismic biology: 207, 225, 226, 311, 342, 352
  - Physiology: 192, 304, 305, 405, 423, 463
  - Population interaction: 306, 416, 450
  - Genetics and development: 303, 315, 325, 425
- 33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436, 437, 438; Special Education 333
- 2.25 average both in teaching fields and in School of Education courses
- Minimum of 30 hours of 300 and 400 level courses
- Electives to complete 128 hours

**Typical courses of study in secondary education (B.S.): biology concentration**

**First Semester**
- **Freshman**
  - Mathematics F120
  - General Education Category A
  - General Education Category C
  - Music 000
  - Choral Ensemble
  - Applied Music (Primary)
  - Music 103
  - Music 107
  - Music 131
- **Sophomore**
  - Physical Education Activity
  - General Education Category B
  - General Education Category C
  - Music 133
  - Music 141
  - Music 203
  - Music 207
  - General Education Category D
  - ED Curr. & Instr. 204
  - ED Curr. & Instr. 205
- **Junior**
  - Apply for student teaching
  - Natural Science
  - General Education Category B
  - Choral Ensemble
  - Music 000
  - Applied Music (Primary)
  - Music 209
  - Music 221
  - Music 251 r
  - Music 307
  - Music 315
- **Senior**
  - ED Curr. & Instr. 432
  - General Education Category G
  - General Education Category C
  - Music 000
  - Choral Ensemble
  - Music 310
  - Music 321
  - Applied Music (Primary)
  - Music Elective

**Second Semester**
- **Freshman**
  - ED Curr. & Instr. 201
  - General Education Category B
  - General Education Category C
  - Music 000
  - Choral Ensemble
  - Applied Music (Primary)
  - Music 210
  - Music 251 r
  - Music 309
  - Music 316
  - Music 333
- **Sophomore**
  - Apply for admission to TEP
  - General Education Category B
  - General Education Category C
  - Music 000
  - Choral Ensemble
  - Applied Music (Primary)
  - Applied Music (Primary)
  - Music 222
- **Junior**
  - ED Curr. & Instr. 321
  - ED Special Education 333
  - General Education Category B
  - Music 000
  - Choral Ensemble
  - Applied Music (Primary)
  - Music 210
  - Music 251 r
  - Music 309
  - Music 316
  - Music 333
- **Senior**
  - ED Curr. & Instr. 439
  - ED Curr. & Instr. 436r
  - ED Curr. & Instr. 437
Secondary Education (B.S.): Business Concentration

General Education (set; pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts and one from either (3 hours each), plus courses to total 12 hours humanities/ fine arts in three fields other than history

Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education (approved related courses below may apply); for certification purposes, 3 of the hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one course must be approve laboratory science)

Category F
Mathematics F120

Category G
1 approved perspectives course (3 hours)

1 approved course outside teaching field from communications, humanities, mathematics, or natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
NOTE: The state of Tennessee has adopted new certification requirements in Business Education that will become effective in 1988. These requirements may necessitate a change in the distribution of business coursework: required below. This distribution will also permit no more than 32 hours of coursework from the School of Business Administration (excluding Economics).

Home Economics 328
Economics C101, C102
Business Management 103; Business: Marketing 335; Business: Accounting 201, 202
Office Administration 109, 121, 223, 310
One of the following areas:
1. Office Administration 125, 220, 227, 228, 229
2. Two additional accounting courses for minimum of 10 hours in accounting. Marketing 336, 3 hours economics elective (hours in economics must total 12 for endorsement in this area)
3 33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436, 437, 438; Special Education 333
2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in secondary education (B.S.): business concentration

First Semester

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
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</tr>
<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics F120</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>3</td>
</tr>
<tr>
<td>Office Administration 129</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective, Category D</td>
<td>4</td>
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<tr>
<td>Perspectives Elective</td>
<td>3</td>
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<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

Second Semester

<table>
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<th>Courses</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>Office Administration 223</td>
<td>3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 201</td>
<td>3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 321</td>
<td>3</td>
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<tr>
<td>ED Curr. &amp; Instr. 431</td>
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<tr>
<td>ED Special Education 333</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Secondary Education (B.S.): Chemistry Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/ fine arts in three fields other than history
### Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education; for certification purposes, 3 of the hours may be in history.

### Category D
1 approved physical or natural science course other than chemistry with laboratory (4 hours; approved related course below will apply)

### Category F
1 approved mathematics course (3 hours; approved related courses below will apply)

### Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

### Major and related courses

**NOTE:** The state of Tennessee has adopted new certification requirements in Science Education that will become effective in 1988. These requirements may necessitate a change in the distribution of chemistry coursework required below.

Mathematics F145, F150, 160
8 hours sequence in biology or geology (must have 8 hours biology for general science certification)
8 hours physics: D103, 104
24 hours chemistry including 121, 122, 341, 351, 352, 371
Recommended electives: Computer Science 121 or 210; Chemistry 443, 466
33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333
2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

### Typical course of study in secondary education (B.S.): chemistry concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
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<tr>
<td>General Education Category A</td>
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<tr>
<td>Humanities Electives</td>
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<tr>
<td>Physics D103</td>
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<td>Chemistry 121</td>
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<tr>
<td>ED Curr. &amp; Instr. 204</td>
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</tr>
<tr>
<td>Behavioral Science Elective</td>
<td>1</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 205</td>
<td>1</td>
</tr>
<tr>
<td>ED Special Education 333</td>
<td>3</td>
</tr>
<tr>
<td>Perspectives Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Sophomore</th>
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</thead>
<tbody>
<tr>
<td>Mathematics F145</td>
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</tr>
<tr>
<td>Chemistry 351</td>
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</tr>
<tr>
<td>Biology D121/Geology D111</td>
<td>4</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 201</td>
<td>3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 200</td>
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</tr>
<tr>
<td>Behavioral Science Elective</td>
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</tr>
<tr>
<td>ED Curr. &amp; Instr. 205</td>
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<tr>
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<td>Chemistry 341</td>
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<tr>
<td>Mathematics 160</td>
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<tr>
<td>ED Curr. &amp; Instr. 321</td>
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<td>ED Curr. &amp; Instr. 321</td>
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<tr>
<td>Behavioral Science Elective</td>
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<td>Elective</td>
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<tr>
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</table>

### Secondary Education (B.S.): Earth and Space Sciences Concentration

#### General Education
(see pages 26-28 for list of approved courses)

**Category A**
2 approved courses in written communication in the English language (6 hours)

**Category B**
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/fine arts in three fields other than history

**Category C**
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education or geography; for certification purposes, 3 of the hours may be in history

**Category D**
1 approved physical or natural science course other than geology with laboratory (4 hours; approved related courses below may apply)

**Category C**
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

### Major and related courses

**NOTE:** The state of Tennessee has adopted new certification requirements in science education that will become effective in 1988. These requirements may necessitate a change in the distribution of earth and space sciences coursework required below.

6-8 hours mathematics from 135, F136 or F145, F150
16 hours biology, physics, or chemistry with at least two areas represented (at least 6 hours biology required for general science endorsement)
4 hours from Astronomy 101 or D102
12 hours Geology including 111 and 225
12 hours Geography 101, 206, 221, 407
Recommended Geology electives: 112, 303, 321, 341
Recommended elective: Computer Science 121 or 210
33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438 Special Education 333
2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

### Typical course of study in secondary education (B.S.): earth and space sciences concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
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<td>Freshman</td>
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<td>General Education Category A</td>
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<tr>
<td>Geography 101</td>
<td>3</td>
</tr>
<tr>
<td>Biology D121 and 122 or Physics/or Chemistry</td>
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</tr>
<tr>
<td>ED Special Education 333</td>
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<tr>
<td>Perspectives Elective</td>
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<tr>
<td>Elective</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</tbody>
</table>
General Education (see pages 26-28 for list of approved courses)

Geology 111
2 natural science courses to total 8 hours in natural sciences (one
approved behavioral or social science courses (6 hours) plus one
approved courses in written communication in the English language (6
hours))

Category B
2 approved behavioral or social science courses (6 hours) plus one
course to total 9 hours behavioral or social sciences in two fields other
than education and economics; for certification purposes, 3 of the
hours may be in history

Category C
2 approved behavioral or social science courses (6 hours) plus one
course to total 9 hours behavioral or social sciences in two fields other
than education and economics; for certification purposes, 3 of the
hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one
course must be approved laboratory science)

Category F
Mathematics F120

Category C
1 approved perspectives course (3 hours)

1 additional course outside teaching field from communications,
humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical
education activity

Major and related courses

NOTE: The state of Tennessee has adopted new certification require-
ments in Social Studies Education that will become effective in 1988. 
These requirements may necessitate a change in the distribution of
economics coursework required below.

Physical Education 021
1 Physical Education Activity
4
15

Sophomore
Geology 225
Astronomy 101 or D102
Behavioral Science Elective
Biology/or Physics
D103/or Chemistry D121
Geography 206

17

Junior
Apply for student teaching
Mathematics 135 or F145
ED Curr. & Instr. 204
Behavioral Science Elective
Geography Elective
ED Curr. & Instr. 205

16-20

Senior
ED Curr. & Instr. 431
ED Curr. & Instr. 433
ED Special Education 333
Geography 407
ED Curr. & Instr. 321
Mathematics F136 or F150

18-19

Secondary Education (B.S.): Economics Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6
hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one
from either (3 hours each), plus courses to total 12 hours humanities/
fine arts in three fields other than history

Category C
2 approved behavioral or social science courses (6 hours) plus one
course to total 9 hours behavioral or social sciences in two fields other
than education and economics; for certification purposes, 3 of the
hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one
course must be approved laboratory science)

Category F
Mathematics F120

Category C
1 approved perspectives course (3 hours)

1 additional course outside teaching field from communications,
humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical
education activity

Major and related courses

NOTE: The state of Tennessee has adopted new certification require-
ments in Social Studies Education that will become effective in 1988. 
These requirements may necessitate a change in the distribution of
economics coursework required below.

24 hours economics including 101, 102, 301, 324, and Business
Management 211
33 hours from the School of Education including Curriculum
and Instruction 200, 201, 204, 205, 321,433,433r, 437,438; Special
Education 333
2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in secondary education (B.S.): economics concentration

First Semester Second Semester

Freshman
General Education Category A 3 General Education Category A 3
Mathematics F120 3 ED Curr. & Instr. 102 3
Physical Education 021 1 Physical Education Activity 1
Economics 101 3 Economics 102 3
Science Elective, Category D 4 Science Elective 4
Humanities/Fine Arts Elective 3 Social Science Elective 3

Sophomore
Perspectives Elective 3 Apply for admission to TEP
Business Management 211 3 Economics 301 3
ED Curr. & Instr. 200 1 ED Curr. & Instr. 204 3
ED Curr. & Instr. 201 3 ED Curr. & Instr. 205 1
Humanities/Fine Arts Elective 3 Humanities/Fine Arts Elective 3
Social Science Elective 3

Junior
Apply for student teaching Economics Elective 3
ED Curr. & Instr. 321 3 ED Curr. & Instr. 321 3
ED Curr. & Instr. 321 3 Economics Elective 12
ED Special Education 333 3 Economics 324 3
ED Special Education 333 3 Economics Elective 3
ED Special Education 333 3 Social Science Elective 3
ED Special Education 333 3 Elective 3

Senior
ED Curr. & Instr. 431 2 ED Curr. & Instr. 436r 2
ED Curr. & Instr. 433 4 ED Curr. & Instr. 437 2
ED Curr. & Instr. 433 4 ED Curr. & Instr. 438 9
Humanities/Fine Arts Elective 3 Economics Elective 3
Social Science Elective 3

Secondary Education (B.S.): English Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6
hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one
from either (3 hours each), plus courses to total 12 hours humanities/
fine arts in three fields other than history

Category C
2 approved behavioral or social science courses (6 hours) plus one
course to total 9 hours behavioral or social sciences in two fields other
than education and economics; for certification purposes, 3 of the
hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one
course must be approved laboratory science)

Category F
Mathematics F120

Category C
1 approved perspectives course (3 hours)

1 additional course outside teaching field from communications,
humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical
education activity

• Students seeking teacher certification in Tennessee in the area of social
studies must complete 6 semester hours in American history, 6 semester
hours in European or world history, and 6 semester hours each in four of
the following fields: economics, geography, political science, sociology,
and psychology (must include Psychology 101 and 331 for psychology
endorsement).
132—Education

Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education; for certification purposes, 3 of the hours may be in history.

Category D
2 natural science courses to total 8 hours in natural sciences (one course must be approved laboratory science)

Category F
Mathematics F120

Category C
1 approved perspectives course other than English (3 hours)

1 additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
3 hours from Theatre and Speech 107, 108, 109, 309
33 hours English including English 203, 207 (or 442r), 229; one course from English 211, 212; one course in American literature; one course from English 360, 361, or 460; English 410 and one course from 408, 412—one of which should be taken in the last term prior to student teaching; 9 additional hours of English, 6 of which must be from 300 and 400 levels
33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333; 1 additional hour of reading
2.5 average in teaching field
2.25 average in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in secondary education (B.S.): English concentration

First Semester | Second Semester
--- | ---
Freshman<br>General Education Category A | 3<br>Mathematics F120 | 3<br>Physical Education 021 | 1<br>Theatre and Speech 107 or 108 or 109 | 3<br>Science Elective, Category D | 4<br>Humanities/Fine Arts Elective | 3<br> | 17<br>Sophomore<br>English 203 | Apply for admission to TEP<br>American Literature | 3<br>ED Curr. & Instr. 200 | 3<br>ED Curr. & Instr. 201 | 3<br>Humanities/Fine Arts Elective Perspectives Elective | 3<br> | 16<br>Junior<br>Apply for student teaching | 3<br>ED Curr. & Instr. 321 | 3<br>English 360 or 361 or 460 | 3<br>English 229 | 3<br>Social Science Elective | 3<br>Elective | 3<br> | 15<br> | 16-18<br> | 18

Secondary Education (B.S.): Foreign Language (French, Latin, or Spanish) Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/ fine arts in three fields other than history and foreign languages

Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education; for certification purposes, 3 of the hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one course must be approved laboratory science)

Category F
Mathematics F120

Category G
1 approved perspectives course other than foreign languages (3 hours)

1 additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
French and Spanish: 22 hours in one language above the second college year
Latin: 21 hours beyond Latin 101, 102, plus 9 hours from Classics 310, 395, 396, 397
33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333
2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in secondary education (B.S.): foreign language concentration

First Semester | Second Semester
--- | ---
Freshman<br>General Education Category A | 3<br>Mathematics F120 | 3<br>Physical Education 021 | 1<br>French 101 | 4<br>Science Elective, Category D | 4<br>Humanities/Fine Arts Elective | 3<br>Elective | 3<br> | 18
### Secondary Education: Health, Physical Education and Recreation Concentrations

See page 140.

### Secondary Education (B.S.): History Concentration*

#### General Education (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirements</th>
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<tbody>
<tr>
<td><strong>Category A</strong></td>
<td>2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td><strong>Category B</strong></td>
<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours from humanities/fine arts in three fields other than history</td>
</tr>
<tr>
<td><strong>Category C</strong></td>
<td>2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education and history</td>
</tr>
<tr>
<td><strong>Category D</strong></td>
<td>2 natural science courses to total 8 hours in natural sciences (one course must be approved laboratory science)</td>
</tr>
<tr>
<td><strong>Category F</strong></td>
<td>Mathematics F120</td>
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</tbody>
</table>

**Category C**

- 1 approved perspectives course other than history (3 hours)
- 1 additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

**Major and related courses**

NOTE: The state of Tennessee has adopted new certification requirements in Social Studies Education that will become effective in 1988. These requirements may necessitate a change in the distribution of history coursework required below.

- 33 hours history including 6 hours History 101, 102; 6 hours American History; History 301
- No more than one-half of the history courses at the 100-200 level
- 33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 312, 431, 433, 436, 437, 438; Special Education 333
- 2.25 average both in teaching fields and in School of Education courses
- Minimum of 30 hours of 300 and 400 level courses
- Electives to complete 128 hours

#### Typical course of study in secondary education (B.S.): history concentration

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<thead>
<tr>
<th>Semester</th>
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<th>Second Semester</th>
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<td>History 101 3</td>
<td>Humanities/Fine Arts Elective 3</td>
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<td>Science Elective, Category D 3</td>
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<td>Humanities/Fine Arts Elective 3</td>
<td>Social Science Elective 3</td>
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<td>Perspectives Elective 3</td>
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<td>American History</td>
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<td>ED Curr. &amp; Instr. 204 3</td>
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<td>ED Curr. &amp; Instr. 312 3</td>
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<td>Social Science Elective</td>
<td>History 301 3</td>
<td>History 300-400 Elective 3</td>
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<tr>
<td>Humanities/Fine Arts Elective</td>
<td>ED Special Education 333 3</td>
<td>ED Curr. &amp; Instr. 333 3</td>
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<td>Perspectives Elective</td>
<td>ED Special Education 333 3</td>
<td>ED Curr. &amp; Instr. 333 3</td>
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<tr>
<td><strong>Junior</strong></td>
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<tr>
<td>Apply for student teaching</td>
<td>History 300-400 3</td>
<td>History 300-400 3</td>
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<td>Electives 10</td>
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<td>ED Special Education 333 3</td>
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<tr>
<td><strong>Senior</strong></td>
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<tr>
<td>History 300-400 3</td>
<td>ED Curr. &amp; Instr. 333 3</td>
<td>ED Curr. &amp; Instr. 333 3</td>
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<td>History 300-400 3</td>
<td>ED Curr. &amp; Instr. 333 3</td>
<td>ED Curr. &amp; Instr. 333 3</td>
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<tr>
<td>History 300-400 3</td>
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<td>History 300-400 3</td>
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<tr>
<td>Elective 3</td>
<td>Elective 3</td>
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</tbody>
</table>

### Secondary Education (B.S.): Mathematics Concentration

#### General Education (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Category A</strong></td>
<td>2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td><strong>Category B</strong></td>
<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/fine arts in three fields other than history</td>
</tr>
</tbody>
</table>
Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education; for certification purposes, 3 of the hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one course must be approved laboratory science)

Category F
1 approved mathematics course (3 hours; approved courses below will apply)

Category C
1 approved perspectives course (3 hours)

1 additional course outside teaching field from communications, humanities, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses

Computer Science 118
Mathematics (F145), F150, 160, 250, 260, 295
18 hours 300 and 400-level mathematics courses including 321, 350 but excluding 415, 416.

2.0 average in all 300 and 400-level mathematics courses

Recommended elective: Mathematics 451, 462

33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333

2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

Typical course of study in secondary education (B.S.): mathematics concentration

First Semester | Second Semester
--- | ---
Freshman | General Education Category A | General Education Category A
Physical Education 021 | ED Curr. & Instr. 200
Mathematics F150 (F145*) | ED Curr. & Instr. 201
Science Elective | Mathematics 160 (F150*)
Humanities/Fine Arts Elective | Mathematics 300-400 Elective
Elective | Elective
| 18 | 19

(Mathematics 160 in summer school — if needed.)

Sophomore

ED Curr. & Instr. 204 | General Education Category A
ED Curr. & Instr. 205 | ED Curr. & Instr. 201
Mathematics 295 | Mathematics 280
Mathematics 250 | Humanities/Fine Arts Elective
Humanities/Fine Arts Elective | Elective
Humanities/Fine Arts Elective | Social Science Elective

| 17 | 16

Junior

Apply for admission to TEP
Apply for student teaching
ED Curr. & Instr. 321 | Mathematics 300-400 Elective
Mathematics 350 | Mathematics 300-400 Elective
Mathematics 321 | Electives
Social Science Elective | Special Education 333
Perspectives Elective | 15

Senior

ED Curr. & Instr. 431 | ED Curr. & Instr. 436r
ED Curr. & Instr. 433 | ED Curr. & Instr. 437

| 15 | 16

Mathematics 300-400 Elective | ED Curr. & Instr. 438
Mathematics 300-400 Elective | Elective
| 15 | 13

*Mathematics sequence may begin with 145 rather than 150 depending on preparation.

Secondary Education (B.S.): Physics Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/ fine arts in three fields other than history

Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education; for certification purposes, 3 of the hours may be in history

Category D
1 approved physical or natural science course other than physics with laboratory (4 hours; approved related course below will apply)

Category F
1 approved mathematics course (3 hours; approved related courses below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses

NOTE: The state of Tennessee has adopted new certification requirements in Science Education that will become effective in 1988. These requirements may necessitate a change in the distribution of physics coursework required below.

Mathematics F145, F150, 160 (250, 260 recommended)
8 hours Chemistry D121, 122
8 hours biology or geology (biology required for general science endorsement)

22 hours physics including 103, 104, 231, 232, 498r or 499r
Recommended physics electives: 301, 303, 307, 318
Recommended elective: Computer Science 210
33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333

22.5 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

Typical course of study in secondary education (B.S.): physics concentration

First Semester | Second Semester
--- | ---
Freshman | General Education Category A | General Education Category A
Physics 103 | Physics 104
Biology D121 or Geology D121 | Biology 122 or Geology 112
Physical Education 021 | Physical Education Activity

| 15 | 13

Apply for student teaching (see pages 26-28 for list of approved courses)

Senior
ED Curr. & Instr. 431 2  ED Curr. & Instr. 436r 2
ED Curr. & Instr. 433 4  ED Curr. & Instr. 437 2
ED Special Education 333 3  ED Curr. & Instr. 438 9
Physics 498 or 499r 3
Perspectives Elective 3 15 13

Junior
Apply for student teaching
Mathematics 160 4  Physics Elective 4
ED Curr. & Instr. 321 3  Humanities/Fine Arts Elective 6
Behavioral Science Elective 3  Behavioral Science Elective 3
Elective 5
Elective 3
17 18

Sophomore
Physics 231 4  Apply for admission to TEP
Mathematics F145 4  Mathematics F150 4
ED Curr. & Instr. 201 3  ED Curr. & Instr. 204 3
ED Curr. & Instr. 200 1  Chemistry 122 4
Chemistry D121 4
16

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/ fine arts in three fields other than history or political science

Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education and political science; for certification purposes, 3 of the hours may be in history

Category D
2 natural science courses to total 8 hours in natural sciences (one course must be approved laboratory science)

Category F
Mathematics F120

Category G
1 approved perspectives course other than political science (3 hours)
1 additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
NOTE: The state of Tennessee has adopted new certification requirements in Social Studies Education that will become effective in 1988. These requirements may necessitate a change in the distribution of political science coursework required below.

3 hours from Political Science 101, 102
Political Science 201

Secondary Education (B.S.): Political Science Concentration*

Freshman
General Education Category A 3
Mathematics F120 3
Science Elective, Category D 4
Humanities/Fine Arts Elective 3
Political Science 101 or 102 3
Electives 6
17

Sophomore
ED Curr. & Instr. 201 3  Apply for admission to TEP
ED Curr. & Instr. 200 1  ED Curr. & Instr. 205 1
Political Science 201 3  ED Curr. & Instr. 204 3
Humanities/Fine Arts Elective 3  General Education Category C 3
Perspectives Elective 3  Political Science 200 Elective 3
Electives 6  History Elective 3
Humans/Fine Arts Elective 3
16

Junior
Apply for student teaching
Sociology 209, 317, 318
ED Special Education 333 3  or 340 3
ED Curr. & Instr. 321 3  Political Science 300 Electives 6
History Elective 3  Elective 3
Political Science 200 Electives 6  Political Science 400 Elective 3
Political Science 300 Elective 3
18

Senior
ED Curr. & Instr. 431 2  ED Curr. & Instr. 436r 2
ED Curr. & Instr. 433 4  ED Curr. & Instr. 437 2
Philosophy 211, 230 or 322 3  ED Curr. & Instr. 438 9
Political Science 400 Electives 9
18

Secondary Education (B.S.): Psychology Concentration*

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

9 hours from political science courses at the 200 level (excluding 201) distributed among three of five subfields
9 hours from political science courses at the 300 level
12 hours from political science courses at the 400 level, with no more than 6 hours from 461r, 462r, 463, 464, 471r
3 hours from Art B111, B211, 212, 213; Modern Languages 100, 110, 120; or Classical Civilization 301, 302
6 hours of history electives approved by the department
3 hours from Philosophy 211, 230, 322
3 hours from Sociology 209, 317, 318, 340
33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333
2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Students seeking teacher certification in Tennessee in the area of social studies must complete 6 semester hours in American history, 6 semester hours in European or world history, and 6semester hours each in four of the following fields: economics, geography, political science, sociology, and psychology (must include Psychology 101 and 331 for psychology endorsement).

Typical course of study in secondary education (B.S.): political science concentration

First Semester
Second Semester

Freshman
General Education Category A 3
Mathematics F120 3
Science Elective 4
Humanities/Fine Arts Elective 3
Physical Education Activity 1
Politics 101 or 102 3
Electives 6
17

Sophomore
ED Curr. & Instr. 201 3  Apply for admission to TEP
ED Curr. & Instr. 200 1  ED Curr. & Instr. 205 1
Political Science 201 3  ED Curr. & Instr. 204 3
Humanities/Fine Arts Elective 3  General Education Category C 3
Political Science 200 Elective 3
Perspectives Elective 3  History Elective 3
Humans/Fine Arts Elective 3
16

Junior
Apply for student teaching
ED Special Education 333 3
ED Curr. & Instr. 321 3
History Elective 3
Political Science 200 Electives 6
Political Science 300 Elective 3
18

Senior
ED Curr. & Instr. 431 2  ED Curr. & Instr. 436r 2
ED Curr. & Instr. 433 4  ED Curr. & Instr. 437 2
Philosophy 211, 230 or 322 3  ED Curr. & Instr. 438 9
Political Science 400 Electives 9
18

Secondary Education (B.S.): Psychology Concentration*

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)
Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/fine arts in three fields other than history

Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education and psychology; for certification purposes, 3 of the hours may be in history

Category D
2 natural science courses to total 8 hours in natural science (one course must be approved laboratory science)

Category F
Mathematics F120

Category C
One approved perspectives course (3 hours)

One additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
NOTE: The state of Tennessee has adopted new certification requirements in Social Studies Education that will become effective in 1988. These requirements may necessitate a Change in the distribution of psychology coursework required below.

27 hours psychology including 101, 201 (or equivalent), 202 or 203, 251, 331, 345, (if a statistics course outside psychology is taken an additional psychology elective must be completed)

33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333

2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

*Students seeking teacher certification in Tennessee in the area of social studies must complete 6 semester hours in American history, 6 semester hours in European or world history, and 6 semester hours each in four of the following fields: economics, geography, political science, sociology, and psychology (must include Psychology 101 and 331 for psychology endorsement).

Typical course of study in secondary education (B.S.): psychology concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics F120</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>1</td>
</tr>
<tr>
<td>Psychology 101</td>
<td>3</td>
</tr>
<tr>
<td>Science Elective, Category D</td>
<td>4</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 200</td>
<td>1</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 201</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 202 or 203</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Fine Arts Electives</td>
<td>6</td>
</tr>
<tr>
<td>Perspectives Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
</tr>
<tr>
<td>Apply for student teaching</td>
<td>3</td>
</tr>
<tr>
<td>Psychology Elective</td>
<td>3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 321</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 431</td>
<td>2</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 433</td>
<td>4</td>
</tr>
<tr>
<td>Psychology 345</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Secondary Education (B.S.): Sociology Concentration</strong></td>
<td></td>
</tr>
</tbody>
</table>

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/fine arts in three fields other than history

Category C
2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral or social sciences in two fields other than education, sociology, and anthropology; for certification purposes, 3 of the hours may be in history

Category D
2 natural science courses to total 8 hours in natural science other than anthropology (one course must be approved laboratory science)

Category F
Mathematics F120

Category C
One approved perspectives course other than anthropology (3 hours)

One additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences

Health and Physical Education 021 plus one additional semester physical education activity

**Major and related courses**

NOTE: The state of Tennessee has adopted new certification requirements in Social Studies Education that will become effective in 1988. These requirements may necessitate a change in the distribution of sociology coursework required below.

33 hours sociology and anthropology including Sociology 151, 314, 394 or 450; Anthropology 152 or 208; Anthropology 302 or Sociology 312; plus 18 hours of sociology/anthropology electives of which 9 hours are at the 300-400 level

33 hours from the School of Education including Curriculum and Instruction 200, 201, 204, 205, 321, 431, 433, 436r, 437, 438; Special Education 333

2.25 average both in teaching fields and in School of Education courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

*Students seeking certification in Tennessee in the area of social studies must complete 6 semester hours in American history, 6 semester hours in European or world history, and 6 semester hours each in four of the following fields: economics, geography, political science, sociology,
Typical course of study in secondary education (B.S.): sociology concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td><strong>Sophomore</strong></td>
</tr>
<tr>
<td>General Education Category A: 3</td>
<td>ED Curr. &amp; Instr. 200: 3</td>
</tr>
<tr>
<td>Mathematics F120: 1</td>
<td>ED Curr. &amp; Instr. 204: 3</td>
</tr>
<tr>
<td>Physical Education 021: 1</td>
<td>General Education Category C: 3</td>
</tr>
<tr>
<td>Sociology 151: 3</td>
<td>Humanities/Fine Arts Elective: 3</td>
</tr>
<tr>
<td>Science Elective, Category D: 4</td>
<td>Societies/Anthropology Elective: 3</td>
</tr>
<tr>
<td>Humanities/Fine Arts Elective: J</td>
<td>Elective: 1</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td><strong>Sophomore</strong></td>
</tr>
<tr>
<td>Apply for student teaching</td>
<td>ED Special Education 100: 2</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 321: 3</td>
<td>ED Special Education 250: 3</td>
</tr>
<tr>
<td>ED Special Education 333: 3</td>
<td>ED Curr. &amp; Instr. 203: 3</td>
</tr>
<tr>
<td>Social Science Elective: 3</td>
<td>English 228: 3</td>
</tr>
<tr>
<td>Sociology 314: 3</td>
<td>Category B: 3</td>
</tr>
<tr>
<td>Anthropology 302 or Sociology 312: 3</td>
<td>Category C: 3</td>
</tr>
<tr>
<td>Elective: 3</td>
<td>Category D: 4</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td>Elective: 3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 431: 2</td>
<td><strong>Junior</strong></td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 433: 4</td>
<td>ED Special Education 330: 3</td>
</tr>
<tr>
<td>Sociology 394 or 450: 3</td>
<td>ED Special Education 453: 3</td>
</tr>
<tr>
<td>Sociology/Anthropology 300-400 Elective: 3</td>
<td>ED Special Education 460: 3</td>
</tr>
<tr>
<td>Sociology/Anthropology 300-400 Elective: 3</td>
<td>Elective (ED Counseling 401): 3</td>
</tr>
<tr>
<td>Sociology/Anthropology 200-400 Elective or Anthropology 302: 3</td>
<td>ED Curr. &amp; Instr. 401 or 403: 3</td>
</tr>
<tr>
<td><strong>Special Education (B.S.)</strong></td>
<td>ED Curr. &amp; Instr. 403 or 404: 3</td>
</tr>
<tr>
<td><strong>Category A</strong></td>
<td>ED Special Education 415: 3</td>
</tr>
<tr>
<td>2 approved courses in written communication in the English language (6 hours), plus English 228 to total 9 hours</td>
<td>ED Special Education 461: 3</td>
</tr>
<tr>
<td><strong>Category B</strong></td>
<td>ED Special Education 465: 3</td>
</tr>
<tr>
<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus Art 222 to total 12 hours humanities/fine arts in three fields other than history</td>
<td>ED Special Education 469: 6</td>
</tr>
<tr>
<td><strong>Category C</strong></td>
<td><strong>Junior</strong></td>
</tr>
<tr>
<td>2 approved behavioral or social science courses (6 hours) plus one course to total 9 hours behavioral sciences in two fields other than education (approved related courses below may apply); for certification purposes, 3 of the hours may be in history</td>
<td><strong>Senior</strong></td>
</tr>
<tr>
<td><strong>Education—137</strong></td>
<td><strong>Senior</strong></td>
</tr>
<tr>
<td><strong>Category D</strong></td>
<td>HPER 436: 3</td>
</tr>
<tr>
<td>2 natural science courses to total 8 hours natural sciences (one course must be approved laboratory science)</td>
<td>ED Curr. &amp; Instr. 403 or 404: 3</td>
</tr>
<tr>
<td><strong>Category F</strong></td>
<td>ED Curr. &amp; Instr. 423: 3</td>
</tr>
<tr>
<td>Mathematics F115,116: 3</td>
<td>ED Special Education 453: 3</td>
</tr>
<tr>
<td><strong>Category G</strong></td>
<td>ED Special Education 460: 3</td>
</tr>
<tr>
<td>1 approved perspectives course (3 hours)</td>
<td>Elective: 3</td>
</tr>
<tr>
<td>Health and Physical Education 021 plus one additional semester physical education activity</td>
<td><strong>Category D</strong></td>
</tr>
<tr>
<td><strong>Major and related courses</strong></td>
<td><strong>Category B</strong></td>
</tr>
<tr>
<td>6 hours from Psychology C101 (required), 251, 311, 312, 313</td>
<td><strong>Junior</strong></td>
</tr>
<tr>
<td>8 hours Health and Physical Education 302 and 436 required and courses from 100, 154, 303 (the 2 hours of required physical education activity may count)</td>
<td><strong>Senior</strong></td>
</tr>
<tr>
<td>62 hours from the School of Education including Curriculum and Instruction 200, 201, 203, 320, 401 or 402, 403, 404, 423, and Special Education 100, 250, 255, 320, 330, 350 or 486; 415, 440, 453, 460, 461, 465, 469</td>
<td><strong>Special Education (B.S.)</strong></td>
</tr>
<tr>
<td>2.25 average in School of Education courses</td>
<td><strong>Curriculum and Instruction Courses</strong></td>
</tr>
<tr>
<td>Minimum of 30 hours of 300 and 400 level courses</td>
<td>100 Education, Self, and Society (3)</td>
</tr>
<tr>
<td>Electives to complete 128 hours</td>
<td>Selected material from cultural, psychological, and social foundations of education related to contemporary issues and to the student's own educational experiences, goals, aspirations.</td>
</tr>
</tbody>
</table>
Child development focusing on study of child, prenatal through six years, with limited attention to elementary age child. Field component required. Credit not allowed in Curriculum and Instruction 202 and Psychology 221.

Prerequisite: admission to teacher education program. May not be used for graduate credit.

199r Special Projects (1-4) Individual projects and field components. Maximum credit 4 hours. Prerequisite: transfer student and approval of School of Education dean.

200 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. Corequisite: 200.

201 Education in the United States (3) Educational concepts and the role of the teacher in that institution. At least 15 hours of experiences at school sites required. Corequisites: 207.

202 Human Growth and Development: Pre-School-Primary (3) Child development focusing on study of child, prenatal through six years, with limited attention to elementary age child. Field component required. Credit not allowed in Curriculum and Instruction 202 and Psychology 221. Corequisite: 206.

203 Human Growth and Development—Child (3) Child development factors influencing growth; characteristics, influence of concepts on the educational process. Field component required. Credit not allowed in Curriculum and Instruction 203 and Psychology 221. Corequisite: 205.

204 Human Growth and Development: Adolescent (3) Adolescent development factors influencing growth; characteristics, influence of concepts on the educational process. Field component required. Credit not allowed in both Curriculum and Instruction 204 and Psychology 222. Corequisite: 205.

205 Investigations of the Adolescent in the Classroom (1) Structured observation and experience in the secondary school classroom. Case studies of adolescents and analyses of classroom practice will be completed by the student. A minimum of 15 hours of field work is expected with the balance devoted to on-campus seminars. Corequisite: 204.

206 Investigations of the Child in the Classroom (1) Laboratory course designed to provide Early Childhood/Elementary Education students with a cross-section of generic educational experiences that will be applied in subsequent course work in their teacher education programs. Stresses teacher aide work in an elementary (K-6) classroom under the supervision of a master teacher. Corequisite: 203.

207 Educational Psychology (3) Theories of learning and instruction applied to the classroom; classroom as psychological environment; cognitive processes and motivation; use of tests and measures; approach to guidance. Field component required.

215r Workshop and Seminar (2-4) Current topics in education. Special programs and in-service courses. Prerequisite: approval of department head.

310 Elementary School Curriculum (3) The curriculum for grades one through six; the impact of technological and social change on curriculum planning and school organization.

320 The Teaching of Reading in the Elementary School (3) Survey of methods, strategies, diagnostic-prescriptive procedures, and materials for teaching reading. Field component required.

321 The Teaching of Reading in the Secondary School (3) Integrating reading skills and teaching strategies with the teaching of content area subjects. Required of all secondary education majors.

401 Teaching Social Studies in Elementary and Middle School (3) Planning, teaching, and evaluation of social studies in the classroom; in-depth instruction in lesson planning strategies. Prerequisite: admission to teacher education program. May not be used for graduate credit.

402 Teaching Science in Elementary and Middle School (3) The application of the structure of science and the concepts, phenomena, and processes of science in the context of the elementary school curricula. Includes instructional use of educational media including the microcomputer. Prerequisite: admission to teacher education program. May not be used for graduate credit.

403 Teaching Language Arts in the Elementary and Middle School (3) Designed to help develop an understanding of the basic concepts of language. Special consideration given to how language arts (speaking, listening, writing) are learned, diagnosed, taught, and evaluated. The interrelationships of these skills stressed to better utilize these kinds of activities and materials in teaching children to think clearly, creatively, and to communicate effectively. Prerequisite: admission to teacher education program. May not be used for graduate credit.

404 Teaching Mathematics in the Elementary and Middle School (3) Designed to provide students with effective methods and materials for the teaching of mathematics in grades K-8. Special emphasis will be placed on the use of the micro-computer and calculator for teaching mathematics and in diagnostic and remedial procedures. Prerequisite: admission to teacher education program. May not be used for graduate credit.

405 Observation and Student Teaching in Elementary Schools (2) Supervised teaching in two school environments. Field placement will involve experience at two different grade levels, as well as inner city and suburban or rural schools. Prerequisites: 320, 401, 402, 403, 404 and admission to teacher education program; notification of intent to engage in student teaching six months prior to registration in 405. May not be used for graduate credit.

407 Classroom Management in Elementary Schools (2) Techniques and strategies for creating a classroom environment which promotes learning. Behavioral management is emphasized through the development and application of approaches to individual behavioral analysis and peer control. Corequisite: 405 or 419.

410 Materials and Methods in Early Childhood Education (3) Study of the objectives, materials, methods, pupil activities, and evaluation of preschool education. Field component required. Prerequisite: admission to teacher education program. May not be used for graduate credit.

419 Observation and Student Teaching in Kindergarten and Elementary Grades (8) Field placement in both the kindergarten and elementary grades in the same semester. Schedules must permit full time involvement three days per week and half-day participation two days with at least one-third of the time devoted to responsible participation and teaching. Prerequisites: 320, 401, 402, 403, 404, 410; admission to teacher education program; notification of intent to student teach six months prior to registration in 419. May not be used for graduate credit.

422 Teaching Reading in the Intermediate Grades and the 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. Prerequisite: admission to teacher education program.

423 Diagnostic and Prescriptive Teaching of Reading (3) Field-based, classroom diagnostic-prescriptive teaching; in-depth study of selected assessment instruments, instructional strategies, materials, and management procedures. Prerequisites: 320 or equivalent, or permission of instructor; admission to teacher education program. May not be used for graduate credit.

431 Teaching Strategies and Materials in the Disciplines (2) Curricular and media developments appropriate for the respective discipline. Must be taken prior to student teaching. Prerequisites: 204, 205, 206, 201; application approved to the teacher education program. Corequisite: 433. May not be used for graduate credit.

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. Prerequisite:
admission to teacher education program. May not be used for graduate credit.

433 Designing Instruction and Evaluation in the Secondary Classroom (4)
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. Corequisite: 431.

436r Topics in Secondary Curriculum (1-2)
A seminar involving both student teachers and their cooperating teachers. Topics will deal with contemporary curricular problems of participation. Prerequisite: undergraduate students must be admitted to teacher education program. Corequisite: 438. Not required (or HPER majors).

437 Classroom Management in Secondary Schools (2)
Techniques and strategies for creating a classroom environment which promotes learning. Behavioral management is emphasized through the development and applications of approaches to individual behavioral analysis and peer control. Prerequisite: admission to teacher education program. Corequisite: 438.

438 Observation and Student Teaching in Secondary School (9)
Supervised teaching in two school environments. Placement will insure experience in inner city and suburban or rural schools and junior and senior high schools where possible. Prerequisites: 204, 205, 201, 200, 321, 431, 433; Special Education 333; admission to teacher education program. Corequisites: 436r, 437. May not be used for graduate credit.

439 Observation and Student Teaching in School Music (9)
Placement will be made in grades 1-6 for one-half the semester and 7-12 for one-half the semester. Prerequisites: 432, Music 321, admission to teacher education program. Corequisites: 436r, 437. Spring only.

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.

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.

483 Teaching Internship (9)
Undergraduate credit only. For the temporarily certified employed teacher. Provides close supervision in planning, implementation, and evaluation. Tailored to fit specific school setting. Prerequisite: one year full-time teaching in certifiable area; approval of School of Education dean.

490r Workshop and Seminar (2-4)
Special problems and discussion of current topics in education. Prerequisite: senior or graduate standing.

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

497r Research (1-4)
Prerequisites: approval of the School of Education dean.

498r Individual Studies (1-4)
Prerequisite: approval of department head.

499r Group Studies (1-4)
Prerequisite: approval of department head.

Special Education and Counseling Courses

100 Special Education Program Observation and Seminar (2)
The course provides an experiential opportunity to investigate and analyze the various placement options in special education. A structured seminar is required to discuss the planned observations. A minimum of 20 hours of observation is required.

110 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 examining his or her interrelated value systems associated with education, work, leisure, and self expression.

19r Special Projects (1-4)
Individual projects and field components; maximum credit 4 hours. Prerequisites: transfer student and approval of School of Education dean.

215r Workshop and Seminar (2-4)
Current topics in education. Special programs and in-service courses.

250 Introduction to Special Education (3)
A survey of special education with emphasis placed upon consideration of the history of special education; federal involvement and leaderships; and the global characteristics of the target population. Special education majors only.

255 Observation and Seminar Concerning Handicapping Conditions (2)
This course provides an experiential approach to understanding specific handicapping conditions, and will consist of 20 hours of observation and interaction with specific handicapped children. This course requires attendance in a structured seminar.

320 Education Exceptionalities (3)
A study of the psycho-social-educational treatment systems used with educational exceptionalities. Prerequisite: 250.

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. Prerequisite: 250 or 332.

332 Exceptional Students in the Elementary School (3)
A survey of exceptional children and the philosophy of mainstreaming, adaptation techniques, curriculum, materials, resources, referrals, evaluation, and the teacher/resource-teacher relationship. Prerequisite: admission to teacher education program.

333 Exceptional Student in the Regular Secondary Classroom (3)
An overview of handicapping conditions and educational and therapeutic amelioration for secondary school students. An emphasis upon the techniques by and requirements of the secondary school teacher in meeting the legal, educational, and moral obligations to the exceptional student.

350 Characteristics and Techniques for the Moderately Handicapped Student (3)
The in-depth study of the characteristics and needs of moderately handicapped students includes the various academic and behavioral interventions utilized in resource settings and other placements.

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.

415 The Adolescent Exceptional Student (3)
An examination of the unique needs and particular issues which are specific to adolescent exceptional students. The course emphasizes approaches and methodology concerning corrective and compensatory instruction.
Health, Physical Education & Recreation (HPER)

Professor Norred, Head
Professors Stinnett, L. Fanning
Associate Professors Ezell, Ford
Assistant Professor Norris
Instructors Shea, Underwood
Instructor Jadin, Director of Intramural Sports

Programs and activities within the scope of the Health, Physical Education, and Recreation Department are administered through the School of Education.

A major thrust of HPER is the provision of two distinct academic career program tracks:

1. Secondary Education: Health and Physical Education concentration
2. Secondary Education: Recreation Specialist concentration (nonteaching program)

In addition, HPER offers a diversified service program of physical recreation activities primarily for the undergraduate student. Activity courses from this program may be used to meet the University requirement of 2 semester hours.

Furthermore, HPER provides a well-rounded seasonal intramural activities program and general recreation for the University community.

Secondary Education: Health and Physical Education Concentration

This career program is for any student who desires certification in both health instruction (K-12) and secondary physical education (7-12). The curriculum focuses on professional career development in both health and physical education, yet permits a student to gain cultural breadth through completing general educational components which comprise at least one-third of the total number of hours in the program.

Since graduates of this specialization are often employed in the capacity of teacher-coach, a partial segment of the curriculum is devoted to content and laboratory courses designed to educate the student in becoming an effective coach for athletic and intramural sports.

Graduate concentrations in either health education or physical education are possible while earning the Master of Education degree in secondary education. Refer to the Graduate Bulletin for information concerning this program.

Admission to Teacher Education Program (TEP) for Health and Physical Education

In addition to meeting criteria for admittance to TEP, a student desiring certification in health and physical education will be expected to meet these criteria:

1. Have a minimum grade point average of 2.4 in professional health, physical education and recrea-
tion course work. Successfully complete six hours from professional activity courses and nine hours from theory courses within the Health, Physical Education, and Recreation Department.

2. Successfully complete an interview with his or her TEP department committee.

Any student enrolled within the teacher certification curriculum is expected to maintain and demonstrate standards of ethics reasonably attributed to an educator who holds professional teacher certification.

Further, any student who plans to teach outside of Tennessee is strongly urged to check certification requirements with the appropriate state department of education before the end of the sophomore year in order to plan his or her program appropriately.

Secondary Education (B.S.): Health and Physical Education Concentration

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each), plus courses to total 12 hours humanities/ fine arts in three fields other than history

Category C
2 approved behavioral or social science courses including Sociology C215 (6 hours), plus one course to total 9 hours behavioral or social sciences; for certification purposes, 3 of the hours may be in history

Category D
2 approved natural science courses including Biology D121, 122 to total 8 hours in natural sciences

Category F
Mathematics F120

1 approved perspectives course (3 hours)

1 additional course outside teaching field from communications, humanities, mathematics, natural or behavioral sciences (2 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
21 hours in Health Education 100, 154, 302, 303, 317, 456, plus approved electives such as Health Education 320, 450, 451, 452, 455; Biology 191, 192; Home Economics 105 (completion of these 21 semester hours will grant endorsement in health instruction, kindergarten through grade 12)

34 hours in physical education including Physical Education 201, 318, 332, 340, 401,436 and a minimum of 12 hours in professional activities as follows:

6 hours from Physical Education 222, 224 or 225, 228, 235
4 hours from Physical Education 211, 231, 232, 233, 237
2 hours from Physical Education 212, 214, 234
28 hours education including Curriculum and Instruction 200, 201,204, 205, 321, 431, 433, 437, 438
2.4 average in teaching fields
2.25 average in education courses

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in secondary education (B.S.): health and physical education concentration

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td><strong>Sophomore</strong></td>
</tr>
<tr>
<td>General Education Category A 3</td>
<td>Mathematics F120</td>
</tr>
<tr>
<td>Biology D121 4</td>
<td>Humanities, Fine Arts</td>
</tr>
<tr>
<td>HPER Health Education 100 3</td>
<td>Category B</td>
</tr>
<tr>
<td>Humanities, Fine Arts 3</td>
<td>Behavioral Science</td>
</tr>
<tr>
<td>Behavioral Science 3</td>
<td>(Sociology 215) Category C 3</td>
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<td>Category C 3</td>
<td>HPER Health Education 302 3</td>
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<td>HPER Professional Activities 2</td>
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<td>ED Curr. &amp; Instr. 200 1</td>
<td>ED Curr. &amp; Instr. 204</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 200 1</td>
<td>ED Curr. &amp; Instr. 205</td>
</tr>
<tr>
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<table>
<thead>
<tr>
<th><strong>Junior</strong></th>
<th><strong>Senior</strong></th>
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<tbody>
<tr>
<td>HPER Health Education 317 3</td>
<td>HPER Health Education 401 3</td>
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<tr>
<td>Humanities Category B 3</td>
<td>HPER Physical Education 436 3</td>
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<tr>
<td>HPER Physical Education 332 3</td>
<td>HPER Health Education 436</td>
</tr>
<tr>
<td>HPER Professional Activities 4</td>
<td>Elective 3</td>
</tr>
<tr>
<td>ED Curr. &amp; Instr. 321 3</td>
<td>ED Curr. &amp; Instr. 437</td>
</tr>
<tr>
<td>Elective Outside of Major 2 2</td>
<td>ED Curr. &amp; Instr. 438</td>
</tr>
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<td>16</td>
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<table>
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<tr>
<th><strong>Senior</strong></th>
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<tbody>
<tr>
<td>HPER Physical Education 401 3</td>
<td>HPER Physical Education 401 3</td>
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<tr>
<td>HPER Physical Education 436 3</td>
<td>ED Curr. &amp; Instr. 437</td>
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<tr>
<td>HPER Health Education 436</td>
<td>ED Curr. &amp; Instr. 438</td>
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<tr>
<td>Elective 3</td>
<td>HPER Health Education 456</td>
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<tr>
<td>ED Curr. &amp; Instr. 433 4</td>
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<tr>
<td>ED Curr. &amp; Instr. 431 2</td>
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<tr>
<td>15</td>
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</tbody>
</table>

Secondary Education: Recreation Specialist Concentration (nonteaching program)

The recreation specialist 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, whose functions include the provision of recreational type services and activities. While there are a few courses common to both the teacher certification and recreation specialist tracks, the focus of the major courses in the recreation component of this program is directed toward the practical applications of theories and strategies learned in professional recreation courses.

To reinforce this intent a student specializing in recreation is expected to engage in several different types of field assignments and experiences.

Completion of this program will not satisfy teacher certification requirements for health and physical education endorsement.
Secondary Education (B.S.): Recreation Specialist Concentration (nonteaching program)

**General Education** (see pages 26-28 for list of approved courses)

<table>
<thead>
<tr>
<th>Category</th>
<th>Courses</th>
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</thead>
<tbody>
<tr>
<td>A</td>
<td>2 approved courses in written communication in the English language (6 hours)</td>
</tr>
<tr>
<td>B</td>
<td>3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each, total 9 hours)</td>
</tr>
<tr>
<td>C</td>
<td>2 approved behavioral or social science courses including Sociology C151 (6 hours)</td>
</tr>
<tr>
<td>D</td>
<td>1 approved physical or natural science course with laboratory (4 hours): Biology D121</td>
</tr>
<tr>
<td>F</td>
<td>1 approved mathematics course (3 hours)</td>
</tr>
<tr>
<td>C</td>
<td>1 approved perspectives course (3 hours)</td>
</tr>
</tbody>
</table>

**Major and related courses**

- 56 hours of health, physical education, recreation courses
  - 31 hours recreation component to include: HPER 200, 220, 304, 325, 470, 479, 480
  - 9 hours health component to include: HPER 100, 154, 317
  - 16 hours physical education component to include: HPER 405, 436; 10 hours of professional activity courses with HPER 224 required
  - 8 hours secondary education courses to include: Curriculum and Instruction 200, 201, 204, 205
  - 6 hours related courses selected from: Art 323, 324; Computer Science 210; Political Science 233; Sociology 305; Theatre and Speech 109
  - 2.0 average in recreation component of major courses

**Electives**

- Minimum of 30 hours of 300 and 400 level courses
- Electives to be selected by student and assigned academic adviser to complete 128 hours

**Typical course of study in secondary education (B.S.): recreation specialist concentration (nonteaching program)**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
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</tr>
<tr>
<td>General Education Category A</td>
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<tr>
<td>Biology 121 Category D</td>
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<tr>
<td>HPER 100</td>
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<tr>
<td>General Education Category B</td>
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<td><strong>Second Semester</strong></td>
<td><strong>General Education</strong></td>
</tr>
<tr>
<td><strong>Freshman</strong></td>
<td><strong>Second Semester</strong></td>
</tr>
<tr>
<td>General Education Category A</td>
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<tr>
<td>Biology 121 Category D</td>
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<tr>
<td>HPER 100</td>
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<tr>
<td>General Education Category B</td>
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<tr>
<td><strong>Sophomore</strong></td>
<td><strong>Junior</strong></td>
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<tr>
<td>ED Curr. &amp; Instr. 200</td>
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<tr>
<td>General Education Category C</td>
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<td>ED Curr. &amp; Instr. 201</td>
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</tr>
<tr>
<td>HPER 200</td>
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</tr>
<tr>
<td>HPER 202</td>
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<tr>
<td>Related courses*</td>
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<tr>
<td><strong>Senior</strong></td>
<td><strong>Senior</strong></td>
</tr>
<tr>
<td>HPER 479*</td>
<td>6</td>
</tr>
<tr>
<td>HPER 436</td>
<td>3</td>
</tr>
<tr>
<td>Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Elective*</td>
<td>3</td>
</tr>
<tr>
<td><strong>Recreation Minor</strong></td>
<td><strong>Total</strong></td>
</tr>
<tr>
<td>Total of 24 hours including: 6 hours of health to include HPER 100, 154; 6 hours in three courses from HPER 202, 220, 235, 237; 12 hours in four courses from HPER 200, 304, 305, 325, 470.</td>
<td></td>
</tr>
</tbody>
</table>

**HPER: Health Education Courses**

**100 Personal Health (3)**
Significant data and facts helpful in making intelligent decisions about personal health; crucial issues of personal, family, and social living.

**154 Safety and First Aid (3)**
Nature and causes of accidents; safety measures for prevention and emergency treatment of common accidents; Red Cross certification may be given in advanced first aid and CPR.

**190r Special Projects (1-4)**
Individual or group projects. Maximum credit 4 hours. Prerequisite: approval of HPER department head.

**302 Health Care of Children (3)**
In-depth consideration of health problems confronting the classroom teacher. Prerequisite: HPER 100 or teaching candidate or approval of instructor.

**303 School, Community, and Environmental Health (3)**
Interrelationship studies involving home, school, public health, nonofficial organizations for improved public health; elements of structuring health education curricula.

**317 Anatomy and Physiology of Exercise (3)**
Intensive study of various physiologic processes related to exercise. Prerequisite: Biology 121 or equivalent.

**320 Environmental Health (3)**
Major ecological problems relative to individuals, schools, and communities with emphasis upon the teaching-learning process.
450 Safety and Consumer Health Education (3)
Investigation into epidemiologic aspects of accidents; procedures for developing preventive programs. Intelligent selection of health products, health services, health insurance plans, and health careers. Prerequisites: approval of instructor, senior or graduate standing.

451 Curricular Designs: Human Sexuality, Drug Abuse (3)
Extended study of problems related to human sexuality and drug abuse education; development of teaching units for schools. Prerequisites: approval of instructor, senior or graduate standing.

452 Problems in Health: Aging, Death Education, Human Diseases (3)
Analysis of concepts and attitudes toward aging, death, bereavement, prevention and control of communicable and degenerative diseases. Prerequisites: equivalent of HPER 100, 302, 303; senior or graduate standing or approval of instructor.

455 Methods and Strategies in School Health Education (3)
Investigation of current curricula and teaching strategies employed in health education. Prerequisites: approval of instructor, senior or graduate standing.

456 Research and Current Topics in Health Education (3)
Study of health problems and current professional literature; review of new approaches in techniques and methodology used in health research. Prerequisite: approval of instructor or HPER senior or graduate standing.

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

497 Research (1-4)
Prerequisite: approval of HPER department head.

498 Individual Studies (1-4)
Prerequisite: approval of HPER department head.

499r Croup Studies (1-4)
Prerequisite: approval of HPER department head.

HPER: Physical Education Courses

19r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours. Prerequisite: approval of HPER department head.

201 Introduction to Physical Education (3)
Role of physical activity in American education based upon the historical, social, economic, and political forces affecting physical education in schools; philosophy and principles of profession.

318 Kinesiology (3)
Study of human motion; analysis of human motion as affected by gross anatomy and principles of motor learning. Prerequisites: equivalent of Biology 121 and HPER 317.

330 Physical Education in the Elementary School (3)
Practical aspects of planning, organizing, administering, and evaluating programs and playgrounds; theories of play; principles of body mechanics; activities corresponding to level of growth and development; materials and methods of teaching. Required for elementary education majors.

332 Organization and Administration of Physical Education (3)
Critical elements in planning, organizing, directing, and evaluating school problems, curriculum structuring, teacher-coach relationships involving students, faculty, administration and community; field assignments. Prerequisite: 201 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. Prerequisite: 317 or 318; or approval of instructor.

400 Current Topics and Problems in Physical Education (3)
Exploration of current topics and problems in physical education significant to teachers, coaches, and administrators in schools and agencies providing services in physical education or related fields. Prerequisites: senior level and approval of instructor; or graduate standing.

401 Tests and Measurements in Health and Physical Education (3)
Assessment of motor traits, organic development, neuromuscular development, sports knowledge, and attitudes related to health and physical education; basic statistics essential to measurement theory. Prerequisites: equivalent of HPER 201, 332; Mathematics 120; senior level and approval of instructor; or graduate standing.

402 Philosophical Foundations of Physical Education and Sport (3)
Identification and implications of several philosophical approaches to play, games, dance, sport, physical education, recreation, and athletics. Prerequisite: senior level or graduate standing.

404 Dynamics of Motor Learning (3)
Psychological aspects of learning, experimental growth, and development as affected by human movement patterns, perceptual mechanisms, and cognitive processes. Prerequisite: 317 or senior level; or graduate standing.

405 Administration of Interscholastic Athletics and Intramurals (3)
Conceptual development of sound programs; common problems, responsibilities, and personnel relationships involving school and community relative to athletics and intramurals. Prerequisite: equivalent of 304 or 332; approval of instructor; or graduate standing.

407 Psychologic and Sociologic Concepts Applied to Physical Education and Sport (3)
Emphasis upon physical education and sport as a socio-cultural psycho-cultural force; psychological-sociologic concepts applied to physical education, recreation, sports. Prerequisite: senior level or graduate standing.

408 Seminar, Current Advances in Bio-Kinetics (3)
Current advances in kinesiologic and physiologic principles of physical education, athletic coaching, and sport. Prerequisite: equivalent of 317 or 318; approval of instructor; or graduate standing.

436 Physical Education for the Exceptional Student (3)
Lecture, demonstration, and practical experiences in the study of exercise and sport phases for the exceptional student. Prerequisite: equivalent of 302 and junior level; or graduate standing.

490r Workshop and Seminar (2-4)
Special problems; in-service education for specific groups; research in professional literature and evaluation measures to topics studied.

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

497r Research (1-4)
Prerequisite: approval of HPER department head.

498r Individual Studies (1-4)
Prerequisite: approval of HPER department head.

499r Croup Studies (1-4)
Prerequisite: approval of HPER department head.

HPER: Professional Activities Courses

The professional activities component consists of those courses which by nature are physical education/coaching techniques. Courses of this type are designed primarily for that student planning to become a teacher-coach or recreation specialist. A student scheduling a course within this component may expect the final grade to reflect his or her achievement in cognitive acquisitions,
144—Education

Affective learnings, and psychomotor skills. Minimal competency levels may be established according to the professional discretion of the respective instructor and each student will be responsible for demonstrating at least these minimal standards before receiving a passing mark.

211 Softball and Volleyball (2)
Histories, basic skills, strategies, psychologies, contemporary offenses, and defenses basic to coaching and teaching of volleyball and Softball. Prerequisite: HPER major or approval of instructor.

212 Conditioning Track and Field (2)
Histories, basic skills, strategies, psychologies, training systems basic to the coaching and teaching of conditioning and track and field. Prerequisite: HPER major or approval of instructor.

214 Modern Dance and Exercise (2)
Histories, artistic executions, and expressions, integrations of ballet and modern dance techniques for communication and creative exercises. Prerequisite: HPER major or approval of instructor.

222 Archery and Badminton (2)
Histories, basic skills, strategies, contemporary teaching techniques, skills application for recreational and competitive usage appropriate to each sport. Prerequisite: HPER major or approval of instructor.

224 Movement Exploration and Rhythmic Sequences (2)
Skill development and teaching procedures in movement education, fundamental and contemporary movement patterns. Prerequisite: HPER major or approval of instructor.

225 Tumbling and Gymnastics (2)
Acquisition of fundamental skill development; developing techniques in floor exercises and apparatus; application of exercise theories, development of teaching competencies. Prerequisite: HPER major or approval of instructor.

228 Aquatics (2)
Development of basic and advanced swimming strokes for teaching and coaching, pool management, direction of swimming programs, emphasis on water safety. Prerequisite: HPER major or approval of instructor.

231 Football (2)
Histories, basic skills, strategies, psychologies, contemporary offenses, and defenses basic to the coaching and teaching of football. Field experience. Prerequisite: HPER major or approval of instructor.

232 Baseball (2)
Histories, basic skills, strategies, psychologies, contemporary offenses, and defenses basic to the coaching and teaching of baseball. Field experience. Prerequisite: HPER major or approval of instructor.

233 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; field experiences. Prerequisite: HPER major or approval of instructor.

234 Wrestling, Weightlifting (2)
Histories, basic skills, strategies, psychologies, training systems basic to the coaching and teaching of wrestling and weightlifting. Prerequisite: HPER major or approval of instructor.

235 Golf and Tennis (2)
Histories, basic skills, strategies, contemporary teaching techniques, skill application for recreational and competitive usage appropriate to each sport. Prerequisite: HPER major or approval of instructor.

237 Soccer and Racquetball (2)
Histories, basic skill development and application, offensive and defensive theories, field experience. Prerequisite: HPER major or approval of instructor.

Recreational Specialist Courses

199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours. Prerequisite: approval of HPER department head.

200 Introduction to Recreation (3)
Comprehensive survey of recreational implications for the American way of life; philosophic and historic foundations, career opportunities and responsibilities.

202 Camping and Outdoor Education (2)
Administration and program development; skill development and practical laboratory experience. Field component.

220 Recreational Skills (2)
Skills relating to a variety of recreational activities and programs.

227 Skill Concentration (2)
Proficiencies in sports skills essential for the professional physical educator and recreation leader. Prerequisite: for HPER major only. Class hours to be arranged.

304 Organization and Administration of Recreation (3)
Survey of types of programs, their objectives, content and methods, facilities, budgeting, public relations, personnel management, and policy development.

305 Therapeutic Recreation (3)
Development of programs for physically or mentally ill or convalescent patients: handicapped, retarded, elderly, and other special population groups.

325 Recreation Leadership and Programming (3)
To develop competencies needed for effective recreation leadership and recreation programming techniques for use in a variety of recreational settings.

335r Officiating Sports (1)
Rules, interpretations, fundamentals, techniques, and mechanics of officiating seasonal sports. Prerequisite: HPER major or approval of instructor.

470 Current Topics and Issues in Recreation (3)
Survey of problems and concerns facing recreation leadership; management, facilities development, environmental impact and special population groups. Prerequisite: above junior level.

479, 480 Internship in Recreation Leadership (6,6)
Supervised internship in leadership and administrative positions; full time contact, minimum eight weeks, concurrent integrative seminars. Prerequisite: approval of program leader and HPER department head.

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

497r Research (1-4)
Prerequisite: approval of program leader and HPER department head.

498r Individual Studies (1-4)
Prerequisite: approval of program leader and HPER department head.

499r Group Studies (1-4)
Prerequisite: approval of program leader and HPER department head.

HPER: Service Program

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.
Every undergraduate student will be expected to satisfactorily complete a minimum of two physical/recreational activities, one of which must be 021.

Participants enrolled in courses within the service program wear a specific type of uniform or the appropriate clothing and footwear prescribed by the respective instructor. Uniforms may be purchased from the bookstore on campus.

**HPER Service Program Courses**

The second digit in the service course number indicates the level of skill required for the course. The 2 indicates elementary level while the 3 indicates intermediate or advanced level. Students will be screened during the initial phase of the course to ascertain the course level in which they should participate. Upon learning of that recommended level, each student will be expected to adjust his or her schedule accordingly in order to derive the greatest participatory benefits from the course.

**021 Concepts and Application in Physical Education (1)**
Acquaints students with concepts, understandings, and physiological values of physical activity as applied to optimal living. Laboratory in motor skills required.

**022 or 032 Recreational Activities (1)**
Archery, backpacking, badminton, bicycling, bowling, camping, fencing, golf, gymnastics, handball, ice skating, racquetball, riflery, water skiing, sculling, tennis, sailing, weight training, and physical conditioning.

**023 or 033 Team Sports (1)**
Basketball, volleyball, Softball; speedball, soccer, flag football.

**024 or 034 Swimming (1)**
Beginning swimming; intermediate swimming, scuba diving, advanced lifesaving, water safety Instructor I and II certification. Prerequisite: proficiency test to determine skill.

**025 or 035 Body Mechanics (1)**
Individualized program for students with disabilities who are unable to participate in regular activity classes. Prerequisite: referral by physician and HPER department head approval.

**026 or 036 Dance (1)**
Aerobic, ballet, folk and square, modern, and contemporary jazz.

**039 Varsity Sports (1)**
Basketball, baseball, football, golf, tennis, volleyball, cross country/track and field, soccer, fencing, wrestling, cheerleading, riflery. Prerequisite: approval of head coach of respective varsity sport. Course graded on satisfactory/no credit basis and does not meet HPER requirements for graduation. Maximum of 8 hours credit may be applied toward the 128 hours required for graduation.

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**School of Engineering**

Professor Ronald B. Cox, Dean  
Professor Carney, Director of Electrical Engineering and Computer Applications  
Professor Foster, Director of Civil/Industrial Engineering and Engineering Management  
Professor Jones, Director of Freshman Engineering and Advising  
Professors Cunningham, Knight, Koch (Emeritus), Schonblom, Welch  
Associate Professor Gurley, Director of Chemical/Mechanical Engineering and Graduate Programs Coordinator  
Associate Professor Thomason, Director of Engineering Laboratories and Facilities Planning  
Associate Professors Clifford, Damshala, Hailey, Henry, McMahan, Sendaula, Sparks, Todd, Wynn  
Assistant Professors Eltom, Evans  
Hull, Coordinator of Cooperative Engineering Program  
Cofer, Engineering Laboratories Supervisor  
Gossett, Shops Supervisor

Programs of study available at the B.S. level in which students may specialize are:

- Chemical Engineering
- Civil Engineering (Structural)
- Electrical Engineering (Instrumentation and Control)
- Electrical Engineering (Power)
- Industrial Engineering
- Mechanical Engineering (Mechanics)
- Mechanical Engineering (Thermal)
- Engineering Management

The School of Engineering is the organizational unit of the University which is responsible for engineering and computer science programs. Programs are offered which lead to the Bachelor of Science in Engineering degree, the Bachelor of Science degree (engineering management), the Master of Science degree with a major in engineering, and the Bachelor of Science degree with a major in computer science. A Master of Science degree with a major in computer science is also offered. The computer science programs are described in a later section.

The faculty listed above support all of the engineering programs offered by the University. In addition, the school draws on the talents of adjunct faculty who are employed in professional capacities in a variety of industrial and governmental settings.
Category D
1 approved physical or natural science course with laboratory (4 hours; approved related course below will apply)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course other than engineering (3 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:

Mathematics F150, 160, 250, 260
Chemistry D121 (counts as Category D)
Physics 231
Engineering Core (49 to 59 hours)
Specialty Courses: 24 hours minimum (including senior design)
Electives depend on program selected.
Minimum degree requirements: 137 hours (147 for Co-op graduates)
2.0 average in all engineering courses
Minimum of 30 hours of 300 and 400 level courses

Specializations
In general, all engineering students take a common core of courses during their first three years. Specialization courses are taken during the fourth year. The requirements are—

Chemical Engineering
Special requirements of this program dictate accurate advising regarding prerequisite courses, etc., as early as the freshman year.

General Education requirements (see above)

Major and related courses
Mathematics F150, 160, 250, 260
Chemistry D121 (counts as category D), 122, 351, 352, 371, 372
Physics 231
Engineering Core Courses: 49 hours including 110, 111, 102, 103, 104, 124, 225, 246, 272, 303, 307, 325, 340, 373, 379, 380, 410, 411
Specialty Engineering Courses: 24 hours including 405, 430, 431, 432, 434, 490 (8 hours)
2.0 average in all engineering courses
Total hours: 143 (153 for co-op graduates)

*For qualified students. Engineering 495 (Honors) may be substituted for 4 of the 8 hours required in Engineering 490.

Civil Engineering (Structural)

General Education requirements (see above)

Major and related courses
Mathematics F150, 160, 250, 260
Chemistry D121
Physics 231, 232
Specialty Engineering Courses: 24 hours including 452, 460, 462, 465, 468, 490 (8 hours)
2.0 average in all engineering courses
Total hours: 137 (147 for co-op graduates)

*For qualified students. Engineering 495 (Honors) may be substituted for 4 of the 8 hours required in Engineering 490.

Bachelor of Science in Engineering (B.S.E.) Program
The engineering curriculum provides a four year program with emphasis on the fundamentals of engineering design and analysis, mathematics, science, and communications. Considerable attention is also given to supporting curricular content in the areas of humanities and social sciences.

The engineering design experiences begin with freshman team design projects and are continued throughout the curriculum. Particular attention is given to the integration of various engineering fundamentals and principles along with economic aspects of engineering design.

During the junior year a course is presented which develops engineering design as a decision-making process with objectives, constraints, and models. Appropriate optimization techniques are also introduced. Following this course, all students take an engineering design course in a specific area during their senior year which provides for the application of engineering design techniques to specific problems in their particular area of interest. The design experiences are culminated by a comprehensive year-long team design project during the senior year. This experience involves an interdisciplinary approach to the design of a major product or system. Techniques of engineering and management are emphasized throughout the course.

Since engineering functions are increasingly dependent upon computers, the study of the computer and its utilization is integrated throughout the curriculum. The study of the computer begins with a course in engineering computations taken during the freshman year. A computer application and numerical methods course follows during the sophomore year. Together, these courses provide the background for the use of the computer throughout the remainder of the engineering program.

Laboratories are an integral part of the engineering programs. They develop an understanding of engineering instrumentation, experimental techniques, fundamental principles, and communicational skills. Consequently, laboratory courses are provided in each of the four years of study toward the engineering degree.

Engineering (B.S.E.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral science courses (6 hours)

Transfer Credit
Credits received by transfer for required engineering courses in either engineering or engineering management programs must be a grade of C or better. Although equivalents will be awarded for D grades, students must retake the courses.
Electrical Engineering

(Two tracks: Instrumentation and Control or Power)

**General Education requirements (see above)**

**Major and related courses**
- Mathematics F150, 160, 250, 260
- Chemistry D121
- Physics 231, 232


**Specialty Engineering Courses (Instrumentation and Control):** 25 hours including 470, 473, 475, 477, 478, 490* (8 hours)

**Specialty Engineering Courses (Power):** 25 hours including 470, 471, 472, 473, 475, 490* (8 hours)

2.0 average in all engineering courses

Total hours: 138 (148 for co-op graduates)

*For qualified students. Engineering 495 (Honors) may be substituted for 4 of the 8 hours required in Engineering 490.

Industrial Engineering

**General Education requirements (see above)**

**Major and related courses**
- Mathematics F150, 160, 250, 260
- Chemistry D121
- Physics 231, 232


**Specialty Engineering Courses:** 24 hours including 450, 452, 454, 457, 490* (8 hours), plus approved elective

2.0 average in all engineering courses

Total hours: 137 (147 for co-op graduates)

*For qualified students. Engineering 495 (Honors) may be substituted for 4 of the 8 hours required in Engineering 490.

Mechanical Engineering

(Two tracks: Mechanics or Thermal Science)

**General Education requirements (see above)**

**Major and related courses**
- Mathematics F150, 160, 250, 260
- Chemistry D121
- Physics 231, 232


**Specialty Engineering Courses (Mechanics):** 25 hours including 405, 406, 442, 444 or 445, 446 or 468, 490* (8 hours), plus approved elective

**Specialty Engineering Courses (Thermal Science):** 25 hours including 405, 406, 431, 436, 490* (8 hours), plus approved electives

2.0 average in all engineering courses

Total hours: 138 (148 for co-op graduates)

*For qualified students. Engineering 495 (Honors) may be substituted for 4 of the 8 hours required in Engineering 490.

**Typical courses of study in engineering (B.S.E.)**

In general all engineering students take a common core of courses during their first three years and then take courses in their area of specialization during their fourth year. The typical first three years for all students are listed below, followed by the typical fourth year for students in each of the areas of specialization.

**Engineering Core**
Chemical Engineering differs from this sequence, see under Areas of Specialization.

**First Semester** | **Second Semester**
--- | ---
Freshman | Engineering 110 Seminar 1 Engineering 111 Seminar 0
 | Engineering 103 4 Engineering 102 3
 | Engineering 124 3 Engineering 104 4
 | Mathematics F150 4 Mathematics 160 4
 | Physical Education 021 1 Chemistry D121 4
 | General Education Category A 3 Chemistry 121 Laboratory 0
 |  | General Education Activity 1
 |  | General Education Category A 3
| 16 | 19 |

Sophomore | Engineering 225 3 Engineering 248 3
 | Engineering 246 4 Engineering 272 4
 | Mathematics 250 4 Mathematics 260 4
 | Physics 231 4 Physics 232 4
 | General Education Category B 3 General Education Category B 3
 | 18 | 18 |

Junior | Engineering 303 4 Engineering 307 4
 | Engineering 372 4 Engineering 322 3
 | Engineering 340 3 Engineering 373 4
 | Engineering 325 3 Engineering 379 1
 | General Education Category C 3 General Education Category C 3
 | 17 | 18 |

*All students should check with adviser to see if they are eligible for Mathematics 150. If they are not eligible for Mathematics 150, they should consult with the School of Engineering to determine which courses to take.

**Areas of Specialization**

**Chemical Engineering**
Students in this area generally vary from the engineering core for the first three years by taking Chemistry 121 and 122 during the freshman year, Chemistry 351 and 352 during the sophomore year, and Chemistry 371 and 372 during their junior year. The additional chemistry courses are usually taken in lieu of engineering and physics. Thus these students must consult their advisers at the beginning of their freshman year in order to give consideration to prerequisites and program integration.

**First Semester** | **Second Semester**
--- | ---
Freshman | Engineering 110 Seminar 1 Engineering 111 Seminar 0
 | Engineering 103 4 Engineering 102 3
 | Engineering 124 3 Engineering 104 4
 | Mathematics F150 4 Mathematics 160 4
 | Chemical Education 021 1 Physical Education Activity 1
 | General Education Category A 3 English 101 3
 | 17 | 19 |

Sophomore | Engineering 225 3 Engineering 248 3
 | Mathematics 250 4 Mathematics 260 4
 | Chemistry 351 4 Chemistry 352 4
 | Physics 231 4 General Education 4
 | General Education Category A 3 Categories B and C 6
 | 18 | 18 |

Junior | Engineering 303 4 Engineering 307 4
 | Engineering 325 3 Engineering 373 4
 | Engineering 340 3 Engineering 379 1
 | Chemistry 371 4 Engineering 380 3
 | Engineering 246 4 Chemistry 372 4
 | 18 | 19 |

**General Education Category B** 3
Career Preparation for Other Fields

By careful selection of electives a student may prepare for one of a variety of fields in addition to those listed above. For example, students may prepare for the field of environmental engineering by completing the core program along with electives in environmental sciences. Other fields such as nuclear engineering are primarily areas of graduate specialization. By proper selection of electives in physics, mathematics, and engineering in consultation with an adviser, the student may prepare to enter such fields.

It is also possible to prepare to enter medical school or law school by proper selection of electives and perhaps by completion of some additional courses above the minimum requirements. Such a premedical or prelaw engineering program will provide an excellent background for the student who wishes to enter the medical or law profession with a better understanding of the expanding scientific and technological aspects of these fields.

For guidance and assistance concerning preparation for any particular field of interest, the student should contact the dean of the School of Engineering or an appropriate adviser.

Engineering Management Program

Professor Evans, Coordinator

The engineering management program is an interdisciplinary program leading to a Bachelor of Science (B.S.) degree.

The purpose of the program is to provide an opportunity for students to develop quantitative and qualitative skills in areas which bridge the gap between engineering and business programs. This preparation qualifies the graduate for broad-based assignments in industry and government as well as providing a solid background for advanced study. The management title does not imply that graduates will automatically manage engineers or other professionals. It does suggest that the program of study is useful in developing skills and techniques appropriate to those who are either in management positions or who expect to be in management positions in the future.

Engineering Management (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral science courses (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours; approved related course below will apply)
Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course other than engineering (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
Math F145, F150, 160, 250
Chemistry D121 (counts as Category D)
Physics 231, 303
Engineering 110, 111, 102, 103, 104, 124, 225, 246, 303, 410, 411, 452, 454, 457
Economics C101, C102
Accounting 201, 202, 305
Management 211, 212, 311
Finance 302
Marketing 313
Psychology 406 (Organizational Behavior)
Free electives (10 hours)
2.0 average in all engineering, accounting, finance, management, and marketing courses
Minimum of 30 hours of 300 and 400 level courses
Total hours: 128 (minimum)

Note: No more than 32 hours may be taken in the School of Business and credited toward the degree.

Typical course of study in engineering management (B.S.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Freshman</td>
<td></td>
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<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry D121 (Category D)</td>
<td>4</td>
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<tr>
<td>Chemistry Lab</td>
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</tr>
<tr>
<td>Mathematics F145</td>
<td>4</td>
</tr>
<tr>
<td>Economics C101</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education 021</td>
<td>1</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Sophomore</td>
<td></td>
</tr>
<tr>
<td>Mathematics F150</td>
<td>4</td>
</tr>
<tr>
<td>Engineering 103</td>
<td>4</td>
</tr>
<tr>
<td>Accounting 201</td>
<td>3</td>
</tr>
<tr>
<td>Management 211</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 110 Seminar</td>
<td>1</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td></td>
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<tr>
<td>Mathematics 250</td>
<td>4</td>
</tr>
<tr>
<td>Physics 231</td>
<td>4</td>
</tr>
<tr>
<td>Accounting 305</td>
<td>3</td>
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<tr>
<td>General Education Category G</td>
<td>3</td>
</tr>
<tr>
<td>Management 311</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Psychology 406 (Organizational Behavior)</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 452</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 454</td>
<td>4</td>
</tr>
<tr>
<td>Engineering 410 Seminar</td>
<td>1</td>
</tr>
<tr>
<td>General Electives</td>
<td>6</td>
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Typical course of study in engineering management (B.S.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Freshman</td>
<td></td>
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<tr>
<td>General Education Category A</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 124</td>
<td>3</td>
</tr>
<tr>
<td>Economics C102</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 102</td>
<td>3</td>
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<tr>
<td>Graphic Design</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education Activity</td>
<td>1</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Sophomore</td>
<td></td>
</tr>
<tr>
<td>Mathematics 160</td>
<td>4</td>
</tr>
<tr>
<td>Engineering 104</td>
<td>4</td>
</tr>
<tr>
<td>Accounting 202</td>
<td>3</td>
</tr>
<tr>
<td>Management 212</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 111 Seminar</td>
<td>0</td>
</tr>
<tr>
<td>General Education Category B</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td></td>
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<tr>
<td>Engineering 303</td>
<td>4</td>
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<tr>
<td>Engineering 457</td>
<td>3</td>
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<tr>
<td>Engineering 246</td>
<td>4</td>
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<tr>
<td>Engineering 225</td>
<td>3</td>
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<tr>
<td></td>
<td></td>
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<tr>
<td>Senior</td>
<td></td>
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<tr>
<td>Physics 303</td>
<td>4</td>
</tr>
<tr>
<td>Marketing 313</td>
<td>3</td>
</tr>
<tr>
<td>Engineering 411 Seminar</td>
<td>0</td>
</tr>
<tr>
<td>Finance 302</td>
<td>3</td>
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<tr>
<td>General Electives</td>
<td>6</td>
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Cooperative Engineering Program

B. Hull, Coordinator

In addition to the basic four-year program a five-year optional cooperative program is available. In this program students alternate between a term in school and a term in industry. Typical students will receive their baccalaureate degrees after five years and will obtain approximately 20 months of industrial work experience. This 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.

This program is open to any UTC engineering student who is in good academic standing, whose class work and school activities indicate that he or she is dependable and capable, and who is acceptable to a cooperating company. In general, a student is admitted to this program at the end of the freshman year.

More specific information concerning the program is given in the following:

(1) Scholastic requirements—A student must have at least a 2.5 cumulative grade point average (out of 4.0) to be enrolled 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 terminated from the program.

In general it is expected that co-op students will maintain a grade point average considerably above the 2.25 minimum.

(2) Registration—Co-op students are required to register each term (including each term in industry) as a co-op student. A nominal fee will be assessed the student for registration during the work term.

(3) Cooperative Seminar—A co-op student is expected to register and participate in Engineering 390r (Cooperative Seminar) during the term in school immediately following a work assignment. This seminar is especially designed to provide for discussing and reporting on projects conducted as a part of the cooperative work assignment.

(4) Reports—Student participants and employers are requested to file a brief statement with UTC concerning the student’s work at the end of each work term.

(5) 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) 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 summer term.) Typical co-op schedules follow the list of engineering courses. Note that a work term precedes each registration for Engineering 390r.
Engineering

150—Engineering

Co-op Graduate—A co-op student will be certified as a co-op graduate on his or her permanent record if upon graduation he or she has completed at least 75 weeks of co-op work experience.

Degree Requirements
A B.S.E. cooperative engineering student graduate completes all degree requirements of the B.S.E. graduate listed above, plus fourteen additional hours in Engineering 390r, Cooperative Seminar. Four of these Engineering 390r hours replace one semester of Engineering 490r, Senior Design Experience.

Engineering Courses

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).

102 Engineering Graphic Communication (3) CORE
Multiview projection, sectional views, auxiliary views. Sketching. Construction of graphs, descriptive geometry, including points, lines, and planes in auxiliary views. Corequisite: Mathematics 145 or equivalent.

103, 104 Basic Engineering Science (4,4) CORE
First semester: introduction to basic concepts of engineering. Physical quantities, units, dimensions, vectors; formulation of engineering problems. Fundamentals of mechanics with emphasis on statics; equilibrium conditions, free-body diagrams, center of mass, friction, kinematics of particle, work and energy. Second semester: fundamentals of first law of thermodynamics, basic heat transfer, elements of fluid mechanics, applications. Laboratory: a team design experience. Lecture 3 hours, laboratory 3 hours. Corequisites: 110, 111; Mathematics 150, 160.

110, 111 Seminar (1,0) CORE
Professional, ethical, and technical aspects of engineering. Both semesters required except for junior or senior transfer students. Course graded on a satisfactory/no-credit basis. Normally taken as corequisite with 103 and 104.

124 Introduction to Engineering Computations (3) CORE
Flow diagram representation of processes. Construction of computational algorithms for computer solution. Experience in solution of typical engineering problems in BASIC and in FORTRAN by digital computer. Introduction to the use of plotters and graphics terminals. Prerequisite: Mathematics 145 or equivalent.

199r Special Introductory Topics in Engineering (1-4)
Introductory treatment of a fundamental area in engineering, varying from term to term. Prerequisite: approval of instructor and dean.

200 Structures in Architecture (3)
The history, aesthetics, 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. 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. Prerequisite: sophomore standing.

225 Engineering Computations and Numerical Techniques (3) CORE
Application of the FORTRAN programming language to the solution of representative engineering problems by the digital computer. Experience in program design, implementation, and documentation. Applications of numerical techniques to integration, solution of sets of equations, differential equations, and optimization. Prerequisite: Engineering 124, Corequisite: Mathematics 250.

246 Mechanics (4) CORE
Review of statics, vectors, plane moments of inertia and truss analysis. Stress-strain concepts and relations. Bending, shear, and torsion. Euler columns. Particle kinematics. Introduction to material and structural testing techniques, subsequent team design projects with experimental verification in laboratory. Lecture 3 hours, laboratory 3 hours. Prerequisites: 102, 104, Corequisite: Mathematics 250.

248 Dynamics (3) CORE

272 Dynamic Systems I (4) CORE
Introduction to analysis of dynamic systems. Circuit elements and relationships for electrical, mechanical, fluid, and thermal systems. Formulation of equilibrium equations and the solution of differential equations using LaPlace transforms. Applications to analysis of electrical systems; d.c. and a.x. analysis, frequency response, source modeling, and network theorems. Laboratory introduces electrical instrumentation and measurement techniques; examines dynamic response of electrical and mechanical systems and simulation of response using PCAP Analysis program. Lecture 3 hours, laboratory 3 hours. Prerequisites: 225, Physics 231, Mathematics 250.

303 Thermodynamics (4) CORE
Classical thermodynamics with emphasis on first and second laws of thermodynamics. Property relationships, chemical equilibrium, and cycle analysis. Prerequisites: 104, Mathematics 250.

307 Fluid Mechanics (4) CORE
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. Laboratory: pressure measurements; quantity measurements; property measurements; energy losses; wind tunnel studies; shock waves; open channel flow; pumps and turbines; pipe flow. Lecture 3 hours, laboratory 3 hours. Prerequisites: 303, Mathematics 260.

322 Probability and Statistics for Engineering (3) CORE

325 Dynamic Systems II (3) CORE
Continuation of Engineering 272, with additional techniques for analysis of dynamic systems and applications of analytical methods. Extension of a.c. analysis to polyphase circuits, power, and resonance problems. Fourier series. Complex frequency domain characterization of responses. Block diagrams, signal flow graphs, and state variable representations. Prerequisites: 272, Mathematics 260, either Engineering 225 or Mathematics 308.

340 Engineering Materials Science (3) CORE

372 Electronics (4) CORE
Fundamentals of electronic systems and circuits. Physical operation of electronic devices, models of devices, two-port representation, biasing methods, stability, frequency response, input and output impedance concepts, untuned amplifiers, rectifiers, regulators, digital devices, and logic circuits. Laboratory: a design experience in electronics. Lecture 3 hours, laboratory 3 hours. Prerequisites: 272 and Physics 232.

373 Linear Systems Analysis and Design (4) CORE
Analysis and synthesis of controlled feedback systems. Transfer functions and state space descriptions developed and related. Nyquist,

379 Dynamic Systems Laboratory (1) CORE
Laboratory exercises in the simulation of dynamic systems and the design of automatic controls. Includes use of analog computers and CSMP for simulation and design confirmation. Laboratory 3 hours. Corequisite: 373.

380 Introduction to Engineering Design (3) CORE
Introduction to the design process in engineering. Problem definition and concept generation. Characterization of design as a decision process with objectives, constraints, a model, and an appropriate optimization technique. Computer application. Economic and managerial considerations. Prerequisites: completion of 36 hours in Engineering CORE, including 225.

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. Maximum of 15 cumulative hours. Course graded on satisfactory/no-credit basis.

405 Heat and Mass Transfer (4)
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. Prerequisite: 307.

406 Thermal Science Laboratory (1)
Laboratory experiments performed involving heat conduction, convection, radiation, and thermal devices such as internal combustion engines, heat pumps, and heat exchangers. Laboratory 3 hours. Prerequisite: 307. Corequisite: 405.

410, 411 Seminar (1, 0) CORE
Professional, ethical, and technical aspects of engineering. Both semesters required. Course graded on a satisfactory/no-credit basis. Normally taken as corequisite with 490r.

430 Thermal System Design (3)
Application of systems design techniques to the design to thermal processes. Discussion of case studies including heat exchanger networks, mechanical refrigeration, absorption refrigeration, steam generation, and chemical processes. Individual or group design problems. Prerequisites: 307, 380, 405, 431.

431 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, heat, and economic balances. Prerequisite: 303.

432 Chemical Operations (3)
Fundamental variables of chemical operations; generalized treatment of mass-transfer operations including separation processes. Multi-component phase equilibria. Application of fundamental principles of chemical operations for systems with simultaneous heat, mass, and momentum transfer. Prerequisite: 431.

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, tubular, and fluidized bed reactors. Prerequisite: Chemistry 372.

436 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. Prerequisites: 307, 380, 405, 431.

438 Advanced Fluid Dynamics (4)
Equations of continuity, momentum, and energy in three-dimensional vector formulation. Reduction to two- and one-dimensional flows for cases of engineering interest. Applications to students' areas of specialty. Laboratory work included. Prerequisite: 307.

439 Internal Combustion Engines (4)
Thermochemical phenomena in internal combustion engines. Topics include testing techniques, combustion, detonation, carburetion, equilibrium, and disassociation. Ideal and real fluid behavior in analysis of internal combustion engines. Experimental verification in the laboratory. Lecture 3 hours; laboratory 3 hours. Prerequisites: 303, 307, 405.

442 Machine Design (3)
Essential elements of machine design: shafts, clutches, brakes, gears, flywheels, and lubrication. Kinematics and dynamics of balancing, rotating, and reciprocating masses. Prerequisite: 248.

444 Applied Elasticity (3)

445 Mechanical Vibrations (3)
Free and forced vibrations of damped and undamped systems; single and multiple degrees of freedom utilizing lumped parameter analysis. Matrix rotation: sweeping and rotation techniques. Prerequisites: 248; Mathematics 250, 260.

446 Advanced Mechanics of Materials (3)
Statically indeterminate structures; introduction to theory of elasticity; special topics in mechanics of materials. Prerequisites: 246; Mathematics 250, 260.

450 Industrial Engineering Design (3)
Design of operations, facilities, and project controls. Topics include process organization, materials handling, information handling, scheduling, and resource allocation. Case studies. Prerequisite: 380.

452 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 decision-making, replacement policy. Prerequisite: Mathematics 136 or 160.

453 Value Engineering (3)
Application of value engineering techniques through an organized approach which consists of the following phases: information, speculation, analysis, planning, and execution; reporting and implementation. Primarily elective for B.S. in engineering management.

454 Work Measurement and Design (4)
Techniques for analysis and improvement of work methods; principles of motion economy, process charts, development of standard data from work sampling; predetermined time systems, performance rating, and wage incentive systems. Lecture 4 hours; laboratory work included.

455 Industrial Safety Engineering (3)
History, accident cost analysis, methods, and techniques developed for reducing and preventing accidents in industry, motivating safety, plant inspection, guarding of equipment, plant hazards, and their control, accident records and reports, employee selection, placement and counseling. Primarily elective for B.S. in engineering management.

456 Computer Integrated Manufacturing Systems (3)
Basic concepts of modern manufacturing and related control systems. Techniques include flow-line production, numerical control, industrial robots, CAM, group technology, and flexible manufacturing systems. Design applications. Lecture 3 hours; laboratory work included. Prerequisites: 225, 322; Mathematics 160 or equivalent. (Formerly Engineering 358).

457 Quality Control (3)
Detailed study of theory and methods for the design and analysis of quality systems. Product specifications, process control, acceptance inspection, other means of assurance. Lecture 3 hours; laboratory work included. Prerequisite: 322 or Management 211.
152—Engineering

458 Industrial Plant Layout (3)
Types and techniques of plant layout; process flow charts in routing
operations. Design and selection of equipment, materials handling, and
plant service facilities. Each student develops a scaled layout of
equipment and services of a specific product as a major project.

460 Structural Engineering Analysis and Design (3)
Analysis and design of framed structures due to moving and fixed loads;
influence lines; deflections of beams and trusses. Analysis of statically
indeterminate beams, trusses, bents, and frames. Prerequisites: 246;
Mathematics 250, 260.

462 Soil Mechanics, Foundations and Substructures (4)
Physical properties of soils, foundation explorations, and principles of
design of dry and subaqueous foundations. Lecture 4 hours, laboratory
experience included. Prerequisites: 246, 307.

465 Structural Engineering Design (4)
Design criteria in structures. Behavior of steel structures and reinforced
concrete columns and beams. AISC and ACI codes. Prerequisite: 460.

466 Elementary Structural Matrix Methods (3)
Review of matrix algebra and vectors, development of member stiffness
and flexibility matrices. Prerequisite: 444 or 445 or 460.

470 Microprocessors and Digital Logic (3)
Design of sequential electric circuits. Circuit minimization, cubic
representation, and Quine/McClusky algorithm. Circuit equivalence,
synchronous circuits, and memory circuits. Applications of the
microprocessor to realization of logic circuits. Lecture 2 hours,
laboratory 3 hours. Prerequisite: 372.

471 Electrical Machinery (4)
Magnetic circuits and transformers. Rotating electrical machinery; D.C.
machines, synchronous machines, induction motors. Speed control and
transient behavior. Lecture 3 hours, laboratory 3 hours. Prerequisite:
373. Corequisite: 475.

472 Electrical Energy Systems (4)
Power systems component modeling; transmission lines, machines,
transformers. Load flow analysis, system dispatching and control. Fault
analysis, symmetrical components, system protection. Transient
stability. Prerequisite: 471.

473 Communication Systems (3)
Definitions and basic concepts of analog and digital modulation
techniques. Fourier and LaPlace transform techniques used to study
transmission of signals through linear filters and time-bandwidth
relationship. Amplitude, frequency, and pulse modulation techniques
described and analyzed. Periodic sampling and the Nyquist sampling
criterion. Lecture 2 hours, laboratory 3 hours. Prerequisites: 322, 325.

475 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. Prerequisites: 372; Physics 232;
Mathematics 250, 260.

477 Electronic Instrumentation (4)
Intended for seniors or beginning graduates anticipating need for
developing instrumentation systems. Primary emphasis on instrumenta-
tion systems to gather design data and to verify performance. Design and
specification of instrumentation systems to acquire and condition large
quantities of data from a multiplicity of sensors. Prerequisite: 372 or 373
or equivalent.

478 Sampled Data and Nonlinear Control Systems (4)
Intended for seniors or beginning graduates desiring to pursue
automatic control technology beyond that offered in the core
curriculum. Traditional and new techniques for analysis and design of
nonlinear and sampled data control systems. Prerequisite: 373 or
equivalent.

490r Senior Design Experience (4)
A group design project. Solution to an engineering problem; oral and
written presentation of progress and final results. To be registered twice
for a total of 8 hours. Prerequisites: 380, completion of all lower division
engineering courses, and senior standing. Corequisites: 410 with first
semester, 411 with second semester. Corequisite in second semester,
one of the following: 430, 436, 442, 450, 465 or 470.

491r Special Topics in Engineering (1-4)
Advanced treatment of a specialized area in engineering, varying from
term to term. Prerequisite: approval of instructor and dean.

495r Departmental Honors (1-3 hours per term, 4 hours for the two
terms)
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<th>Summer</th>
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<td>Engineering 380 Engineering Design</td>
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<td>Engineering 373 Linear Systems Analysis</td>
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Computer Science

Professor J. Thompson, Head
Associate Professors C. Smullen, S. Smullen
Assistant Professors Baskerville, Day, Del Valle, J. Smith

The Computer Science Department offers a B.S. degree in computer science. Majors take a 36-hour sequence of computer science core courses and take additional courses in an area of concentration. The concentration of study augments the core courses and is a specialization in which the student can apply his or her knowledge of computers. Four concentrations are available: information systems, scientific applications, systems architecture, and topical.


General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses

Computer Science core courses: Computer Science 121, 122, 201, 251, 252, 301, 312, 320, 335, 350, 407, 490r

6 hours of upper division (300 or 400 level) computer science electives

Computer Science 340 may not be used as an upper division elective.

English 277 or 278

Additional course requirements for each concentration are:

1. Information Systems
   Mathematics F150, 160, 303, 307; Accounting 201, 202, 305; Management 311, 356; Computer Science 280; Economics C101 and C102

2. Scientific Applications
   Mathematics F150, 160, 250, 260, 303, 308 and one of the following: 412, 414, 418, 428, 445 or 460; either Engineering 322, or Mathematics 407 and Mathematics 408; two of the following sequences: Biology D121 and 122 or Geology D11 and 112, Chemistry D121 and 122, Physics D103 and 104 or 230 and 231

3. Systems Architecture
   Mathematics F150, 160, 250, 260, 303; Physics 230, 231; Engineering 272, 372; either Engineering 322, or Mathematics 407 and Mathematics 408

4. Topical
   At least 8 hours of mathematics beginning with Mathematics F150 and including Math 303; 6 hours of statistics; 15 hours of approved courses in an area chosen by the student with the advice and consent of a standing committee made up of faculty in computer science and faculty in the chosen area. Enrollment in this program is limited to students who have demonstrated exceptional ability or accomplishment. Programs developed under this option must be substantially different from the other listed concentrations. The approved program should be filed with the Records Office no later than the first semester of the student’s junior year and cannot be changed without the written approval of the student’s standing committee.

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 123, 210, 211, and 340

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical courses of study in computer science (B.S.)

Computer science (B.S.): information systems concentration

<table>
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<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<td><strong>Freshman</strong></td>
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<tr>
<td>Computer Science 121</td>
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### Computer Science Courses

117 **Computer Programming with BASIC** (3)
An introduction to the concepts and techniques of computer science. Emphasis is placed on the design and implementation of efficient algorithms using the BASIC language. Prerequisites: Mathematics 135 or 145; credit not allowed after Computer Science 210 or Engineering 124.

118 **Computer Programming with FORTRAN** (3)
An introduction to the concepts and techniques of computer science. Emphasis is placed on the design and implementation of efficient algorithms using the FORTRAN language. Prerequisite: Mathematics 135 or 145.

121 **Computer Programming I** (3)
An introduction to digital computing techniques using PL/I. 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. Pre- or corequisite: Mathematics 150.

122 **Computer Programming II** (3)
Continued development of programming style using subroutines and top-down design. Debugging and testing of large programs. Emphasis on algorithm development.List processing. Recursion. Comparison of compilation techniques. Prerequisite: 121 with a grade of C or better; pre- or corequisite: Mathematics 760.

123 **Introduction to Data Processing** (3)
General overview of electronic data processing. Topics include methodology, terminology, systems and procedures, file organization, peripheral equipment, and central processing unit components.

150 **PL/I Programming** (1)
An introduction to the PL/I language. Intended for students who have completed an introductory course in computer programming with a language other than PL/I. Prerequisite: at least 3 credit hours of computer programming with a grade of C or better. Prerequisite or corequisite: Mathematics 150.

199 **Special Projects** (1-4)
Individual or group projects. Maximum credit 4 hours.

201 **Assembly Language Programming** (3)
Computer structures; introduction to machine language, symbolic coding, and assembly languages; macros; program segmentation and linkage; file organization; operating systems introduction. Prerequisite: 122 with a grade of C or better.
156—Computer Science

210 Computer Information Systems I (3)
Survey of computer applications. Introduction to the use of computer hardware and software information systems. Fundamentals of systems analysis and design. Use of BASIC to solve problems from business and other disciplines. (Formerly Computer Science 100). Prerequisite: 3 credit hours of college mathematics.

211 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; an introduction to information retrieval and file and data base management systems; advanced topics in the BASIC language. (Formerly Computer Science 101). Prerequisites: 210, Accounting 201.

231 Computer Problems in the Sciences (3)
Computer algorithms, and the complete preparation and solution of selected mathematics and science problems. Solutions of equations; interpolation and approximations; sequences and series; numerical differentiation and integration; numerical solution of initial value problems in differential equations. Pre- or corequisite: Mathematics 250.

251 Command and Job Control Languages (3)
Introduction to operating systems. The compile, link edit, and execute process. IBM job control language. Interactive command languages. Cataloged procedures. Load modules and libraries. Linking object modules. Principally, a study of the IBM environment with comparisons to and limited discussion of other mainframe and small computer operating systems. Prerequisite: 122 or 280 with grade of C or better.

252 Introduction to Computer Organization (3)
Basic digital logic design, coding, number representation and arithmetic, mechanics of information transfer and control within a digital computer system. Prerequisite: 201 with a grade of C or better.

280 Accelerated COBOL (3)
A study of standard and advanced methods of computer programming in business applications; emphasis on the organization and processing of direct access storage device files using COBOL. Prerequisite: 122 or 211 with grade of C or better.

301 Systems Programming (3)
Structure and design of programs whose inputs are programs. Assemblers, interpreters, compilers, generators, input/output control systems, supervisors. Formal programming languages, syntactic descriptions, symbolic functions and manipulations. Prerequisite: 312 with grade of C or better.

312 Data Structures (3)
Description of data bases and structures; concepts of records, files, trees and lists; sorting, searching, and merging of information files; referencing and cross-referencing files. Prerequisites: 201, 251, and Mathematics 303 with grades of C or better.

320 Operating Systems (3)
Familiarization with the major concepts of operating system principles; procedure activation, storage allocation, system structure, performance evaluation, memory management, process management, security, and recovery procedures. Prerequisite: 252 and 312 with grades of C or better.

335 File Processing (3)
A study of disk and tape file organizations. Creation of sequential, direct, and indexed sequential files. Hashing techniques and address overflow. Primary and secondary key usage. Inverted and linked list files. Binary trees, B-trees, B*-trees, and AVL trees. Prerequisite: 312 with grade of C or better.

340 Computer Analysis of Social Science Data (3)
The analysis of data from the social sciences using widely distributed statistical packages such as SPSS. Topics include data types, data files, manipulation, use of computers for description of univariate data, exploration of bivariate and multivariate relationships, hypothesis construction and testing; data sets drawn from sociology, anthropology, economics, political science and psychology. May not be used as 300-level elective for computer science majors. Prerequisite: introductory statistics course.

350 Software Engineering I (3)
A study of systems analysis and design aspects of software engineering to include information systems and the systems analyst, tools and techniques of systems analysis, and the life cycle concept of system development. Prerequisites: 122 or 280; English 277 or 278; with grades of C or better.

410 Programming Language Structures (3)
The study of a major computer language with a structure different from FORTRAN or PL/I, or a study of advanced features such as extensibility, concurrency, or multitasking. Prerequisites: 312 and 320 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: 312 with grade of C or better.

430 Topics in Simulations (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 optimizations; applications using simulation languages such as CPSS and GASP; comparison of simulation languages. Prerequisites: 312 with grade of C or better and an approved sequence in statistics.

435 Data Base Information Systems (3)
Concepts and methods in the definition and management of large integrated data bases for organizational information systems; functions and objectives of existing file and data management systems; analysis of proposals for new data management software; data base design; data base administration and security. Prerequisite: 355 with grade of C or better.

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 uncomputability, complexity, and the classes of P and NP. Prerequisites: 121 with grade of C or better and Mathematics 303.

450 Software Engineering II (3)
A study of software development including the philosophy and techniques of software engineering and emphasizing analytical techniques useful to software designers. The course will include numerous programming assignments that will emphasize the areas of the design process; top-down, bottom-up, and structured programming approaches; different levels of test thoroughness; test approaches; test models; software reliability; and management techniques. Prerequisites: 301 and 350 with grades of C or better.

460 Computer Architecture (3)
Computer organizations and structures; data processing systems; basic digital circuits; data representation, digital storage and accessing; control functions; input/output facilities; systems organizations. Multi-programming, multiprocessing, time sharing and real time systems. Prerequisite: 320 with grade of C or better.

490r Senior Design Project (3)
A group design effort which will concentrate on developing a major hardware or software project. Oral and written presentations of progress and final results required. Prerequisites: 320, 350 with grades of C or better, and senior standing.

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

497r Research (1-4)

498r Individual Studies (1-4)

499r Group Studies (1-4)
School of Human Services

Professor Venters, Dean

The School of Human Services offers four distinct programs leading to baccalaureate degrees. These programs are criminal justice, home economics, human services, and social work. In addition to the undergraduate degrees, a Master of Science in criminal justice degree is offered.

Each degree is designed to prepare professional personnel to work in a variety of settings related to meeting human needs. The faculty and philosophy of the division emphasize the interdisciplinary relationships of the various fields of knowledge and practice.

The Military Science Department and the Special Services/Upward Bound Program are also administered through the School of Human Services.

Criminal Justice

Assistant Professor R. Thompson, Head
Professors Fjeld (Psychology), Venters
Associate Professor D. Anderson
Assistant Professors Bush, Catale, Hall

The baccalaureate degree in criminal justice is designed to prepare professionally competent individuals for positions within the criminal justice system. Specializations in corrections, crime control, juvenile justice, law and the courts, and law enforcement are available.

Criminal Justice (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours)

Category G
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
Criminal Justice 410 or Psychology 308 or Sociology 321
Human Services 405
24 hours criminal justice including 101,112,113 through Cleveland State Community College, plus UTC courses 301, 303, 450, 470 and 471
One of the following concentrations—

1. Corrections:
   21 hours from CSCC Criminal Justice Program 120; UTC Criminal Justice 312, 313, 314, 315, 320, 322, 330, 400, 403, 430, 465; Computer Science 210; Sociology 322, 323

2. Crime control:
   21 hours from CSCC Criminal Justice Program 104,105,130,140; UTC Criminal Justice 322,400,402,440,465; Sociology 320; Human Services 301; Social Work 305; Political Science 323

3. Juvenile justice:
   21 hours from CSCC Criminal Justice Program 212; UTC Criminal Justice 312, 313, 314, 320, 322, 330, 350, 403, 406, 430, 465, Psychology 221, 222; Sociology 322; Social Work 305; Computer Science 210; Home Economics 301

4. Law and the courts:
   21 hours from CSCC Criminal Justice Program 102; UTC Criminal Justice 320,400,403,405,406,408,430; English 360,370; Sociology 320, Political Science 322, 323; Business Marketing 336; Environmental Studies 410, 411; Philosophy 211, 230; CSCC Law’ 101,102,103,104, 105

5. Law enforcement:
   21 hours from CSCC Criminal Justice Program 102,105,203,204,220; UTC Criminal Justice 300,310,320,322,400,402,403,405,408,430,465; Political Science 323; Sociology 320

2.0 average in all Criminal Justice and Criminal Justice Program (CSCC) courses

Minimum of 30 hours of 300 and 400 level courses electives to complete 128 hours

*CSCC paralegal courses may not be taken during the last 60 hours.

Typical course of study in criminal justice (B.S.)

<table>
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<th>First Semester</th>
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<td>General Education Category B (Fine Arts)</td>
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¹Electives may include approved perspectives course.
## 158—Criminal Justice

### Junior

<table>
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<th>Course Code</th>
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<td>Sociology 314</td>
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### Senior

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</table>

*CJP*-Cleveland State criminal justice consortium courses. Electives may be taken from any academic program.

### Minor

- **Criminal Justice**: Legal Environments
  - 18 hours including Criminal Justice 301, 325, 420; 3 hours from Criminal Justice 400, Political Science 322 or 323, Sociology 320; 3 hours from Communication 451, Criminal Justice 405 or 406, Environmental Studies 410 or 411, Social Work 305; and 3 elective hours in Criminal Justice at the 300 or 400 level. Criminal Justice majors may not elect this minor.

### Criminal Justice Courses

#### 190r Institute in Criminal or Juvenile Justice (1-4)
Current topics in criminal and juvenile justice. Special programs, workshops, demonstration, and in-service courses.

#### 199r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

#### 200 The Criminal and Society (3)
Historical and contemporary perspectives on the interaction between the criminal and society. Focus on the citizen’s role as crime预防or, victim, and supporter of criminal activities.

#### 201 Violence in America (3)
An historical investigation into violence in America and the evolutionary response of criminal justice agencies.

#### 275 Drugs: The Law and the Community (3)

#### 300 Psychology of Law Enforcement (3)
Psychology as applied to processes of communication among police and those individuals and groups with which they come in contact.

#### 301 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.

#### 303 Comparative Criminal and Juvenile Justice Systems (3)
An examination of these two systems of justice as they function in other countries.

#### 310 Law Enforcement in Criminal and Juvenile Justice (3)
An examination of specific law enforcement problems as they relate to criminal justice and juvenile justice.

#### 312 Correctional Perspectives in Criminal and Juvenile Justice (3)
The development of priorities, goals, and standards for the correctional field.

#### 313 The Volunteer in Criminal and Juvenile Justice (3)
An examination of the role of the citizen volunteer in the two systems of justice.

#### 314 Correctional Casework (3)
The application of counseling and interviewing techniques and theory to the correctional client.

#### 315 Prisoner’s Rights (3)
Examination of the regulation of individual and collective behavior and the rationale for such restrictions during a period of confinement in a penal or mental institution.

#### 316 Blacks and Criminal Justice (3)
Discussion of the black offender and the black criminal justice professional from the black perspective.

#### 320 Advanced Administration in Criminal and Juvenile Justice (3)
Theory and practice of the administration of criminal justice system components. *Prerequisite: CJP* 105 or approval of instructor.

#### 322 Criminal Justice Planning (3)
An examination of the role of a criminal justice planning agency in a local, state, or federal system; and contemporary sources of funds for program planning, implementing, and evaluating. *Prerequisite: 301 or approval of instructor.*

#### 325 Street Law (3)
An examination of criminal and civil law to emphasize the full range of the legal system and its application to everyday life. Elective credit; not applicable toward major.

#### 330 Probation and Parole (3)
An examination of the theory and practice of probation and parole with juvenile and adult offenders.

#### 350 Juvenile Institutional Services (3)
An historical perspective of the evolution of juvenile institutions and their present day applicability and use.

#### 400 Constitutional Law (3)
An examination of the leading constitutional principles pertaining to modern criminal procedure.

#### 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.

#### 403 Management Concepts in Criminal Justice (3)
Theories of criminal justice management, motivation, communication, planning, and decision making. *Prerequisites: CJP* 105 and 320, or approval of instructor.

#### 405 Advanced Criminal Law (3)
Common and statutory law of crimes including national developments and trends, inchoate offenses, and defenses to crime. *Prerequisite: CJP* 112 or approval of instructor.

#### 406 Advanced Juvenile Law (3)
Statutory and case analysis of judicial decisions, substantive juvenile law and procedures significant to practices of various agencies in juvenile justice. *Prerequisite: CJP* 212 or approval of instructor.

#### 408 Advanced Criminal Procedure (3)
Examination of the major legal and constitutional protections of the accused from initiation of investigation through post-conviction relief. *Prerequisite: CJP* 113 or approval of instructor.

#### 410 Theories of Criminal and Delinquent Behavior (3)
An analysis of theory and research on epidemiology and etiology of crime.

#### 411 Criminal Justice Research Methodology (3)
Examination of the contemporary philosophy and techniques of research as applied in the criminal justice field.

#### 420 Administrative Advocacy (3)
Examination of a case for presentation to an administrative law court; review of record, legal research, preparation of a brief, and presentation of oral argument. *Prerequisite: 301.*
422 Advanced Planning and Evaluation in Criminal and Juvenile Justice (3)
Application of scientific methodology and analysis to problem solving. A research project will be designed and evaluated. Prerequisite: 322 or approval of instructor.

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. Prerequisite: at least one course at the 200 level or above in either philosophy or religion, or approval of instructor.

440 Science and Technology in Criminal Justice (3)
An exploration of the ways in which science and technology have influenced (and failed to influence) the practices, procedures, and problems of the criminal justice system. Prerequisite: completion of Category D requirements or approval of the instructor.

450 Integrative Criminal Justice Systems Seminar (3)
Discussion of selected system-wide problems and topics in criminal justice. Research and oral presentation by the student. Prerequisites: senior standing, criminal justice major, methodology course.

465 Crisis Intervention (3)
Study of the theoretical bases for accurately assessing crisis situations and a guided practicum in crisis intervention techniques.

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. Prerequisite: criminal justice major, junior standing, and approval of instructor. Courses may be taken concurrently or consecutively.

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

497r Research (1-4)

498r Individual Studies (1-4)

499r Group Studies (1-4)

*CJP-Cleveland State criminal justice consortium courses.

In addition to the faculty listed above, the department is supported by adjunct faculty members who are employed in professional fields associated with home economics specialties.

Admission to Home Economics 405: Practicum requires a written application filed with the specialty faculty adviser no later than three months prior to the semester in which the student plans to register for the course.

Home Economics: General (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category E
1 approved mathematics course (3 hours; approved related course below will apply)

Category F
1 approved perspectives course (3 hours; approved related course below will apply)

Category G
Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
Economics C101, C102
Sociology C151
Psychology C101, 311
Chemistry 111
Mathematics F210
Anthropology G208

One of the following specialties—

1. Child and Family Development:
39 hours Home Economics including 101, 105, 202, 304, 340, 350, 402 and 21 hours from 205, 300, 301, 306, 328, 332, 440, 441, 445
15 hours from Education: Counseling 401; Health, Physical Education, and Recreation 154, 302; Psychology 221; Social Work 315, 411

2. Foods and Nutrition:
39 hours Home Economics including 101, 105, 202, 304, 340, 350, 402 and 21 hours from 206, 207, 305, 330, 331, 332, 401, 431
15 hours from Biology 192, 193, 210; Chemistry 122, 351, 352, 466

3. Management and Consumer Science:
39 hours Home Economics including 101, 105, 202, 304, 340, 350, 402 and 21 hours from 104, 201, 206, 207, 301, 302, 303, 306, 310, 311, 312, 328, 331, 332, 412
15 hours from Communication 101, 110, 260, 340, 345; Human Services 301, 405; Social Work 432, 450

2.0 average in all home economics courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours
## Typical course of study in home economics (B.S.): general

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tr>
<td><strong>Freshman</strong></td>
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<td>Home Economics 101</td>
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<td>Chemistry 111</td>
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<td>Physical Education 021</td>
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### Home Economics: Business (B.S.)

**General Education** (see pages 26-28 for list of approved courses)

- **Category A**: 2 approved courses in written communication in the English language (6 hours)
- **Category B**: 3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)
- **Category C**: 2 approved behavioral or social science courses (6 hours; approved related courses below will apply)
- **Category D**: 1 approved physical or natural science course with laboratory (4 hours)
- **Category F**: 1 approved mathematics course (3 hours; approved related course below will apply)
- **Category C**: 1 approved perspectives course (3 hours)
- Health and Physical Education 021 plus one additional semester physical education activity

**Major and related courses**

- Economics C101, C102
- Chemistry 111
- Computer Science 210
- Mathematics F210
- Psychology C101, 311
- 3 hours sociology
- Theatre and Speech 109

12 hours from the School of Business Administration including Management 103, 315, 332, 438; Marketing 313, 318, 319, 335, 355, 361, 362, 363, 364, 365, 415, 417, 450; Finance 281, 302, 321, 322, 337; Accounting 306; Economics 301; Office Administration 310 (Maximum of 32 hours in School of Business Administration courses)

One of the following specialties—

1. **Fashion Merchandising**: 39 hours from home economics including 101, 105, 202, 304, 340, 350, 402 and 21 hours from 201, 220, 222, 311, 312, 313, 314, 370, 405, 412, 413


3. **Interior Design**: 39 hours from home economics including 101, 105, 202, 304, 340, 350, 402 and 21 hours from 201, 220, 221, 222, 303, 306, 315, 436, 403, 422

4. **Consumer Affairs**: 39 hours from home economics including 101, 105, 202, 304, 340, 350, 402 and 21 hours from 104, 201, 205, 206, 207, 220, 222, 301, 303, 306, 312, 328, 331, 332, 370, 390

2.0 average in all home economics courses

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours

## Typical course of study in home economics (B.S.): business

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
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### Home Economics Courses

- **101 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.

104 Clothing Construction (3)
Proficiency based techniques and principles of garment construction, lecture 2 hours, laboratory 2 hours.

105 Nutrition and Man (3)
An introduction to nutrition with an integrated emphasis on the scientific, psychological, sociological, and economic aspects of nutrition. Impact of optimal nutrition on human development. Application of knowledge to the home and school situation.

19r Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

201 Consumer Textiles (3)
Modern fibers, yarns, fabrics, and finishes for apparel and home furnishings. Trade practices and consumer problems.

202 Orientation to the Home Economics Profession (1)
Introduction to home economics as an area of study focusing on basic concepts that form the foundation of the discipline. History, philosophy, and career options in home economics.

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.

206 Food Science (3)
Basic scientific concepts related to the selection, care, and preparation of foods; emphasis on chemical and physical properties and their interaction with environmental variables, lecture 2 hours, laboratory 2 hours. Pre- or corequisites: Chemistry 121, 122.

207 Food Management and Marketing (3)
Nature of the American food market, marketing procedures, resource management, regulations in the food industry, consumer food technology, cultural and regional influences in food preference, menu development, and styles of service.

220 Interior Space Design (3)
Analysis of space needs for people. Techniques of analyzing floor plans. Drawing skills, symbols, and terminology used in interior design. Lecture 1 hour, laboratory 4 hours.

721 Interior Design Drafting (3)
A basic interior design drafting course. Includes symbols and techniques necessary to draw and understand a set of architectural plans. Lecture 1 hour, studio 4 hours. Prerequisite: 220.

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, lecture 7 hour, laboratory 4 hours. Prerequisite: 707.

270 Introduction to Restaurant Management (3)
Profile of the food service-for-profit industry. Management theories and techniques for restaurants. Trends in tourism. Emphasis on sales planning, promotions, regulations, special problems in recordkeeping, human relations, and legal aspects of the industry.

300 Child Development Lab (1)
Supervised observation in community agencies within appropriate age levels. Corequisite: 301.

301 Child Development (3)
Growth and development of infants and pre-school children within the familial setting. Review of current research relating to child rearing. Emphasis on parenthood and parenting skills. Directed experience in observation and participation in approved nursery and day care centers. lecture 2 hours, laboratory 2 hours. Prerequisites: lower level child study course from psychology or the School of Education.

302 Clothing Construction (3)
A comprehensive study of clothing construction for educators and consumer consultants with emphasis on challenging problems in the use of modern fabrics, intricate design details, fitting, and pattern alterations. Lecture 2 hours, laboratory 2 hours. Prerequisites: 101, 104.

303 Interior Furnishings (3)
Study of design characteristics of historical furniture and interiors including the dominant, socio-economic influences on design development. An overview of the selection and use of interior furnishings.

304 Management for Effective Living (3)
The management process as applied to the home and personal environment. Use and development of human and material resources in relation to values and goals. Emphasis on time management, money management, and financial security.

305 Advanced Nutrition (3)
Food nutrients in physiological and biochemical processes of the body. Emphasis on their relationship to health and human development. Prerequisites: 105 or equivalent; Chemistry 121, 122 or equivalent.

306 Housing and Energy Management (3)

311 Fashion Marketing (3)
An analysis of the world of fashion from designer to consumer; fashion trends, cycles, and retail distribution of fashion goods.

312 Fashion Fundamentals (3)
History of fashion from Egyptian period to the present. Includes aesthetic, economic, social, and psychological factors influencing fashion. Analysis of fashion fundamentals and trends with implications for fashion merchandising.

313 Merchandising (3)
Principles and practices of merchandising in relation to the retailing of apparel and textile products. Problem solving approach with the consumer as a major consideration in planning merchandise assortment, presentation, and promotion.

314 Fashion Sketching (3)
A study of sketching techniques used by fashion professionals. Includes proportion, movement, sketching garments, rendering fabrics, analysis of current fashion illustrations, and designing an illustration. Prerequisite: 101 or equivalent.

315 Elements of Interior Design (3)
Components of the interior basic to the art of interior design: wall treatments, floor coverings, window treatment, lighting, accessories, fabric selections, furniture arrangements. Design principles in putting the elements together. Patios and outdoor living furnishings. Energy conservation. Prerequisites: 101, 220, 222, or equivalent.

326 Interior Design Renderings/Presentations (3)
Advanced projects using creative design techniques in a variety of media as a means of visual communication and precise delineation, lecture 7 hour, laboratory 4 hours. Prerequisites: 220,221,222,315, or equivalent.

328 The Consumer and the Market (3)
Consumer affairs in America: rights, responsibilities, issues, challenges, and forces influencing consumer demand and decision-making. The marketplace in today’s economy. Consumer resources and protection.

330 Experimental Food Science (3)
Chemical and physical factors affecting food preparation, including experimental methods and individual experimentation in selected food problems, lecture 7 hour, laboratory 4 hours. Prerequisites: 206, Chemistry 122, Biology 210.

331 Food & Nutrition: Issues and Policies (3)
Issues and policies of food and nutrition focusing on local, regional, national, and international concerns in relation to population, special group problems, cultural, and economic factors. Food safety issues.
Prerequisite: 313.

Control. Includes procedures for calculating open to buy, stock turn, hours. Prerequisites: 220, 222, 303 and 315 or equivalent, 326.

Projection of the psychological goals and effects for inhabitants: furniture layouts, simple perspective, projects to integrate the interior elements to achieve predetermined goals.

422 Interior Design Synthesis (3)

A study of the characteristics of furnishings and interiors of the late nineteenth century and the twentieth century. Includes furniture, accessory, and color selection. Includes advertising, display, special events, publicity, fashion shows, and personal selling. Prerequisite: 312, 313 or equivalent.

350 Communication in Family and Consumer Services (3)

The human services programs are intended as basic preparation for entry level supervisory and managerial positions in public and private organizations which provide a broad spectrum of human and community services.

Human Services: Management (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than human services (6 hours; approved related course below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)
Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category G
1 approved perspectives course other than human services (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
Psychology C101 and Psychology 221 or 222
9 hours from one of the following cognate areas: economics, political science, psychology (above courses not applicable), sociology/anthropology (Behavioral science courses used for general education purposes may not satisfy this requirement, but behavioral science courses listed below may count)
3 hours from the following: Management 315 (required)
6 hours from the following: Management 330, 332; Sociology 317; Political Science 223
3 hours of research or statistics from Mathematics F210; Sociology 314; or equivalent approved course
21 hours human services including 101, 102, 301, 330, 405, 440, 450
9 hours practicum from Human Services 470 and 471 or 472, 474, and 471; Political Science 471 r
2.0 average in all human services courses and Business Management 315

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours

Typical course of study in human services (B.S.): management

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>Freshman</td>
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<td>General Education Category A</td>
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<td>General Education Category B</td>
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<td>General Education Category C</td>
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<tr>
<td>Human Services 101</td>
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<td>General Education Category D</td>
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<tr>
<td>Physical Education 021</td>
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<tr>
<td>Sophomore</td>
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<td>General Education Category B</td>
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<tr>
<td>Psychology 221 or 222</td>
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<tr>
<td>Cognate Course</td>
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<tr>
<td>Electives</td>
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<tr>
<td></td>
<td>15</td>
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<tr>
<td>Junior</td>
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<tr>
<td>Cognate Course</td>
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<tr>
<td>B Management 315</td>
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<tr>
<td>Human Services 301</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Senior</td>
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<tr>
<td>Human Services 440</td>
<td>3</td>
</tr>
<tr>
<td>Human Services 405</td>
<td>3</td>
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<tr>
<td>Electives</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

Human Services: Allied Health Management (B.S.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses other than human services (6 hours; approved related course below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category G
1 approved perspectives course other than human services (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

Major and related courses
Licensure and registry in an American Medical Association approved allied health specialty required for admission to this concentration
Computer Science 210
12 hours including Business Management 315, Mathematics F210 or Sociology 314, Psychology C101, Psychology 221 or 222
23 hours including Human Services 101, 102, 301, 330, 405, 440, 450, 471
12 hours in approved allied health clinical courses from a community college
7 additional hours in approved allied health clinical courses in lieu of Human Services 470 for students licensed or certified in the field with a minimum of two years of experience as a practitioner
2.0 average in all human services courses and Business Management 315

Minimum of 30 hours of 300 and 400 level courses
Electives to complete 128 hours (the last 60 hours must be completed at four-year institutions with the last 30 hours at UTC)

Human Services Courses

100 Principles of Effective Study (3)
The study and development of reading and study skills that are required for college level study. Prerequisite: approval of the instructor.

101 Human Perspectives (3)
A multidisciplinary introduction to behavioral science findings which examines the interaction between social systems and human development. Assumptions concerning Americans, the systems in which they live, and the resulting impact on social policy decisions are explored.

102 Human Existence and Urban Society (3)
An interdisciplinary examination of characteristics and problems of post-industrial urban society with special reference to the possibilities and dangers for future human existence.

199r Special Projects (1-4)
Individual or group projects. Prerequisite: approval of the coordinator of human services. Maximum credit 4 hours.

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.

301 Social Policy and Social Change (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.
Prerequisites:
development of communication skills, interpersonal functioning, and the understanding of group processes. **Prerequisites:** 6 hours of behavioral sciences.

### Model of Program Planning and Evaluation (3)
Models of program planning and evaluation; emphasis on knowledge leading to basic competence in design and monitoring of human services programs.

### 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. **Prerequisites:** 6 hours of behavioral sciences.

### Human Services Supervision (3)
Concepts and techniques appropriate to supervision in human services and governmental agencies and organizations. **Prerequisite:** Management 315 plus one of the following: Management 330, 332; Sociology 317; Political Science 223; or approval of instructor.

### Seminar in Human Services Administration (3)
Administrative procedure, processes, planning, and decision-making in human services and governmental settings. **Prerequisite:** 440 or approval of instructor.

### Full-time Field Instruction (7)
Supervised internship in a human services setting related to a student's academic and career goals. Admission must be obtained from the director of field placement at least 90 days prior to enrollment in the course. In addition, Human Services: Management majors must present evidence of a minimum 2.0 overall grade point average, fulfillment of writing requirement, and completion of Human Services 440 before enrolling in Human Services 470. **Prerequisites:** 440, approval of the coordinator of field placement, and senior standing. Corequisite: 471r (2 hours). Graded on a satisfactory/no credit basis. Maximum 7 hours total in field placement.

### Partial-time Field Instruction (4) (3)
See Human Services 470 description. **Corequisite:** Human Services 471r (1 hour). Maximum 7 hours total in field placement.

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

### Research (1-4)

### Individual Studies (1-4)

### Croup Studies (1-4)

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## Military Science

### Reserve Officers Training Corps (ROTC)

**Professor Seiler, Head**

**Assistant Professors Kell, Rogers, Sherman**

**Staff Gardner, Polk, Ware, Wickner**

The primary objective of the Army Officer Education Program at UTC is to develop and commission men and women who have the qualification and potential for service as officers in the United States Army, the Army National Guard, or the Army Reserve.

Intermediate objectives are to provide students with an understanding of the fundamentals of responsibility, integrity, and self-discipline, as well as an appreciation of the citizen's role in national defense. The application of the decision-making process to a variety of situations is given major emphasis as a valuable aid in developing leadership potential. Through study and application of the principles of leadership and management, the military science student develops self-confidence, self-discipline, and other desirable qualities that will contribute to success in any career. The advanced course offers the opportunity for a commission as a second lieutenant in the U.S. Army, the Army National Guard, or the Army Reserve. Advanced course students receive a $100/month subsistence allowance up to 20 months (total $2,000).

### Scholarships

See under the financial aid section of the Bulletin.

### Books and Uniforms

All books, uniforms, and materials needed for participation in the military science program are furnished at no cost to the student.

### Education Delays

Newly commissioned officers may delay their entry on active duty in order to pursue graduate studies in a recognized field of study.

### Four-Year Program

The four-year program consists of a basic course and an advanced course. Each course normally requires four academic semesters to complete. With approval of the professor of military science, the basic course can be completed in two academic semesters.

#### Basic Course

The basic course consists of Military Science I (freshman year) and Military Science II (sophomore year). During this course, the student examines Army organization and management with emphasis on the development of basic leadership skills. Leadership fundamentals learned in this course contribute to continued studies in the advanced course. Course completion requires both class and leadership laboratory attendance. Leadership laboratory consists of activities designed to develop basic leadership skills.

#### Advanced Course

The advanced course consists of Military Science III (junior year) and Military Science IV (senior year). Three hours in class, three hours of physical training (PT), and a leadership laboratory are required each week. In leadership laboratory, the student develops intellectual insights through frequent seminars.

### Two-Year Program

The two-year program consists of the last two years (the advanced course) of the regular four-year program. The program is open to selected students who have two years of academic study remaining at UTC or any other accredited institution. Applications are accepted from December to April. Selectees must have either completed three years of junior ROTC, have the required amount of prior military service, completed the UTC on-campus summer basic course program or completed the six week ROTC basic camp. Applicants must meet the same
enrollment criteria as those students who enter the advanced course after completing the regular basic course.

**UTC On-Campus Summer Basic Course Program**

The on-campus summer program is a full scale, complete course containing all the professional knowledges and skills which would normally be taught to the students during the first two years of military science. Students are enrolled in the same MS I and MS II classes (basic course) which are offered during the regular academic year. Upon completion of this basic course they are eligible for enrollment in the advanced course program. The purpose of the on-campus military science summer program is to broaden the recruiting base on the local host institution campus by attracting quality students who otherwise are unable to participate in Army ROTC. The program is not designed to compete with the ROTC basic training camp at Fort Knox.

**Six-Week ROTC Basic Camp**

ROTC basic camp is a six-week training course conducted at Fort Knox, Kentucky, during the summer vacation period. Cadets earn over $600.00 plus room and board. In addition, participants may compete for two-year, full tuition college scholarships. Successful completion of the camp qualifies the cadet for entry into the advanced program. No service obligation is incurred for attendance.

**Requirements for Enrollment**

The general requirements for enrollment in the basic course program are:

1. Be a citizen of the United States and of good moral character.
2. Be not less than 17 years of age or have parental consent.
3. By physically and medically qualified.
4. Be enrolled as a full-time student at UTC or accredited, cross-enrolled institution in the Chattanooga area.
5. Execute a loyalty oath and not be a conscientious objector.

All students enrolled in the advanced course program must meet the following admission requirements:

1. Have either completed the ROTC basic course program; have three years of junior ROTC; have the required amount of prior military service; completed the UTC on-campus summer basic course program; or, have completed the six-week ROTC basic summer camp.
2. Possess qualifications for becoming an effective Army officer.
3. Have, at the time of enrollment, a minimum of two years of academic work remaining, either graduate or undergraduate.
4. Meet scholastic screening requirements.
5. Meet all general requirements as outlined above for enrollment in the basic course program.
6. Be selected for enrollment by the department head.

**Obligations**

A student incurs no obligation to the military by participating in freshman or sophomore military science courses. The courses offer a cadet the opportunity to evaluate the prospect of military science and also to qualify for the advanced program beginning the junior year. When a cadet enters the advanced program, he or she is obligated to accept a commission as a second lieutenant in the United States Army Reserve (USAR) upon graduation.

**Military Science Curriculum**

<table>
<thead>
<tr>
<th>Credit</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Military Studies¹</td>
<td></td>
</tr>
<tr>
<td>MS 101 Fundamentals of Military Science I</td>
<td>3</td>
</tr>
<tr>
<td>MS 102 Fundamentals of Military Science II</td>
<td>3</td>
</tr>
<tr>
<td>MS 201 American Military Profile and the Professional Soldier</td>
<td>3</td>
</tr>
<tr>
<td>MS 202 Military Management and Leadership Skills</td>
<td>3</td>
</tr>
<tr>
<td>MS 300 ROTC Basic Camp²</td>
<td>4</td>
</tr>
<tr>
<td>Advanced Military Studies</td>
<td></td>
</tr>
<tr>
<td>MS 301,302 Advanced Leadership and Management (3,3)</td>
<td>6</td>
</tr>
<tr>
<td>MS 400 Army ROTC Summer Studies</td>
<td>4</td>
</tr>
<tr>
<td>MS 401,402 Seminar in Leadership and Management (3,1)</td>
<td>4</td>
</tr>
<tr>
<td>Total credit possible not to exceed 26</td>
<td></td>
</tr>
</tbody>
</table>

Students in MS 301, 302, 401 and 402 participate in the equivalent of one hour of leadership laboratory per week.

¹On the basis of previous honorable active military service in any branch of the armed services, or attendance at the basic summer camp, participation in the junior ROTC program in secondary schools, a student may be exempt from all or portions of the basic course.

²With permission of the professor of military science (PMS).

**Military Science Courses**

**101 Fundamentals of Military Science I (3)**
Organization, missions, and functions of the Army; ROTC orientation; historical development of the Army; introduction to management of military resources; practical experience in rappelling, orienteering, and rifle. Prerequisite: academic juniors; seniors require prior approval of department head.

**102 Fundamentals of Military Science II (3)**
A study of the role of the Army in the nation’s defense; an introduction to the U.S. counterpart, the Russian soldier; practical experience at the advanced level in marksmanship, rappelling, and drill and ceremony. Prerequisite: academic juniors; seniors require prior approval of department head.

**201 American Military Profile and the Professional Soldier (3)**
A comprehensive look at today’s Army and the role of the Army officer as developed through a study of the American military institutions, policies, activities, and traditions. Prerequisite: academic juniors; seniors require prior approval of department head.

**202 Military Management and Leadership Skills (3)**
Analytical leadership skills and management techniques. Emphasizing problem solving, directional bearing oriented toward the development of proficiency in advanced map reading, and fundamentals of survival. Prerequisite: academic juniors; seniors require prior approval of department head.

**300 ROTC Basic Camp (4)**
Six weeks of training at Ft. Knox, Kentucky. Travel pay and salary stipend provided through the Military Science Department. The student is not obligated to any military service. Camp graduates are eligible to attend.
advanced military science courses. Credit not allowed with Military Science 101, 102, 201, 202, and with 300. Graded Satisfactory/No credit.

301, 302 Advanced Leadership and Management (3,3)
Roles of the various branches of the army; development of student’s ability to prepare and present instruction; study of leadership and management; and study of the leader’s role in directing and coordinating efforts of individuals and small units in the execution of offensive and defensive tactical missions. Prerequisite: acceptance into the advanced course.

400 Army ROTC (4)
A six week statutory prerequisite to commissioning; conducted during the summer months following Military Science 302 at an army installation. Presentations made during subsequent semesters.

401, 402 Seminar in Leadership and Management (3,1)
Application of leadership principles stressing responsibilities of the leader through practical exercises in small unit tactics, leadership, and management problems involved in unit administration, material readiness, and military justice. Prerequisites: 400 and History 350 or permission of department head.

Social Work

Associate Professor Walker, Head and Director of Field Instruction
Associate Professor T. Brown
Assistant Professor D. Williams

Admission Policies
Enrollment in the social work program is limited to one hundred majors; application alone will not insure admission. Students pursue the Bachelor of Social Work degree. Students wishing to enter the social work program should designate presocial work as their major. Once this declaration has been made the student will be assigned to social work faculty for advisement. Presocial work majors are required to fulfill the following for admission to the social work program:

1. Earn a 2.0 cumulative grade point average in 45 semester hours which include the following prerequisite courses:
   Biology 192, 193
   Sociology 151 or Human Services 101
   Psychology 101
   Political Science 101
   Economics 101
   Anthropology 208
   Social Work 150
   Social Work 204
   Social Work 205
2. Earn a minimum 2.6 grade point average in Social Work 150, 204, and 205.
3. Make candidacy known 60 days prior to the semester for which admission is sought by filing formal application.
   a. Obtain and complete application form from the office of the head of the Social Work Department.
   b. Submit written self-assessment.
   c. Write autobiography.
   d. Indicate subscription to the Social Work Code of Ethics.
4. Complete personal interview with a social work faculty member.
5. The Social Work Admissions and Continuation Committee (SWACC) reviews application and makes recommendations. The decision of the SWACC will be given to the applicants in writing. Those applicants granted admission will be assigned an academic adviser.
6. Upon acceptance in the department and completion of Social Work 300 students will file for field placement. All field placement assignments are made by the director of field instruction.

In the event that more qualified students submit applications than there are vacancies, the Social Work Admissions and Continuation Committee reserves the right to apply additional screening procedures.

Continuation Standards
The committee will review cases involving the academic, emotional, ethical, and professional fitness of social work students and will make recommendations regarding continuation in the department. When majors complete the necessary requisites and present a grade point average of 2.5 in the major, they should submit written application to the SWACC for admission to the Advanced Social Work Methods course (Social Work 404) and Field Instruction II (Social Work 470). The application for both courses should be filed at least 90 days prior to the beginning of the semester in which these courses will be taken.

The student will be notified in writing of the SWACC’s recommendations. All recommendations of the SWACC are subject to review by the head of the Social Work Department, who may grant exceptions when deemed desirable or necessary. A grade point average of 2.5 in the complete major will be required for graduation.

Social Work (B.S.W.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses: one from humanities, one from fine arts, and one from either (3 hours each; approved related course below will apply)

Category C
2 approved behavioral or social science courses other than social work (6 hours; approved related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category C
1 approved perspectives course other than social work (3 hours; approved related course below will apply)

Health and Physical Education 021 plus one additional semester physical education activity
Major and related courses

46 hours social work core including 150, 204, 205, 300, 301, 304, 305, 370, 371, 400, 406, 470, 471

43 hours cognate courses and including Psychology C101 and one additional 3 hour course in psychology, Sociology C151 or Human Services C101, Anthropology C208, English 277 or 279 or 300, Home Economics 328, Biology 192 and 193, Sociology 305, Psychology 308, Theatre and Speech 309, Philosophy B221 or B322 or B425, Mathematics F210, Political Science C101, and Economics C101

2.5 average in major and cognate courses combined

Minimum of 30 hours of 300 and 400 level courses

Electives to complete 128 hours.

Typical course of study in social work (B.S.)

Any required cognate course that meets general education requirements may be used to fulfill both the major requirements and general education requirements.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
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<tr>
<td>General Education Category A 3</td>
<td>Political Science C101 3</td>
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<tr>
<td>General Education Category B 3</td>
<td>General Education Category A 3</td>
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<tr>
<td>Humanities 3</td>
<td>Social Work 204 3</td>
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<tr>
<td>Social Work 150 4</td>
<td>General Education Category D 4</td>
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<tr>
<td>Human Services C101 or Sociology C151 3</td>
<td>Physical Education 021 1</td>
</tr>
<tr>
<td>Biology 192 3</td>
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<td>Biology 193 1</td>
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<tr>
<td><strong>Sophomore</strong></td>
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<td>Mathematics F210 3</td>
<td>General Education Category B 3</td>
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<tr>
<td>Social Work 205 3</td>
<td>Fine Arts 3</td>
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<td>Economics C101 3</td>
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<td>Anthropology G208 3</td>
<td>General Education Category B 3</td>
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<tr>
<td>General Education Category C 3</td>
<td>Philosophy B221, 322 or B425 3</td>
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<tr>
<td>Psychology C101 3</td>
<td>English 300 or 277 or 279 3</td>
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<td>Physical Education Activity 1</td>
<td>Electives 5</td>
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<td>Elective 3</td>
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<td><strong>Junior</strong></td>
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<td>Social Work 301 3</td>
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<td>Psychology 308 3</td>
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<tr>
<td><strong>Senior</strong></td>
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<td></td>
<td>17</td>
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<td>15</td>
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</tbody>
</table>

1Apply for admission to Social Work major.
2File for Advanced Field and Methods.

Minor

Social Work Services for the Aged:

19 hours of Social Work courses including 150, 160, 205, 431, 432, 434. Social Work majors may not elect this minor.

Social Work Courses

100 Volunteerism and Civic Responsibility (2)

102 Volunteer Community Experience (1-2)
Supervised volunteer community service in approved settings. Corequisite: 100.

150 Introduction to the Field of Social Welfare (4)
An introduction and orientation to selected social welfare professions. An examination of the history and recent trends in social work and related fields. A minimum of 45 hours of observation and supervised volunteer service in appropriate settings required.

160 Sign Language with the Deaf (3)
A beginning analysis of the effect of deafness on communication and introduction of sign language for communication with the deaf.

190r Special Topics (1-4)
Individual or group projects. Prerequisite: approval of department head. Maximum credit 4 hours.

204 Explorations in Human Relations (3)
A systematic examination and analysis of social and psychological phenomena occurring in human transactions. Development of essential knowledge of affective behaviors, relations with others, and the dynamics of communication processes.

205 Social Welfare Policy and Delivery System (3)
Survey of social welfare delivery systems with emphasis on policy description, formation, and analysis. Attention given to historical development and present structure. Prerequisite: 150. Credit not allowed in both Human Services 303 and Social Work 205.

206 Referral Services (3)
A study of the referral process with emphasis on the development, analysis, and utilization of informational and resource systems.

210 Comparative Studies in Minority Family Life (3)
A systematic examination of variations in the family through a comparative analysis of select racial and ethnic minority families.

211 Social Functioning of the Black Family (3)
An examination of the black family as a social system and the impact of the larger society upon that system. Prevailing myths, distortions, and generalizations about the black family will be explored.

250 Charity in Western Civilization (3)
An historical examination of the structure and philosophy of man’s response to the needy in Western civilization.

300 Basic Skills for Social Work Practice (4)
Fundamental skills and theory for practice in the field of social work. Emphasis upon communication skills, informational systems, organizational structure, policy, and their impact upon role execution. Not open to pre-social work students.

301 Human Behavior—Environmental Systems (3)
Examination of the various levels of human growth, development, and behavior with a focus on environmental systems. Prerequisites: Anthropology 208, Psychology 101, Biology 192 and 193. Not open to pre-social work students.

304 Introduction to Social Work Methods (3)
An introduction to the methods, procedures, value orientations, and functions common to social work practice. Consideration of the relationship of such methods and procedures to crises in social functioning and human development. Prerequisites: 204, 205, 300. Corequisites: 370, 371.

305 Legal Issues in Social Work (3)
Identification and analysis of common legal issues and problems encountered by the professional social worker. Prerequisite: English 277 or 279 (or former 200) or 300.

315 Child Welfare Services and Policies (3)
An examination of contemporary issues and questions in the field of child welfare with emphasis upon child abuse and neglect (both institutional and parental), child care, health, adoptions, and services to the unwed parent and the out-of-wedlock child.
320 Introduction to Social Group Work Practice (3)
An introduction to theoretical frameworks for using social groups as mediums to bring about individual and group social treatment; identification and examination of group development and processes with specific reference to principles for social group work practice.

370 Field Instruction I (4-6)
An opportunity for application and integration of method theory through supervised experiential learning in a social agency or setting. A minimum of 12 hours per week in such setting and a 1-hour integrative seminar required. Prerequisites: 204,205,300. Corequisites: 304,371. Six hours required for students matriculated prior to the 1976-77 catalog.

371 Field Seminar I (2)
An integrative seminar emphasizing issues common to social work theory, methods, and field experience. Prerequisites: 204, 205, 300. Corequisites: 304,370.

400 Social Welfare Policy Research (3)
An examination of the role of research in social policy; its functions in identifying needs, describing and evaluating programs, analyzing processes, and predicting results. A major project integrating course concepts and content with field experience required. Prerequisites: 205, Mathematics 210. Corequisites: 404, 470, 471.

401 Introduction to Social Work Practice in the Health Field (3)
Designed to introduce the student to the health care system. Focus will be upon the effect this system has for social work. Prerequisite: 301; other students admitted by written permission of instructor.

404 Advanced Social Work Methods (3)
Additional opportunities for students to refine and extend their skill in social work intervention. Examination of theories of intervention and implications for practice. Attention given to practice in selected specialized settings. Prerequisites: 300, 301, 304, 370, 371; Mathematics 210. Corequisites: 400, 470, 471.

406 Social Values and Ethics in Social Work Practice (3)
An in-depth study of the consequences of prejudice for social work practice with the disadvantaged, minorities, and culturally different. Not open to pre-social work students.

411 Social Work and Family Dysfunction (3)
An examination of problems experienced by dysfunctional families in contemporary American society and the role of social work in relation to these problems. Specific areas of concentration will include emotional and physical abuse (both child and adult), child neglect, divorce, changing values relating to sex roles and patterns of heterosexual and homosexual relationships.

415 Child Abuse (3)
An examination of dynamics in abusing families with emphasis on causal models. Analysis of the child welfare system, public agencies, the courts, and role of law enforcement. Developmental delays and deviations in personality resulting from abuse will be evaluated from a psychiatric perspective. Discussion of model systems for emergency intervention and treatment.

420 The Social Welfare System: Its Impact Upon Women (3)
A critical analysis of the social welfare system's impact upon women; analysis of their roles as consumers and providers of social welfare services.

421 Crisis Counseling: Women (3)
Designed to introduce the student to crisis counseling. Focus will be on the special crises that occur in women's lives.

430 Social Work Practice with the Dying (3)
A multi-disciplinary exploration of the phenomena of death and dying and their implications for social work practice.

431 Social Work Practice for the Aged (3)
A multi-disciplinary approach to the development of an understanding of the roles, treatment modalities, and practice settings in which the professional social worker may become involved working with older adults.

432 Geriatric Social Services (3)
Consideration will be given to the various strategies of social intervention designed to meet the specific needs of the aged population. Attention will also be given to social policy development in the area of aging.

434 Adaptation to Loss in Later Life (3)
Focus on the many losses associated with everyday living for the elderly, including such events as nursing home placement, death, separation, and aging with emphasis on intervention skills for the service provider.

440 Social Work Supervision (3)
An examination of the objectives and methods of social work supervision.

450 Community Organization: Theories and Methods (3)
Identification and analysis of theories and methods of community organizing. Emphasis upon organizing and planning strategies and tactics for group mobilization and social change.

470 Field Instruction II (6)
Advanced field instruction in a supervised social work setting. A minimum of 20 hours per week required in such setting. Students must demonstrate necessary knowledge and skills required for beginning practice. Concurrent 2-hour integrative seminar emphasizing issues common to field experience. Prerequisites: 300, 301, 304, 370, 371; Mathematics 210. Corequisites: 400, 404, 471.

471 Field Seminar II (2)
An advanced integrative seminar emphasizing issues common to social work theory, methods, and field experience. Prerequisites: 300,301,304,370,371; Mathematics 210. Corequisites: 400, 470, 471.

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

497r Research (1-4)
Prerequisite: approval of department head.

498r Individual Studies (1-4)
Prerequisite: approval of department head.

499r Group Studies (1-4)
Prerequisite: approval of department head.
Prenursing students must meet the same admission requirements as all other applicants to the University. Two units of high school algebra, geometry, and two units of laboratory science, preferably biology and chemistry, are desirable.

Enrollment in the nursing major is limited. Admission to the University does not insure acceptance into the nursing major. Academic advising for all students declaring prenursing or nursing majors must be done by a member of the nursing faculty. Students desiring admission or readmission to the nursing major must submit written application on forms available from the faculty in the School of Nursing. Candidates for Nursing 205 must make formal application by March 15 of the year preceding the January enrollment. Readmission or transfer students should submit written application three months prior to the desired enrollment date.

Admission to the Nursing Major

The committee for admissions has the responsibility for selecting those students to be admitted or readmitted to the nursing major. A limited number of students will be admitted to the first nursing course. Candidates will be considered for admission conditional to meeting the following requirements:

1. Completion of 45 semester hours 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, 122
   - Biology 191, 192, 193, 210
   - Sociology 151 or 215
   - English 101, 102
   - Psychology 101, 221
   - Students who have credit for chemistry, microbiology, or physiology which was received 10 years prior to admission to the nursing major must either repeat or test out of these courses.

2. Personal interview with a member of the nursing faculty.
3. Physical and emotional characteristics appropriate for nursing practice.
4. Science competency—the nursing major includes a strong biophysical science component; therefore, individuals who have repeated any science course will be considered on a selected basis.

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 committee for admissions after an official application for admission has been filed.

Preference will be given to applicants with a composite ACT score of 18 or higher who have completed their prerequisite courses at UTC. Students with a lower ACT score may be required to take certain additional courses and/or diagnostic testing as prescribed by the dean of the School of Nursing.

Candidates will receive written notice of the committee’s decision by May 30 of each year. Individuals who are not accepted for a given class and who desire to be considered for the next class must submit another formal application form for admission.

Acceptance of transfer and substitute credits to meet requirements of the curriculum will be determined by the school faculty. Transfer students must meet the same standards as other students in the program.

In addition to regular education costs, nursing students must meet the following expenses: uniforms, standardized test fees, yearly liability insurance, and transportation (clinical experience in nursing is obtained in a variety of health care settings in local and outlying areas. Students are individually responsible for transportation to these agencies).

Upon successful completion of the baccalaureate program in nursing, graduates will be eligible to write the National Council of State Boards of Nursing Licensure Examination. Persons previously convicted of a felony may not be permitted to write the exam.

Continuation Standards

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; and c) maintain an active liability insurance policy.

2. 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.

3. Students may be allowed to repeat only one nursing course one time at the discretion of the committee for admissions and/or the dean of the School of Nursing. Any student who is enrolled in a course beyond the midterm point and who then withdraws will be considered to have taken the course and must apply for readmission.
170—Nursing

4. To insure preparation of a safe practitioner, any student who fails to make satisfactory progress in the clinical portion of a nursing course will not be permitted to continue in the clinical area.

5. Students are evaluated in a specific time sequence in all clinical courses. Students will participate in this procedure which includes a written self evaluation.

6. In determining the final grade in a clinical nursing course, both the theory and the clinical components will be evaluated on the basis of previously written criteria developed for each course.

7. Students must acquaint themselves with and meet fully the University standards entitled “Maintenance of Ethical and Professional Standards of the Nursing Profession.” These standards are published in the UTC Student Handbook.

If in the judgment of an instructor there is reason to question the emotional or physical condition of a student or the safety or quality of nursing care provided, the instructor 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 nursing faculty on or before the next class day. The student will receive written notification of the faculty’s recommendation. Should the decision be unacceptable to the student, he or she may appeal to the dean, and thereafter in accordance with the University policy.

Nursing (B.S.N.)

General Education (see pages 26-28 for list of approved courses)

Category A
2 approved courses in written communication in the English language (6 hours)

Category B
3 approved courses, one from humanities, one from fine arts, and one from either (3 hours each)

Category C
2 approved behavioral or social science courses (6 hours; related courses below will apply)

Category D
1 approved physical or natural science course with laboratory (4 hours; approved related course below will apply)

Category F
1 approved mathematics course (3 hours; approved related course below will apply)

Category G
1 approved perspectives course (3 hours)

Health and Physical Education 021 plus one additional semester physical education activity

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
12 hours behavioral sciences including: Psychology C101, 221, 223; Sociology C151 or C215
23 hours mathematics, natural, or applied science courses including: Biology 191, 192, 193, 210; Chemistry D121, 122; Mathematics F210
Home Economics 105 or 305
Nursing 100, 204, 205, 314, 315, 316, 317, 318, 319, 320, 321, 414, 415, 416, 417, 418, 419, 420, 421

Minimum grade of C in all nursing and required courses (exclusive of electives)
Minimum of 30 hours of 300 and 400 level courses Electives to complete 128 hours

Typical course of study in nursing (B.S.N.)

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>Nursing 100</td>
<td>Chemistry 122</td>
</tr>
<tr>
<td>Introduction to Nursing</td>
<td>Biological 191</td>
</tr>
<tr>
<td>Chemistry D121</td>
<td>English A102</td>
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<tr>
<td>English A101</td>
<td>Psychology C101</td>
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<tr>
<td>Sociology C151 or C215</td>
<td>Physical Education</td>
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<tr>
<td>Elective</td>
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<td>Physical Education</td>
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<td>17</td>
<td>15</td>
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<tr>
<td><strong>Sophomore</strong></td>
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<tr>
<td>Nursing 204</td>
<td>Nursing 205</td>
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<tr>
<td>Concepts of Health</td>
<td>Nursing Process*</td>
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<tr>
<td>Awareness</td>
<td>3</td>
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<tr>
<td>Biology 192, 193</td>
<td>Home Economics 105 or 305</td>
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<tr>
<td>Biology 210</td>
<td>Psychology 223</td>
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<tr>
<td>Psychology 221</td>
<td>Mathematics F210</td>
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<tr>
<td>Category B Elective</td>
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<td>3</td>
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<td>17</td>
<td>15</td>
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<tr>
<td><strong>Junior</strong></td>
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<tr>
<td>Nursing 314</td>
<td>Nursing 318</td>
</tr>
<tr>
<td>Psychosocial Nursing</td>
<td>Adult Nursing Concepts I</td>
</tr>
<tr>
<td>Concepts 3</td>
<td></td>
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<tr>
<td>Nursing 315</td>
<td>Nursing 319</td>
</tr>
<tr>
<td>Psychosocial Nursing</td>
<td>Adult Nursing Concepts II</td>
</tr>
<tr>
<td>Care 4</td>
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</tr>
<tr>
<td>Nursing 316</td>
<td>Nursing 320</td>
</tr>
<tr>
<td>Pathophysiology</td>
<td>Adult Nursing Care</td>
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<tr>
<td>3</td>
<td>Nursing 321</td>
</tr>
<tr>
<td>Nursing 317</td>
<td>Research</td>
</tr>
<tr>
<td>Physical Assessment</td>
<td></td>
</tr>
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<td>Category B Elective</td>
<td>Category G Elective</td>
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<td>17</td>
<td>16</td>
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<tr>
<td><strong>Senior</strong></td>
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</tr>
<tr>
<td>Nursing 414</td>
<td>Nursing 417</td>
</tr>
<tr>
<td>Concepts of Primary</td>
<td>Issues in Nursing</td>
</tr>
<tr>
<td>Care 3</td>
<td>Nursing 418</td>
</tr>
<tr>
<td>Nursing 415</td>
<td>Family Nursing Concepts I</td>
</tr>
<tr>
<td>Community Health Concepts 3</td>
<td>Family Nursing Concepts II</td>
</tr>
<tr>
<td>Nursing 416</td>
<td>Nursing 419</td>
</tr>
<tr>
<td>Nursing Care in the</td>
<td>Nursing 420</td>
</tr>
<tr>
<td>Community 4</td>
<td>Family Nursing Concepts II</td>
</tr>
<tr>
<td>Nursing 421</td>
<td>Elective</td>
</tr>
<tr>
<td>Leadership in Nursing</td>
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<td>Elective</td>
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128 credit hours required for graduation

Curriculum revision is in process: Some change in sequence, hours, and CPA may occur. Revised and approved November 1983.

•Cumulative GPA of 2.5 is required for admission to Nursing 205.

Nursing Courses

100 Introduction to Nursing (3)
Theoretical introduction to concepts used in nursing practice. Required for pre-nursing students.

190R Special Projects (1-4)
Individual or group projects. Maximum credit 4 hours.

204 Concepts of Health Awareness (3)
A bio-social approach to health awareness and a positive life-style. Required for pre-nursing students.
205 Nursing Process (3)
Introduction to basic nursing practice skills and abilities based on needs in health and illness. Prerequisite: admission to nursing major. Corequisite: Psychology 223.

300 Pharmacology (3)
An overview of pharmacology including drug classifications, action, use, and nursing implications and drug interactions. Legislation pertinent to drug control included.

314 Psychosocial Nursing Concepts (3)
Interpersonal, behavioral, and communication theories related to clients experiencing psychosocial difficulties. Prerequisite: 205. Corequisite: 315.

315 Psychosocial Nursing Care (4)
Application of interpersonal, behavioral, and communication theories and concepts to clients experiencing psychosocial difficulties. Laboratory: 12 clock hours. Prerequisite: 205. Corequisite: 314.

316 Pathophysiology (3)
Study of the causes of disease and the structural and functional alterations that occur in the illness process. Prerequisite: 205 or permission of dean.

317 Physical Assessment (3)
Physical examination and health history presented in the context of nursing practice. Prerequisite: 205 or permission of dean.

318 Adult Nursing Concepts I (3)
Concepts necessary to provide acute secondary care interventions for individual adult clients with problems relating to fluids, food, elimination, and safety and security. Prerequisite: 205. Corequisites: 319, 320. Pre- or Corequisites: 316, 317.

319 Adult Nursing Concepts II (3)
Concepts necessary to provide acute secondary care interventions for individual adults with problems related to basic needs for oxygen, sensory-motor, and reproductive functions. Prerequisite: 205. Corequisites: 318, 320. Pre- or Corequisites: 316, 317.

320 Adult Nursing Care (4)
Application of concepts of acute secondary care for individual adult clients with problems relating to food, fluid elimination, safety and security, oxygen, sensory motor, and reproductive functions. Laboratory: 12 hours. Prerequisite: 205. Corequisites 316, 319.

321 Nursing Research (3)
Beginning knowledge and techniques in nursing research. Prerequisites: 205 or permission of dean; Mathematics 210.

345 Community Health Nursing Concepts (3)
Assessment of the community and the methods to plan, implement and evaluate nursing interventions. Prerequisites: completion of 300-level nursing courses or permission of dean. Corequisites: 415, 416.

346 Nursing Care in the Community (4)
Application of principles of primary care nursing. Laboratory: 12 hours. Prerequisites: completion of 300-level nursing courses or permission of dean. Corequisites: 414, 415.

414 Concepts of Primary Care Nursing (3)
Study of the nursing process relating to care of families and groups in the home or ambulatory care setting. Prerequisites: completion of 300-level nursing courses or permission of dean. Corequisites: 415, 416.

415 Issues in Nursing (3)
Literature study and discussion of issues affecting nursing as it is practiced today. Prerequisites: completion of 300-level nursing courses or permission of dean.

418 Family Nursing Concepts I (3)
Study of the assessment and care of families during the childbearing cycle. Prerequisites: completion of 300-level nursing courses. Corequisites: 419, 420.

419 Family Nursing Concepts II (3)
Study of health problems that affect children and their families. Prerequisites: completion of 300-level nursing courses. Corequisites: 418, 420.

420 Family Nursing Care (4)
Application of concepts of family nursing. Laboratory: 12 hours. Prerequisites: completion of 300-level nursing courses. Corequisites: 418, 419.

421 Leadership in Nursing (3)
Concepts related to administration and supervision in the delivery of health care services. Prerequisites: completion of 300-level nursing courses.

422 Theories in Nursing (3)
Introduction to theory development as a basis for nursing practice and research. Prerequisites: completion of 300-level nursing courses or permission of dean.

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.

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

497r Research (1-4)

498r Individual Studies (1-4)

499r Group Studies (1-4)
Other Educational and Public Service Units

Academic Computing Services
Lloyd Davis, Director

The computing facilities available on the UTC campus include two Hewlett-Packard 3000 computers, both used solely for instruction and research. There are currently seven computer terminal clusters supporting over 80 video, hard copy, and graphic terminals. The clusters are located in the major classroom complexes and in the library for easy student access. Additionally, UTC is a remote job entry station of the University of Tennessee Computer Center network. Available are an IBM 370/3081-D and a DEC 10, all accessible from the UTC campus turnaround in an average of less than one minute.

UTC's Office of Academic Computing is a major strength for the support and effectiveness of computing at UTC. Academic Computing deals only with instruction and research. UTC particularly espouses the enrichment of the curriculum with computer related experiences. To that end a continual and diligent search is made to secure quality educational software that is relevant to UTC's academic programs.

Cadek Conservatory of Music
Peter E. Gerschefski, Director

Functioning as an auxiliary of the Cadek Department of Music, the Cadek Conservatory has as its goal the education of music students of all ages who are not enrolled at the University level. The conservatory offers applied music courses in virtually all instruments and voice in a curriculum which includes theory, chamber music, and other ensemble activity. This comprehensive curriculum has special courses for young children including Suzuki flute, harp, violin, and piano, Kinder-Keyboard and Music and Movement. There is also a course of study designed to give strong precollege preparation to the student intending to pursue a major in music in college.

The conservatory is an accredited institutional member of the National Association of Schools of Music. The faculty ranges from full-time conservatory teachers to public school music teachers who serve part-time. The faculty includes many University music faculty and other prominent performing musicians as well.

For further information, please consult the Cadek Conservatory of Music Bulletin, or call 755-4624.

Center of Excellence for Computer Applications
Lloyd Davis, Director

In 1984, UTC instituted a Center of Excellence for Computer Applications (CECA). This interdisciplinary center draws upon faculty and staff from areas such as engineering, computer science, business, education, sciences, mathematics, and academic computing. The center focuses on a broad spectrum of computer applications of particular use to the Chattanooga region. The applications include large scale power distribution systems, Computer Aided Design (CAD) and Manufacturing (CAM), engineering modeling, graphics, software engineering, operations research, spread sheet analysis, and educational technology systems.

New equipment purchased for CECA includes an IBM 4381 system located in Grote 124. Grote 219 has been developed as a dedicated cluster and is equipped with thirty terminals. During 1985-86 some 30 additional terminals will be added to this cluster.

This center is to be a major regional resource for Southeastern Tennessee. The emphases of software development and applications, engineering design via computers, and support for K-12 use of microcomputers is unique in Tennessee and the Southeast.

Center for Economic Education
William H. Peterson, Director
Lucien Ellington, Assistant Director

As an educational facility of UTC, the Probasco Chair of Free Enterprise and its associated Center for Economic Education design and implement research projects and educational programs to educate UTC students, secondary and elementary school teachers, and the public about basic economic principles and the unique features of the free enterprise system.

Division of Continuing Education
Jerry Weeks, Dean

The Continuing Education Division develops, coordinates, and supervises continuing education and public service programs offered by The University of Tennessee at Chattanooga.

Evening College
The Division of Continuing Education works with the academic deans, directors, and department heads of the
University to provide a balanced schedule of credit course offerings to meet the needs of individuals who wish to complete degree programs through evening study. The division publishes a catalog each semester listing all evening credit courses offered on campus as well as off campus.

The Continuing Education Office is open from 8 A.M. to 5 P.M. Monday through Friday. Persons requiring assistance or in need of the evening study catalog may come to the office or call during these hours.

Off-campus Credit Courses

Off-campus UTC credit courses have been offered at numerous locations including Cleveland and downtown Chattanooga. Persons interested in having UTC credit courses taught at an off-campus location should contact the Division of Continuing Education for further information.

Individualized Education Program

The Individualized Education Program was launched as an official unit of The University of Tennessee at Chattanooga in August 1972. The primary purpose of the program is to make the University more accessible to adults who wish to enter or return to college. Specific objectives of the Individualized Education Program are: 1) to inform adults in the community about the educational opportunities available at The University of Tennessee at Chattanooga; 2) to assist adults in making the transition into college life; and 3) to coordinate the process of awarding academic elective credit to adults for their previous work and training experience.

The University, however, is under no obligation to award academic elective credits. Each application will be evaluated on its individual merit and the faculty may awarded credit accordingly.

Adults are encouraged to contact the Division of Continuing Education for orientation and assistance related to admission procedures, registration, and academic requirements if they are considering entering or returning to the University.

Noncredit Courses

Noncredit courses dealing with a wide variety of topics and interests are offered through the Division of Continuing Education and are open to the general public. These noncredit courses are divided into three major categories: professional development, arts and sciences, and personal interest. Programs on management development, music, art, literature, foreign languages, recreation, engineering, real estate, home economics, and consumer education are offered throughout the year. Noncredit course formats range from one-day workshops or seminars to 46-week courses conducted during the day or evening at a variety of campus and off-campus locations.

Subject to the approval of the Continuing Education Council, participation in many noncredit courses is recognized by the awarding of individual Continuing Education Units (CEUs). One CEU corresponds to ten hours of participation in an approved program and is particularly valuable to persons desiring professional development and in-service training. Individual transcripts recording CEUs are maintained in the UTC Division of Continuing Education.

The professional staff of the Division of Continuing Education welcomes suggestions for new and different noncredit courses. Special emphasis is placed on designing programs that meet the expressed needs of the greater Chattanooga area population and on delivering these courses at times and locations most convenient for those who indicate an interest.

Conferences and Institutes

As part of the division's community service and professional development activities, the staff provides assistance to business, industry, government, social service agencies, and professional organizations for the purpose of developing and coordinating conferences and institutes which focus on topics of concern to the particular group. Groups as small as ten or those numbering four hundred or more can be accommodated in the University's varied facilities. If requested, CEUs (as discussed above) may be awarded to conference or institute participants.

In-plant Service

The Division of Continuing Education draws on the wide and diverse resources of UTC's professional faculty to offer both credit and noncredit programs to business, industry, and government in Chattanooga and the surrounding areas. Most of these programs are tailored to the specific needs of the sponsoring company and are carried out in the company's facilities. The division also assists in making arrangements for faculty members to act as consultants whose task is to define problem areas and design courses which respond to particular technical or training needs.

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 which 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 Division of Continuing Education 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 Division of Continuing Education rather than applying for admission at the UTC Admissions Office.

FACE Program for Life Transitions

The FACE Program is designed to assist individuals in adjusting to the diverse transitions which periodically occur in their lives; i.e., family, adult, career, educational, thus the name FACE. Toward this end the staff works not only with individuals but with groups and area employers to provide counseling services, workshops, and training programs related to personal development, career assessment, pre-employment training, and educational opportunities.
Cooperative Education

The cooperative education program at UTC offers undergraduate students a high quality education in addition to the opportunity to undertake obligations and responsibilities of professional employment. This program is designed to 1) provide practical experience which relates academic studies to industry and business requirements, 2) give the student a better understanding of human relations in industry, 3) assist the student financially, and 4) provide business and industry with employees motivated by career incentive.

The program is offered in the curricula of the Schools of Business, Education, Engineering, Human Services and the College of Arts and Sciences. A student must have completed the freshman year to be eligible for admission to the co-op program. Co-op students are expected to attend school full time during their first and last year in their academic program. They will alternate a semester of work and a semester of school during the three years between their first and last year in the program. Another option is parallel periods of work and study during the same semester.

Media Services

Media Services is the special video production unit of UTC. Media Services was created to provide broadcast quality video productions for UTC and for other educational and nonprofit organizations in the Chattanooga area and throughout the Southeast. It features high quality video equipment, an experienced staff, and a mobile production van.

WUTC

WUTC is a 50,000 watt public radio station. The station currently originates many programs from its Cadek Hall studios. Included are local public affairs, musical, and news-related programming.

WUTC, FM 88.1, provides a 24-hour-a-day broadcasting service. It is an affiliate of the National Public Radio Network and of the American Public Radio Network.

Other Services

Additional services provided by the Division of Continuing Education include 1) furthering public awareness of University activities through the UTC radio program "On Campus"; 2) representing The University of Tennessee Statewide Division of Continuing Education in providing correspondence, radio, and television instruction; 3) arranging for courses offered by other UT campuses to be taught at UTC; 4) providing faculty and facilities for programs conducted by The University of Tennessee's Institute for Public Service; and 5) participating in the U.S. Army Project Ahead Program; and 6) coordinating the Listener's Program whereby individuals considering entering or returning to the University may listen in regularly for individuals currently enrolled or individuals who are interested in either entering or returning to college.

Adult Services Center

Helen Arthur, Coordinator

The Adult Services Center, located on the first floor of the University Center, is open from 12 P.M.-8 P.M. Monday through Thursday, 12 P.M.-5 P.M. Friday, and 8 A.M.-12 P.M. Saturday for the convenience of students who work full time. The center provides individualized advisement, registration, and other University services for adult part-time students. Workshops and seminars related to educational opportunities and transitions are conducted regularly for individuals currently enrolled or individuals who are interested in either entering or returning to college.

Division of Special Services/Upward Bound

Paul Beasley, Director

The Division of Special Services, located in 212 Race Hall, provides free academic support services to all UTC students. Specific services include:

Principles of Effective Study—A three-hour study skills class, HSRV 100, is offered each semester. The course covers techniques for effective study and goal setting. As an integral part of this course, the Study Skills Lab staff diagnoses and prescribes an individualized, self-paced reading improvement program. All enrollees must have the prior approval of the Special Services staff.

Writing Skills—Small group and individual tutoring sessions in grammar and composition are offered, with particular emphasis on teaching students the skills of revising and editing their own papers.

Reading Improvement—Lab classes assist students in improving reading strategies and rate, vocabulary usage, and spelling ability.

Tutoring—Graduate and undergraduate students with at least a 3.0 GPA provide individual tutoring in academic subjects on the freshman and sophomore levels.

Special Workshops—A schedule of study skills workshops for students on academic probation is offered each semester. In addition, reading and writing workshops are offered to students who wish to prepare for graduate school enrollment.

Upward Bound is a college preparatory program which provides eligible high school students with academic and cultural activities that improve their chances of entering and successfully completing postsecondary education. Students are recommended by their high school guidance counselors and are then selected by the Upward Bound staff. Upward Bound offices are located in 213 Race Hall.
Library
Joseph Jackson, Dean

The University library's holdings include approximately 1,000,000 pieces of material, of which more than 330,000 are books and periodicals. The combined resources of the University Library, the Chattanooga Hamilton County Bicentennial Library, and other local libraries make more than 1.4 million volumes available to University students. Annually, the University Library subscribes to approximately 3,000 periodicals. In addition, students, staff, and faculty may use the collections and services of all libraries of The University of Tennessee system.

The general collections for support of the graduate programs are augmented by a variety of special collections which are also housed in the main library. Audiovisual equipment and materials, including video cassettes, microforms, films, and curriculum resources, are also located in the library.

Library Fines
Books borrowed from the library's regular collections are subject to an overdue fine of 20 cents per day up to a limit of $5 for each book. For lost books borrowers are assessed the replacement cost for each book, which includes the list purchase price of the book plus a processing charge of $15.

Reserve books are subject to an overdue fine of 50 cents for the first hour, 25 cents for the second hour, and 10 cents for each hour thereafter up to a limit of $5. Reserve materials are due one hour after opening time on the due date.

If fines for overdue books and charges for lost books are not paid as required, the borrowers will be blocked from use of the library and not permitted by the business office and registrar (on this or other campuses of the University) either to register or to receive course credits and transcripts until the outstanding obligations are fully cleared.

Youth Educational Assessment & Research Center
Janice Davis, Coordinator

The Youth Educational Assessment & Research Center (YEAR) is located on the fourth floor in Hunter Hall. This center was established primarily to serve as a teaching/learning laboratory for School of Education preservice and graduate teacher education programs. Additionally, the center provides the campus with a demonstration model for experiencing training in the multidisciplinary approach to psycho-educational observation, assessment, and program planning for youth.

While the center serves the various teacher preparation programs, youths within the Chattanooga metropolitan area are accepted as clients upon application by their parents, legal guardians, or school system. For additional information concerning the services provided by the YEAR Center, please contact the coordinator of the center or make an appointment for a conference by calling 755-4175 or 755-4368.
Faculty Emeriti

The date after each name indicates the year of appointment.

**Faculty Emeriti**

George Warren Averitte (1953)  Professor Emeritus of Health and Physical Education
B.S., University of Alabama, 1940; M.A., University of Mississippi, 1950; Ed.D., Columbia University, 1953.

Albert Bowman (1962)  Professor Emeritus of History

Glenn LeRoy Bushey (1962)  Professor Emeritus of Education
B.S., Shippensburg State College; M.A., Columbia University; Ed.D., Temple University.

Roland Debusske Carter (1946)  Assistant Professor Emeritus of English

George Coleman Connor (1959)  Guerry Professor Emeritus of English

Arthur J.D. Cook (1968)  Professor Emeritus of Management

Elizabeth Undress Dalton (1964)  Professor Emerita of Education

Doris Doe (1956)  Professor Emerita of Voice
Studied with Frank La Forge, Michael Raucheisen and Johannes Heidenreich (Berlin), and Artur Bodanzyk.

Thomas Edwin Geraghty (1960)  Professor Emeritus of Modern Languages

Maxwell Austin Smith (1922)  Guerry Professor Emeritus of Modern Languages

B.F.A., University of Chattanooga, 1928; Speech Diploma, Cadek Conservatory, 1932; M.F.A., Yale University, 1946.


William J. Helseth (1984)  Visiting Assistant Professor

Stephen S. LeWinter (1975)  Assistant Professor

Anne Lindsey (1978)  Associate Professor

Richard William Liza (1962)  Assistant Professor

Robert Bruce Wallace (1978)  Associate Professor
A.B., University of Chattanooga, 1954; M.F.A., Florida State University, 1969.

E. Alan White (1972)  Associate Professor, Acting Head

John D. Cune Jr. (1983)

Jack R. Denton (1983)

Hilda Gilkeson (1980)

Marilyn Morton (1974)
B.S., University of Chattanooga, 1969; M.Ed., The University of Tennessee at Chattanooga, 1975.

**Adjunct Art**

**Biology**

Ross M. Durham (1971)  Associate Professor
B.S., 1962, Ph.D., 1968, University of California, Los Angeles.

Maurice E. Edwards (1971)  Associate Professor

John Richardson Freeman (1959)  Professor

Richard Edwin Garth (1969)  Professor
A.B., 1949, Ph.D., 1954, Emory University; M.S., The University of Tennessee, Knoxville, 1950.

Charles Henry Nelson (1969)  Professor, Department Head

GeneS. Van Horn (1971)  Professor
A.B., Humboldt State College, 1963; Ph.D., University of California, Berkeley, 1970.

A.B., Calvin College, 1951; M.S., 1955, Ph.D., 1965, Michigan State University.

Barbara Ann Walton (1970)  Associate Professor

Isabella Sheena Wurthmann (1984)  Visiting Fulbright Lecturer
B.Sc, Edinburgh University, 1967; Ph.D., Lancaster University, 1970.

Faculty, 1984-85

College of Arts and Sciences

Art

George Ayers Cress (1951)  Guerry Professor

William J. Helseth (1984)  Visiting Assistant Professor

Stephen S. LeWinter (1975)  Assistant Professor

Anne Lindsey (1978)  Associate Professor

Richard William Liza (1962)  Assistant Professor

Robert Bruce Wallace (1978)  Associate Professor
A.B., University of Chattanooga, 1954; M.F.A., Florida State University, 1969.

E. Alan White (1972)  Associate Professor, Acting Head
Adjunct Biology

Barbara Albert (1982) B.S., Tennessee Technological University, 1968; M.T., Holston Valley Community Hospital, 1968.

Chemistry

Gregory J. Grant (1980) Assistant Professor B.S., 1974, Ph.D., 1980, Georgia Institute of Technology.
Benjamin Harrison Gross (1964) Professor, Department Head B.S., University of Chattanooga, 1952; M.S., 1954, Ph.D., 1956, The University of Tennessee, Knoxville.
John August Lynch (1975) Associate Professor B.S., St. Peter’s College, 1970; Ph.D., Pennsylvania State University, 1976.
Thomas G. Waddell (1971) Alumni Distinguished Service Professor B.S., University of Wisconsin, Madison, 1966; Ph.D., University of California, Los Angeles, 1969.

Adjunct Chemistry

Carol D. Grant (1983) B.S., The University of Tennessee at Chattanooga.

Communication

Cynthia De Riemer (1976) Assistant Professor B.A., St. Mary’s University, 1971; M.Ed., The University of Tennessee at Chattanooga, 1978.

English


Adjunct English


Environmental Studies

Robert Gary Litchford (1965) Associate Professor, Environmental Studies and Biology
B.S., Georgia Southern College, 1960; Ph.D., Rice University, 1965.
Patricia Ann Bytnar Perfetti (1969) Professor, Environmental Studies and Biology; Environmental Studies Coordinator

Foreign Languages and Literatures

Ronald G. Bohrer (1968) Associate Professor, Classics; Department Head
Pedro F. Campa (1970) Associate Professor, Spanish
Thomas Kirkman Jones (1967) Assistant Professor, Spanish
John Frederick Phillips (1980) Assistant Professor, Classics and Philosophy & Religion
Hugh Nelson Seay Jr. (1965) Professor, Spanish
Robert Allen Stanley (1984) Assistant Professor, French and German
Felicia Sturzer (1977) Assistant Professor, French and German
Lewis A.M. Sumberg (1972) University Professor

Geosciences

Richard E. Bergrenback (1968) Professor, Geology
A.B., Lafayette College, 1948; M.S., Lehigh University, 1950; Ph.D., Pennsylvania State University, 1964.
Habte Giorgis Churnet (1980) Associate Professor, Geology
A.B., Haile Selassie University, 1969; M.S., Leeds University; Ph.D., The University of Tennessee, Knoxville, 1979.
Horace Greeley McDowell (1960) Associate Professor, Geography
A.B., Miami University, 1949; M.A., University of Nebraska, 1950; Ed.D., The University of Tennessee, Knoxville, 1971.
Robert Lake Wilson (1955) Professor, Geography and Geology
A.B., Wheaton College, 1948; M.S., State University of Iowa, 1950; Ph.D., The University of Tennessee, Knoxville, 1967

Adjunct Geosciences


History

Albert Bowman (1963) Professor
Tyler Deierhoi (1963) Associate Professor
Jane Worth Harbaugh (1957) Professor,
Academic Services Associate Provost

H. Larry Ingle (1967) Professor
Russell J. Linnemann (1970) Professor
Ronald Gury Moore (1960) Associate Professor, Department Head
A.B., College of William and Mary, 1950; M.A., Harvard University, 1951; Ph.D., University of Virginia, 1960.
Richard B. Rice (1981) Associate Professor
James M. Russell (1970) Associate Professor
James A. Ward III (1969) UC Foundation Professor
B.A., 1964, M.A., 1965, Purdue University; Ph.D., Louisiana State University, 1969.
William J. Wright (1969) Associate Professor
A.B., 1964, M.A., 1965, Stetson University; Ph.D., Ohio State University, 1969.

Mathematics

Linda R. Bennett (1984) Instructor
James Stanley Byrd (1980) Assistant Professor
B.S., 1973, M.S., 1974, Mississippi State University.
Barry R. Cuffe (1982) Assistant Professor
B.S., University of Miami, 1976; M.A., Indiana University, 1980.
Edward J. Danial (1982) Assistant Professor
B.A., Mercyhurst College, 1975; M.A., Northeast Missouri State University, 1977; Ph.D., University of Missouri at Rolla, 1982.
William Patrick Edwards (1969) Associate Professor
Marcia K. Fitzmaurice (1983) Instructor
B.A., St. Louis University, 1971; M.A.T., Emory University, 1976.
180—Faculty

Nancy T. Fletcher (1961) Assistant Professor
B.S., 1958, M.S., 1961, Duke University; M.Acct., Florida State University, 1976; C.P.A.

Nancy J. Fordyce (1980) Assistant Professor

Carolyn D. Grant (1983) Mathematics Learning Center Coordinator
B.S., The University of Tennessee at Chattanooga, 1981.

Kay L. Griswold (1983) Instructor

Joseph W. Hutcherson (1969) Associate Professor

John W. Jayne (1969) Professor
B.A., 1951, M.A., 1956, Vanderbilt University; Ph.D., Georgia Institute of Technology, 1966.

Stephen W. Kuhn (1978) Associate Professor
B.S., Louisiana State University, 1970; M.S., University of Southwestern Louisiana, 1974; Ph.D., University of Georgia, 1979.

Louise Willis McIntosh (1961) Professor
B.S., 1940, M.Ed., 1962, University of Chattanooga; M.S., The University of Tennessee at Chattanooga, 1971.

DeWayne S. Hymann (1970) Professor
B.A., University of Northern Iowa, 1957; M.A., 1959, Ph.D., 1964, University of Kansas.

Edward Ralph Rozema (1973) Associate Professor
A.B., Calvin College, 1967; M.S., 1969, Ph.D., 1972, Purdue University.

Eugene P. Schlereth (1976) Associate Professor
B.S., Marquette University, 1970; M.S., Southern Illinois University, 1974; M.S., 1976, D.Sc., 1979, Washington University (St. Louis).

Betsy Darken Smith (1979) Assistant Professor
B.A., Kirkland College, 1972; M.A., University of Michigan, 1974; Ph.D., 1984, The University of Tennessee, Knoxville.

Ronald L. Smith (1980) Associate Professor
B.S., Auburn University, 1969; M.S., University of California, Riverside, 1970; M.S., 1976, Ph.D., 1976, Auburn University.

Sherri L. Urcaovich (1980) Mathematics Learning Center Coordinator

Voreata S. Waddell (1979) Instructor

William L. Walton (1984) Assistant Professor

James Gareth Ware (1965) Professor, Department Head

Adjunct Mathematics

Billy Lester Abel (1977) Assistant Professor
B.S., Nicholls State University, 1971; M.Ed., the University of Tennessee at Chattanooga, 1977.

Dorothy Gregg Beach (1984) Assistant Professor
B.S., The University of Tennessee, Knoxville, 1959; M.S., The University of Tennessee at Chattanooga, 1969.

William P. Carroll (1984) Assistant Professor

B.S., The University of Tennessee at Chattanooga, 1983.

Gail L. Nevins (1979) Assistant Professor

Anita E. Price (1983) Assistant Professor

Marsha M. Schoonover (1984) Assistant Professor
B.S., The University of Tennessee, Knoxville, 1967; M.Ed., The University of Tennessee at Chattanooga, 1981.

Leonidas Smith (1966) Assistant Professor
B.A., University of Chattanooga, 1942.

George O. Taylor Jr. (1960) Assistant Professor
B.S., University of Chattanooga, 1958; M.S., Michigan State University, 1960; Ph.D., Georgia Institute of Technology, 1969.

Juanita G. Woods (1976) Assistant Professor
B.A., Fisk University, 1951; M.S., Tennessee A & I University, 1956; M.A., Purdue University, 1965.

Music

Mario Abril (1973) Professor
A.B., University of Albuquerque, 1967; Ph.D., Florida State University, 1971.

Zelman Bokser (1983) Assistant Professor

Walker L. Breland (1972) Professor
B.A., Furman University, 1958; M.M., 1959, Ph.D., 1974, Indiana University.

Earl Coleman Jr. (1982) Assistant Professor

Monte Coulter (1980) Assistant Professor

Renee S. Cox (1976) Associate Professor
B.M., Oberlin Conservatory of Music, 1974; M.M., University of Michigan, 1976; Ph.D., Ohio State University, 1980.

Anthony J. LVAndrea (1982) Associate Professor, Director of Bands

Glenn W. Draper (1968) Professor, Director of Choral Activities
B.M., Indiana University, 1951; M.M., Southern Methodist University, 1956.

Peter Edwin Gerschefski (1971) Alumni Distinguished Service Professor, Department Head
B.A., Yale University, 1958; M.A., University of Southern California, 1959; Ph.D., Florida State University, 1962.

Danette Littleton (1977) Associate Professor

Earl B. Miller (1957) Associate Professor
B.M., University of Chattanooga, 1949; M.A., Columbia University, 1957; studied with Beryl Rubinstein, Cleveland Institute of Music, 1952.

David L. Pennebaker (1967) Associate Professor
A.B., University of Chattanooga, 1960; M.M., Florida State University, 1961.

Marc H. Perez (1984) Associate Professor

Arthur Rivituso (1968) Professor

Jocelyn Sanders (1980) Associate Professor
B.M., Eastman School of Music, 1979; M.M., Northwestern University, 1980.

James Stroud (1976) Professor, Director of Orchestras

Edgar Stryker (1973) Assistant Professor
B.M., Stetson University, 1949; M.A., Florida State University, 1951; M.A., University of North Carolina at Chapel Hill, 1963.

Rebecca Tate (1982) Assistant Professor

Peter M. Temko (1974) Associate Professor

Jean Thomas (1984) Assistant Professor
B.S., 1975, M.M., 1979, The University of Tennessee at Chattanooga.

Donald Robert Zimmer (1978) Associate Professor
B.M., Eastman School of Music of the University of Rochester, 1975; M.M., Yale University School of Music, 1978.
### Adjunct Music

- R. Steven Acklin (1982)  
- Charles M. Evans (1980)  
- James Greasby (1980)  
- Susan E. Pendleton (1982)  
- Janet Sump (1980)  
  B.S., The University of Tennessee at Chattanooga, 1974; M.M., Concert College, 1977.
- Rebecca A. Whelchel (1984)  
  B.M., The University of Tennessee at Chattanooga, 1980.

### Philosophy and Religion

  Professor, Department Head  
  A.B., Johns Hopkins University, 1966; M.Phil., 1969, Ph.D., 1970, Yale University.
- Dimis Taylor Dowse (1965)  
  Associate Professor  
- Thork Hall (1972)  
  Distinguished Professor, Religious Studies  
- Donald S. Klinefelter (1969)  
  Professor  
- John Frederick Phillips (1980)  
  Assistant Professor, Classics and Philosophy and Religion  
- Donald Robert Weisbaker (1965)  
  Professor  

### Physics

- Joel Lamar Davis (1979)  
  Associate Professor  
  B.S., 1970, M.S., 1972, Ph.D., 1976, Georgia Institute of Technology.
- Morris Hetzler (1964)  
  Associate Professor  
  A.B., University of Chattanooga, 1959; Ph.D., Vanderbilt University, 1970.
- Eric Trent Lane (1967)  
  Associate Professor  
- Randolph Stuart Peterson (1980)  
  Associate Professor  
- Grayson Howard Walker (1978)  
  Professor, Department Head  
  B.S., University of North Carolina, 1961; M.S., University of Illinois, 1962; Ph.D., Georgia Institute of Technology, 1969.

### Adjunct Physics

- Li-Hwa Huang (1980)  
  B.S., Taiwan Normal University, 1965; M.S., Western Michigan University, 1968.

### Political Science

- David M. Brodsky (1971)  
  Professor  
- David W. Carrithers (1970)  
  Adolph 5. Ochs Professor, Government  
- Fouad Moughrabi (1968)  
  Professor  
- Robert H. Swansbrough (1971)  
  Professor, Department Head  
- Richard L. Wilson (1971)  
  Associate Professor  
  B.A., University of Chicago, 1966; Ph.D., Johns Hopkins University, 1971.

### Psychology

- Michael D. Biderman (1972)  
  Associate Professor  
- Stanton P. Fjeld (1968)  
  Professor, Psychology and Criminal Justice  
- Edward J. Green (1971)  
  Guerry Professor, Department Head  
- George B. Helton (1975)  
  Assistant Professor  
  B.S., 1966, M.S., 1967, North Texas State University; Ph.D., University of Texas, Austin, 1972.
- Ralph W. Hood Jr. (1970)  
  Professor  
  B.A., University of California, Los Angeles, 1964; M.A., California State College of Los Angeles, 1966; Ph.D., University of Nevada, 1968.
- Lawrence S. Kleinman (1979)  
  Assistant Professor  
  B.A., Syracuse University, 1968; M.A., Fairleigh Dickinson University, 1972; Ph.D., The University of Tennessee, Knoxville, 1979.
- L. Lynn Ourth (1970)  
  Associate Professor  
- Irene Nichols Ozbek (1977)  
  Assistant Professor  
  B.A., 1969, M.S., 1972, Ph.D., 1974, University of Georgia.
- Phyllis Jan Printz (1966)  
  Professor  
  B.A., University of Kansas City, 1950; M.A., University of Missouri, Kansas City, 1951; Ph.D., The University of Tennessee, Knoxville, 1978.
- Pamela T. Reid (1979)  
  Associate Professor  
  Assistant Professor  
- Paul J. Watson (1977)  
  Associate Professor  

### Sociology and Anthropology

- Edward E. Cahill (1975)  
  Professor, Department Head  
  B.S.Sc, St. Mary's College, 1952; M.A., University of Notre Dame, 1957; Ph.D., Catholic University of America, 1965.
- Lawrence M. Cox (1979)  
  Assistant Professor  
- PK. Geevarghese (1968)  
  Associate Professor  
N. Honerkamp (1980) Assistant Professor  

Clive KilH (1970) Associate Professor  
A.B., Harvard University, 1966; Ph.D., Rice University, 1970.  

Lyn W. Miles (1976) UC Foundation Associate Professor  

Bart Carter Pate (1966) Associate Professor  

Leland W. Robinson (1973) Associate Professor  

Richard G. Thurston (1970) Associate Professor  

Adjoint  

Murl Dirksen (1982)  

Robin L. Smith (1982)  

Diana L. Werner (1983)  
B.A., Memphis State University, 1970; M.A., University of Georgia Athens, 1974.  

Theatre and Speech  

Fred D. Behringer (1980) Associate Professor, Department Head  


Jim C. Lewis (1969) Associate Professor  

William M. Smotherman (1980) Associate Professor  

David W. Wiley (1975) Associate Professor  

David Evans (1969) Assistant Professor  
B.A., University of Chattanooga, 1942.  

Durwood Harvey (1970)  
B.B.A., University of Minnesota, 1947; M.S., The University of Tennessee, Knoxville, 1948; C.P.A.  

David Urson (1969)  
B.S., University of Minnesota, 1967; M.B.A., The University of Tennessee, Knoxville, 1969; C.P.A.  

Lynda G. Scott (1982)  
B.S., 1972, M.B.A., 1983, The University of Tennessee at Chattanooga; C.P.A.  

School of Business Administration  

Accounting and Finance  

M.J. Albin (1984) Assistant Professor  

John M. Alvis (1984) Assistant Professor  
B.S., Jacksonville State University, 1969; M.A., University of Alabama, 1973; Ph.D., University of Arkansas, 1983; C.P.A.  

William T. Bertin (1984) Assistant Professor  

T. Jackson Bowen (1984) Assistant Professor  

John G. Fulmer Jr. (1977) Professor  
A.B., Wofford College, 1966; Ph.D., University of Alabama, 1970.  

Thomas A. Gavin (1971) Associate Professor  
B.S., Seton Hall University, 1966; M.B.A., University of Missouri, 1968; D.B.A., The University of Tennessee, Knoxville, 1982; C.P.A.  

Jack A. Hale (1977) Professor  

Rayford John McLaurin (1955) Associate Professor  
B.S., Bowling Green Business University, 1948; M.B.A., University of Alabama, 1951.  

Patricia Ann Pauley (1984) Assistant Professor  
B.A., University of Missouri at St. Louis, 1974; M.B.A., The University of Tennessee at Chattanooga, 1979; A.B.D., University of Houston, 1984.  

Neil F. Riley (1984) Assistant Professor  

Winnie D. Riley (1984) Assistant Professor  
B.S., McNeese State University, 1975; Masters of Accountancy, University of Mississippi, 1981; A.B.D., University of Mississippi, 1984.  

Marilyn Willis (1976) Associate Professor  

Adjoint Accounting and Finance  

Robert Anderson (1983)  
B.A., Illinois Wesleyan University, 1968; M.S., Illinois State University, 1974; C.P.A.  

Betsy Benderman (1983)  
B.S., The University of Tennessee at Chattanooga, 1975; M.B.A., The University of Tennessee, Knoxville, 1976; C.P.A.  

E. Tylor Claggett (1982)  
B.S., University of Southwestern Louisiana, 1969; M.B.A., University of West Florida, 1972; Ph.D., University of Houston, 1979.  

Cam Conway (1984)  
B.S.B.A., University of Denver, 1949; C.P.A.  

James M. Erwin (1982)  

David Evans (1969)  
B.A., University of Chattanooga, 1942.  

Durwood Harvey (1970)  
B.B.A., University of Minnesota, 1947; M.S., The University of Tennessee, Knoxville, 1948; C.P.A.  

David Urson (1969)  
B.S., University of Minnesota, 1967; M.B.A., The University of Tennessee, Knoxville, 1969; C.P.A.  

Lynda G. Scott (1982)  
B.S., 1972, M.B.A., 1983, The University of Tennessee at Chattanooga; C.P.A.  

Economics  

Fred C. Armstrong (1967) Professor  
B.A., Southern Illinois University, 1947; M.A., Michigan State University, 1948; Ph.D., University of Illinois, 1953.  

John R. Garrett (1984) Assistant Professor  
B.A., Bucknell University, 1975; Ph.D., University of Massachusetts, 1984.  

Phillip E. Griffin (1977) Associate Professor  
B.A., University of Texas, Austin, 1966; M.A., Texas Technological University, 1968; Ph.D., The University of Tennessee, Knoxville, 1972.  

Fred D. Behringer (1984) Associate Professor  
Adjunct Economics

Dan E. Birch (1977)
B.A., Brigham Young University, 1970; M.S., 1972, Ph.D., 1977, Purdue University.

Wilbur A. Bush (1984)
B.S., Norford State University; M.A., Rutgers University.

Gary Jackson (1979)
B.A., Florida Atlantic University, 1971; M.A., 1972, Ph.D., 1979, University of Massachusetts.

Alan Larson (1973)
B.A., University of Nebraska, 1968; Ph.D., Kansas State University, 1976.

Lloyd C. Nace (1983)
B.S., Miami (Ohio) University, 1974; M.A., Vanderbilt University, 1979.

Loren Neill (1984)

Peggy Roberts (1982)

Dorothy Stern (1984)

Management

Mohammad Ahmadi (1979)  
B.S.M.E., Mississippi State University, 1968; M.B.A., Nicholls State University, 1970; Ph.D., North Texas State University, 1976.

Arthur J.D. Cook (1968)  

J. Kim Dedee (1983)  

Lawrence P. Ettkin (1976)  
M.S., University of Virginia, 1959; Ph.D., 1962, University of Texas, 1962; A.B.D., 1973, University of Virginia.

Adjunct Management

A. Ben Forrester (1979)  
B.S., North Georgia College, 1965; M.S., Auburn University, 1967.

David Jahng (1983)  

Dale E. McElhatten (1981)  

David R. Parks (1979)  
B.S.E., Purdue University, 1974; M.S.I.E., The University of Tennessee, Knoxville, 1978.

Dan R. Quarles (1977)  

Azar Raiszadeh (1983)  

T. Richard Roache (1979)  

Maurice F. Tipple (1978)  
B.S., Cornell University, 1958.

Richard L. Waters (1983)  

Marketing

A. Richard Casavant Jr. (1977)  
M.B.A., University of Pennsylvania, 1966; Ph.D., Georgia State University, 1976.

Paula J. Haynes (1984)  
Assistant Professor

Associate Professor

Carmen Reagan (1982)  
Associate Professor
B.S., Mississippi University for Women, 1965; M.B.A., Memphis State University, 1968; A.B.D., Mississippi State University, 1982.

Irvin D. Reid (1979)  
John Stagnaghi Chair of Economics, and Business Administration; School of Business Administration Dean

Walter F. Williams (1981)  
Assistant Professor

Adjunct Marketing

William M. Carter (1975)  

B.A., University of Georgia, 1972; M.B.A., The University of Tennessee at Chattanooga, 1983.

Erskine P. Mabee (1978)  

Robert E. Mayes (1975)  
B.S., The University of Tennessee, Knoxville, 1950.

Harry Moore (1981)  

David C. Nowaging (1981)  
B.S., Penn State University, 1968; Ph.D., Penn State University, 1974.

Kenneth H. Utell (1979)  
B.G.S., Drake University, 1950.
184—Faculty

**Office Administration/Business Education**

**Judy C. Nixon (1975)**  
Associate Professor,  
Department Head  
B.S., 1967, M.Ed., Mississippi State University, 1968; Ph.D.,  
Georgia State University, 1975.

**Judy F. West (1981)**  
Associate Professor  
B.S., 1971, M.B.Ed., 1973, Middle Tennessee State University;  
Ph.D., Georgia State University, 1976.

**Adjunct Office Administration/Business Education**

**Bobbye G. Dedman (1977)**  

**Nena Leigh Lasky (1984)**  
BA, 1971, M.A., 1972, Georgia State University.

**School of Education**

**Ronald C. Area (1978)**  
Assistant Professor, Education;  
Development Vice-Chancellor  

**Charles Monroe Hyder (1968)**  
Guerry Professor, Education;  
Graduate Studies and Research Associate Provost  

**Dan Quarles (1977)**  
Associate Professor, Education;  
Director UTK/UTC Graduate Center  

**Charles M. Renneisen (1970)**  
Associate Professor, Education;  
Student Affairs Dean  

**Adjunct Education**

**Sandra W. Boyles (1980)**  

**Shirley J. Cronkhite (1982)**  
B.S., 1972, M.S., 1980, Indiana State University.

**Barbara Fulmer (1983)**  

**Philip J. Gross (1974)**  
B.S., Middle Tennessee State University, 1953; M.Ed., The University of Tennessee at Chattanooga, 1971.

**Linda K. Helton (1978)**  
B.S., North Texas State University, 1967; M.Ed., Texas Woman’s University, 1970.

**Lucille S. Lewis (1977)**  
B.S., University of Chattanooga, 1964.

**Nancy W. Linnemann (1978)**  
B.S., Eastern Michigan University, 1968; M.Ed., The University of Tennessee at Chattanooga, 1974.

**Cynthia E. Messinger (1982)**  
B.S., The University of Tennessee, Knoxville, 1975; M.Ed., The University of Tennessee at Chattanooga, 1980.

**Cynthia J. Norris (1982)**  

**Marjorie Richelson (1981)**  
B.S., Tulane University, 1967; M.Ed., Emory University, 1969.

**Cynthia P. Rawls (1982)**  
B.S., Knoxville College, 1970; M.Ed., The University of Tennessee at Chattanooga, 1980.

**Suzanne Rushworth (1983)**  

**Kathryn A. Simmons (1980)**  

**Betty Vines (1976)**  

**Marilyn M. Whitely (1980)**  
B.S., East Carolina University, 1949; M.Ed., The University of Tennessee at Chattanooga, 1975.

**Curriculum and Instruction**

**Eugene C Bartoo (1978)**  
Associate Professor,  
Department Head  
B.S., Pennsylvania State University, 1961; M.Ed., 1966, Ed.D., 1972,  
State University of New York at Buffalo.

**Guerry Charles Monroe Hyder (1968)**  
UC Foundation Professor  
B.S., 1962, M.S., 1966, Northern Illinois University; Ph.D.,  
University of Iowa, 1970.

**Thomas E. Biber (1970)**  
Professor  

**William L. Butterfield (1967)**  
Professor  
B.A., Ohio Northern University, 1952; B.S., Garrett Theological Seminary, 1955; Ph.D., Ohio State University, 1967.

**Anne J. Hunt (1974)**  
Associate Professor  
B.S., University of Chattanooga, 1963; M.Ed., 1967, Ed.D., 1969,  
University of Georgia.

**Douglas E. Kingdon (1972)**  
Associate Professor  
B.A., Houghton College, 1957; M.S., State College for Teachers,  

**Sandra L. Snyder (1981)**  
Assistant Professor  

**Barbara Ann Wofford (1975)**  
Assistant Professor  
B.S., 1962, M.Ed., 1966, Tennessee State University; Ed.D.,  
George Peabody College for Teachers, 1972; Ed.D., Virginia Polytechnic Institute, 1975.

**Educational Administration and Supervision**

**M. Daniel Baker (1976)**  
Associate Professor,  
Student Teaching Director  
B.A., Indiana University, 1967; M.S.Ed., Indiana University, 1970;  
M.Ed., University of North Carolina at Charlotte, 1972; Ed.D.,  

**Lloyd D. Davis (1970)**  
UC Foundation Professor,  
Academic Computing Services Director  
B.A., Ohio Northern University, 1956; M.S., University of Miami,  
1959; Ed.D., The University of Tennessee, Knoxville, 1974.

**William Hales Jr. (1969)**  
Professor  
B.S., Mankato State College, 1957; Ph.D., University of New Mexico, 1970.

**Colbert W. Whitaker (1981)**  
Associate Professor,  
Department Head  
B.S., University of Chattanooga, 1961; M.Ed., 1963, Ed.D., 1972,  
The University of Tennessee, Knoxville.

**Frank R. Whittacce (1969)**  
Professor  
B.S., Indiana State University, 1950; M.A., 1957, Ed.D., 1965, Case-  
Western Reserve University.

**Health, Physical Education and Recreation**

**Gene Ezell (1974)**  
Associate Professor  
B.A., Asbury College, 1970; M.S., Purdue University, 1973; Ed.D.,  
The University of Tennessee, Knoxville, 1975.

**W. Leroy Fanning (1971)**  
Professor  
B.A., Southeastern Louisiana University, 1964; M.S., The University of Tennessee, Knoxville, 1966; Ed.D., University of Georgia, 1972.

**Leon Ford (1964)**  
Associate Professor  
B.S., University of Louisville, 1952; M.Ed., University of  
Anton David Jadin (1979)  Instructor, Intramural Sports Director

Robert C. Norred (1977)  Professor, Department Head

William A. Norris (1981)  Assistant Professor
B.S., 1973, M.S., 1975, University of Akron; Ph.D., Ohio State University, 1981.

Ann Shea (1983)  Instructor
B.A., Florida State University, 1977; M.A., Texas Woman's University, 1978.

Jamie F. Harvey (1982)  Assistant Professor

Steven A. Underwood (1982)  Instructor

Adjunct HPER


Special Education and Counseling

Earl E. Davis (1978)  Professor, Department Head
B.S., University of Southern Mississippi, 1956; M.Ed., University of Texas at Austin, 1963; Ed.D., University of Alabama, 1972.

Janice R. Davis (1978)  Assistant Professor, Youth Educational Assessment & Research Center Coordinator

Paul DeVivo (1970)  Professor
B.S., Northeastern University, 1958; M.S., Kansas State Teachers College, 1961; Ed.D., Ball State University, 1970.

W. Rodney Fowler (1976)  Associate Professor
B.S., Lock Haven State, 1965; M.A., California State University, San Diego, 1968; Ed.D., Ball State University, 1971.

Nancy Ligon (1984)  Assistant Professor
B.S., University of Chattanooga, 1967; M.S., The University of Tennessee, Knoxville, 1969; Ph.D., Texas Woman's University, 1980.

Ted L. Miller (1978)  UC Foundation Associate Professor

Barbara A. Ray (1981)  Assistant Professor

Michael J. Sitzman (1975)  Assistant Professor, Counseling Center Director

Caryl A. Taylor (1978)  Assistant Professor

School of Engineering

Terrance M. Carney (1970)  Professor, Electrical Engineering/Computer Applications Director
S.B.A.E., 1956, S.M.A.E., 1958, MIT; Ph.D., Rice University, 1967; P.E.

Ronald B. Cox (1970)  Professor, School of Engineering Dean
B.S., 1965, M.S., 1968, The University of Tennessee, Knoxville; M.B.A., Vanderbilt University, 1980; Ph.D., Rice University, 1970; P.E.

Wayne H. Clifford (1984)  Associate Professor

James R. Cunningham (1973)  Professor
B.S., Louisiana State University, 1963; M.E., 1970, Ph.D., 1972, University of Florida; P.E.

Prakash R. Damshala (1981)  Associate Professor
B.E., Osmania University (India), 1969; M.S., University of Miami, 1972; Ph.D., Georgia Institute of Technology, 1978; P.E.

Ahmed H. Eltom (1984)  Assistant Professor
B.S., University of Khartoum, 1973; M.S., 1982, Ph.D., 1984, Clarkson University.

Jan M. Evans (1981)  Assistant Professor
B.S., The University of Tennessee at Chattanooga, 1974.

Edwin P. Foster (1979)  Professor, Civil/Industrial Engineering & Engineering Management Director
B.E., 1964, M.S., 1966, Ph.D., 1974, Vanderbilt University; P.E.

William Q. Gurley (1979)  Associate Professor, Chemical/Mechanical Engineering Director, Graduate Programs Coordinator
B.S., University of North Carolina, Charlotte, 1967; M.S., 1970, Ph.D., 1973, North Carolina State University; P.E.

Max Lavoyd Hailey (1984)  Associate Professor
B.S., The University of Tennessee, Knoxville, 1964; Ph.D., Texas Tech University, 1972; P.E.

James E. Henry (1980)  Associate Professor
B.A., B.S.Ch.E., Rice University, 1964; M.A., 1966, Ph.D., 1970, Princeton University; P.E.


Charles V. Knight (1979)  Professor
B.S., 1963, M.S., 1966, Ph.D., 1971, The University of Tennessee, Knoxville; P.E.

Edward H. McMahon (1976)  Associate Professor
B.S., Rutgers University, 1965; M.E., New York University, 1969; New York University, 1974.

Henry M. Sendaula (1979)  Associate Professor

Ben C. Sparks (1983)  Associate Professor
B.S., University of South Carolina, 1957; M.S., Pennsylvania State University, 1959; P.E.

Virgil A. Thomson (1975)  Associate Professor, Laboratories/Facilities Planning Director
B.S., Case Institute of Technology, 1960; M.S., 1971, Ph.D., 1977, The University of Tennessee, Knoxville; P.E.

Donald E. Todd (1979)  Associate Professor
B.A., 1959, M.S., 1964, Ph.D., 1968, Texas A & M University; P.E.

J. Eric Schonblom (1974)  UC Foundation Associate Professor
S.B., 1956, S.M., 1958, Massachusetts Institute of Technology; Ph.D., University of Florida, 1974; P.E.
Adjunct Engineering

Charles N. Adams Jr.
B.S.M.E., Tennessee Tech, 1962; P.E.

Charles L. Ballentine
B.E., Youngstown College; M.S., The University of Tennessee, Knoxville.

Subir Banerji
M.S.I.E., Kansas State University, 1967; M.B.A., Southern Methodist University, 1976.

Ronald W. Capps
B.S., Stanford University, 1966; M.S., Tulane University, 1969; Ph.D., University of California, Davis, 1972; P.E.

Cayle K. Cunningham
B.S., Louisiana State University, 1964.

Karen M. Downer
B.S., The University of Tennessee, Knoxville; M.S., Clemson University, 1978.

Steve E. Gaines
B.S.E., The University of Tennessee at Chattanooga, 1973; M.S., The University of Tennessee, Knoxville, 1976.

James W. Hiestand

John M. Higgins

Roy E. Johnson Jr.
B.S., 1966, M.S., 1969, Georgia Institute of Technology.

Rudolf C. Kittititz Jr.
B.S., University of Mississippi, 1957.

Norbert Koch
B.Ed, Wisconsin State University, 1937; M.S., The University of Tennessee, Knoxville, 1940; Ed.D., University of Missouri, 1951.

Cordon C. Park
B.S., University of Texas, 1970; M.S., University of Texas, 1972.

Tyndall L. Pugh

James W. Rogers Sr.
B.S., University of Chattanooga, 1955.

N.D. Sadanadan

Alan H. Spring
B.S., 1966, M.S., 1967, Georgia Institute of Technology.

Jack Tarpley
B.S.E.E., University of Oklahoma, 1965; M.S.E.E., The University of Tennessee, Knoxville, 1972; P.E.

Mary M. Walker
B.S., University of Georgia, 1967.

Computer Science

Richard Baskerville (1964)
Assistant Professor
B.S., University of Maryland, 1978; M.S., University of London, 1980.

B.C. Day (1982)
Assistant Professor

Jerry Smith (1982)
Assistant Professor
B.S., University of South Carolina, 1977; M.A., 1978, Ph.D., 1982, University of Georgia.

Clinton Wills Smullen III (1973)
Associate Professor

Stephanie A. Smullen (1979)
Associate Professor

Adjunct Computer Science

Malcolm Babb (1980)


Tim Cooke (1984)
B.S., The University of Tennessee at Chattanooga, 1982.

Jonathan Henry (1994)
B.S., 1974, M.S., 1977, University of Alabama; Ph.D., University of Kentucky, 1982.

Bise Korsakov (1983)
B.S., The University of Tennessee at Chattanooga, 1981.

Chris Levan (1980)

Lamont Rogers (1980)
B.S., 1974, M.S., 1977, The University of Tennessee at Chattanooga.

Rosemary Russell (1981)

Robert L. Sample (1979)
B.S., The University of Tennessee at Chattanooga, 1979.

Linda Varnell (1981)

School of Human Services

Criminal Justice

David L. Anderson (1977)
Associate Professor

Kathryn Diane Bush (1980)
Assistant Professor
B.S., 1975, M.A., 1976, Texas Woman’s University.

Robert A. Catale (1980)
Assistant Professor
B.S., Manhattan College, 1965; M.A., Hunter College of The City University of New York, 1969.

Stanton P. Fjeld
Professor, Psychology and Criminal Justice

William H. Hall (1977)
Assistant Professor
B.S., Aurora College, 1972; M.A.P.A., Northern Illinois University, 1974; J.D., Lewis University College of Law, 1978; J.D., Northern Illinois University College of Law, 1981.

Roger D. Thompson (1976)
Assistant Professor, Department Head

Kenneth Venters (1974)
Professor, School of Human Services Dean
B.S., Manhattan College, 1965; M.S., 1966, Ph.D., 1971, Florida State University.

Adjunct Criminal Justice

Janet Williams (1979)

Home Economics

Mary Jo Cochran (1965)
Associate Professor, Department Head
B.S., 1948, M.S., 1971, Auburn University.
<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Degrees and Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Janice W. Rhodes</td>
<td>Instructor, Graduate Studies Director</td>
<td>B.S., The University of Tennessee, Knoxville, 1969; M.Ed., The University of Tennessee at Chattanooga, 1976.</td>
</tr>
<tr>
<td>Erskine R. Smith</td>
<td>Assistant Professor</td>
<td>B.S., Middle Tennessee State University, 1971; M.S., 1975, Ph.D., 1981, The University of Tennessee, Knoxville.</td>
</tr>
<tr>
<td>Mary N. Tanner</td>
<td>Assistant Professor</td>
<td>B.S., University of Chattanooga, 1964; M.Ed., The University of Tennessee at Chattanooga, 1970; Ph.D., The University of Georgia, 1984.</td>
</tr>
<tr>
<td>Charlotte Martin</td>
<td></td>
<td>B.S., Auburn University, 1956; M.S., Florida State University, 1983.</td>
</tr>
<tr>
<td></td>
<td>Adjunct Home Economics</td>
<td></td>
</tr>
<tr>
<td>Marlene C. Bradshaw</td>
<td></td>
<td>B.S., Michigan State University, 1957; M.A., University of New Mexico, 1972.</td>
</tr>
<tr>
<td>Barbara Neal</td>
<td></td>
<td>B.S., University of Illinois, Urbana, 1976; M.S., Indiana State University, 1977.</td>
</tr>
<tr>
<td>Karen Wolfe</td>
<td></td>
<td>B.S., Georgia Southern College, 1975.</td>
</tr>
<tr>
<td></td>
<td>Human Services: Management</td>
<td></td>
</tr>
<tr>
<td>Ralph Anderson</td>
<td>Assistant Professor</td>
<td>B.S., University of Wisconsin, Whitewater, 1968; M.S., 1972, Ph.D., 1976, University of Wisconsin, Milwaukee.</td>
</tr>
<tr>
<td>Kyra Osmus</td>
<td>Assistant Professor</td>
<td>B.S., 1967, M.S., 1970, University of Alabama; Ed.D., Memphis State University, 1980.</td>
</tr>
<tr>
<td>Phyllis Jan Printz</td>
<td>Professor, Psychology: Department Head</td>
<td>B.A., University of Kansas City, 1950; M.A., University of Missouri, Kansas City, 1951; Ph.D., The University of Tennessee, Knoxville, 1978.</td>
</tr>
<tr>
<td></td>
<td>Adjunct Human Services: Management</td>
<td></td>
</tr>
<tr>
<td>Peggy Keff</td>
<td></td>
<td>B.A., University of Houston, 1966; M.S., The University of Tennessee at Chattanooga, 1977.</td>
</tr>
</tbody>
</table>

**Military Science**

<table>
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<tr>
<th>Name</th>
<th>Title</th>
<th>Degrees and Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>James R. Hinnant</td>
<td>Assistant Professor</td>
<td>Captain, U.S. Army; B.A., Furman University, 1973.</td>
</tr>
<tr>
<td>James D. Kell</td>
<td>Assistant Professor</td>
<td>Captain, U.S. Army; B.S., The University of Tennessee at Chattanooga, 1977.</td>
</tr>
<tr>
<td>Stephen E. Shires</td>
<td>Assistant Professor</td>
<td>Captain, U.S. Army; B.S., Jacksonville State University, 1975.</td>
</tr>
<tr>
<td>Richard A. Sherman</td>
<td>Assistant Professor</td>
<td>Major, Army National Guard of the United States; B.S., Troy State University, 1978.</td>
</tr>
<tr>
<td>Robert W. Simmons</td>
<td>Assistant Professor</td>
<td>Major, U.S. Army; B.S., Tennessee Tech University, 1970.</td>
</tr>
</tbody>
</table>

**Social Work**

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Degrees and Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tommie F. Brown</td>
<td>UC Foundation Associate Professor</td>
<td>B.A., Dillard University, 1957; M.S.W., Washington University, 1964; D.S.W., Columbia University, 1984.</td>
</tr>
<tr>
<td>Patricia Walker</td>
<td>Associate Professor, Field Placement Director, Department Head</td>
<td>B.S., Butler University, 1960; M.A., Indiana University, 1965.</td>
</tr>
<tr>
<td>Dorothy Williams</td>
<td>Assistant Professor</td>
<td>B.A., South Carolina State College, 1967; M.S.W., State University of New York, 1971.</td>
</tr>
</tbody>
</table>

**Adjunct Social Work**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degrees and Institutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diane Allen</td>
<td>B.S., The University of Tennessee at Chattanooga, 1975.</td>
</tr>
<tr>
<td>Carol Berz</td>
<td>B.A., The University of Tennessee at Chattanooga, 1973; M.S.S.W., The University of Tennessee, Nashville, 1975; J.D., YMCA, 1983.</td>
</tr>
<tr>
<td>Jane Cahill</td>
<td>A.B., Chestnut Hill College, 1951; Ph.D., St. Mary’s School of Notre Dame, 1953; M.S.W., University of Georgia, 1976.</td>
</tr>
<tr>
<td>Farrel B. Cooper</td>
<td>B.S., Memphis State, 1963; M.S.S.W., The University of Tennessee, Knoxville, 1967.</td>
</tr>
<tr>
<td>Barbara Foster</td>
<td>B.S., The University of Tennessee, Knoxville, 1967; M.S.W., Atlanta University, 1970.</td>
</tr>
<tr>
<td>Carol Holtcamp</td>
<td>B.A., The University of Tennessee at Chattanooga, 1975; M.S.S.W., The University of Tennessee, Knoxville, 1980.</td>
</tr>
<tr>
<td>J. Katherine Page</td>
<td>B.A., University of Colorado, 1960; M.S.W., Howard University, 1965.</td>
</tr>
<tr>
<td>Ellen Predmore</td>
<td>B.S., Ohio State University, 1965; M.S.S.W., The University of Tennessee, Knoxville, 1977.</td>
</tr>
</tbody>
</table>

**Special Services**

<table>
<thead>
<tr>
<th>Name</th>
<th>Degrees and Institutions</th>
</tr>
</thead>
</table>
Jeanne Jolley (1983)  
B.S., 1974, M.D., 1977, Middle Tennessee State University.

Booker T. Scruggs (1968)  
B.A., Clark College, 1964; M.A., Atlanta, University, 1966.

Diane Orr (1982)  
B.S., Alabama A&M University, 1976; M.S., Iowa State University, 1980.

Dennis Miller (1982)  
B.S., 1975; M.Ed., 1982, The University of Tennessee at Chattanooga.

School of Nursing

Barbara Andersen (1983)  
Associate Professor  

Barbara Cherry Anderson (1984)  
Assistant Professor  

Martha Butterfield (1974)  
Assistant Professor  
B.S.N., 1957, M.S.N., 1964, Ohio State University.

Gwendolyn Charles (1975)  
Associate Professor  
B.S.N., A&T State University (North Carolina), 1960; M.S.N., Emory University, 1970.

Patricia Haase (1982)  
Professor, School of Nursing Dean  
B.S.N., 1956, M.S.N., 1957, Indiana University; Ph.D., Purdue University, 1972.

Mary B. Jackson (1973)  
Professor  
Diploma, Baroness Erlanger Hospital School of Nursing, 1947; B.S., University of Chattanooga, 1954; B.S.N., 1961, M.S.N., 1962, University of Alabama, Tuscaloosa.

Gail S. Lemaire (1980)  
Assistant Professor  
B.S.N., Boston University, 1971; M.S.N., The University of Texas Health Science Center at San Antonio, 1978.

Barbara Norwood (1974)  
Assistant Professor  

Joan Furman Seaborg (1982)  
Assistant Professor  
Diploma in Nursing, Greenville, South Carolina, 1968; B.A., The University of Tennessee, Nashville, 1974; M.S.N., Vanderbilt University, 1975.

Margaret I. Trimpey (1981)  
Assistant Professor  
Diploma, North Carolina Baptist Hospital, School of Nursing, 1959; B.S., The University of Tennessee at Chattanooga, 1978; M.S.N., Vanderbilt University, 1979.

Dorothy D. Volz (1977)  
Assistant Professor  
B.S.N., Vanderbilt University, 1972; M.S.N., University of Alabama, 1977.

Library

W. Michael Bell (1980)  
Assistant Professor, Reference Librarian  

Robert Neal Coulter (1971)  
Assistant Professor, Reference Librarian  

Mary Bashie Evans (1990)  
Assistant Professor, Cataloging Department Head  

Joseph A. Jackson (1973)  
Professor and Dean, Libraries  

Susan D. Kealy (1984)  
Instructor, Reference Librarian  

Sarla R. Murgai (1969)  
Associate Professor, Circulation Services Head  
B.S., 1952, M.A., 1954, Government College (Ludhiana); B.L.S., University of Delhi, 1962; M.S.L.S., Atlanta University, 1968.
Administrative Directory
1985

Office of the Chancellor
Frederick W. Obear (1981) Chancellor
B.S., University of Lowell, 1956; Ph.D., University of New Hampshire, 1961; L.H.D., University of Lowell, 1985.
Phyllis D. Woods (1981) Assistant to the Chancellor and Director of Affirmative Action

Athletics
Harold B. Wilkes (1959) Director
B.S., University of Chattanooga, 1959.
Greg Ahrens (1985) Assistant Football Coach
B.S., Southern Mississippi, 1980.
Murray Arnold (1979) Head Basketball Coach
B.A., American University, 1960; M.A., Stetson University, 1966.
Tommy Bartlett (1979) Tennis Coach
B.S., The University of Tennessee, Knoxville, 1952.
Sharon Fanning (1976) Women's Sports Coordinator/Administrative Assistant
B.S., The University of Tennessee at Chattanooga, 1975; M.S., The University of Tennessee, Knoxville, 1978.
Bill Gleason (1981) Assistant Basketball Coach
B.S., 1952; M.S., 1966, DePaul University.
Mike Hand (1983) Assistant Football Coach
B.S., University of Alabama, 1972.
John H. Henderson (1980) Assistant Football Coach
B.S., University of Georgia, 1977.
B.S., Memphis State University, 1977.
Stanley King (1984) Assistant Football Coach
B.S., Livingston University, 1979.
B.S., Sullins College, 1957.
Neil Magnussen (1979) Sports Information Director
James W. Morgan (1969) Assistant Athletics Director
B.S., 1959; M.Ed., 1960, University of Chattanooga.
Doug T. Moser (1983) Women's Assistant Basketball Coach
B.S., The University of Tennessee at Chattanooga, 1972.
Charles K. Nix (1983) Head Football Coach
Joseph D. Pate (1979) Assistant Football Coach
George Price (1984) Assistant Basketball Coach
Ethan Reeve (1984) Head Wrestling Coach
B.S., The University of Tennessee, Knoxville, 1977.
Fred Ellis Riley Jr. (1984) Assistant Football Coach
B.S., University of North Alabama, 1982.

Vice-Chancellor, Administration and Finance

Audit and Management Services

Personnel
Linda Freeman Sendaula (1975) B.A., Memphis State University, 1971; M.Ed., The University of Tennessee at Chattanooga, 1982.

Assistant Vice-Chancellor, Administrative Affairs
Henry T. Barbatti (1971) B.S., University of Illinois, P.E.

Communications Services
B.S., The University of Tennessee, Knoxville, 1982.

Facilities Management
C. Michael Hyder (1981) Coordinator
B.A., University of Kentucky, 1974.

Physical Plant
David Butler (1984) Director
B.S., University of Southwestern Louisiana, 1957.
B.S., The University of Tennessee at Chattanooga, 1976.
Provost

John E. Trimpey

Acting Provost

B.A. Ball State University, 1964; M.A., University of Arkansas, 1966; Ph.D., Ohio University, 1968.

Institutional Research & Planning

Karen Ford EickhoK

Supervisor


Associate Provost, Academic Services

Jane W. Harbaugh

A.B., Tufts College, 1952; A.M., Ph.D., 1957, Fletcher School of Law and Diplomacy, Tufts University.

Academic Computing

Lloyd D. Davis

Director

A.B., Ohio Northern University, 1956; M.S., University of Miami, 1959; Ed.D., The University of Tennessee, Knoxville, 1974.

Elisabeth M. Craig

Supervisor User Services

B.A., Bishop's University, Quebec, Canada, 1956; A.S., Chattanooga State Technical Community College, 1974; M.Ed., The University of Tennessee at Chattanooga, 1983.

Administrative Computing Services

Glenda F. Sullivan

Director of User Services


Jeffrey Kell

Director of Technical Services

B.S., The University of Tennessee at Chattanooga, 1983.

Anju Patel

Systems Analyst

B.A., Bishop's University, Quebec, Canada, 1956; A.S., Chattanooga State Technical Community College, 1974; M.Ed., The University of Tennessee at Chattanooga, 1983.

Admissions and Records

Ray P. Fox

Dean


Patsy K. Reynolds

Director of Admissions

B.S., Illinois State University, 1976; M.Ed., The University of Tennessee at Chattanooga, 1983.

Phyllis A. Beasley

Associate Director of Student and School Relations

B.S., Converse College, 1977.

Johnny L. Goodrich

Coordinator of International Student Services (Undergraduate)

B.S., Tennessee State University, 1957.

George B. LeNoir

Admissions Officer


Michael Roberts

Admissions/Financial Aid Counselor

B.S., U.S. Naval Academy, 1970.

Ann S. Tinnon

Director of Financial Aid


Susan Cardwell

Associate Director of Financial Aid


Carolyn S. Johnson

Financial Aid Counselor


Jean Posey

Financial Aid Counselor


Natalie D. Schlack

Director of Records

A.B., University of Chattanooga, 1945; M.A., University of Wisconsin, 1946.

Marilyn P. Benson

Associate Director of Records


Brenda S. Davis

Director of Advisement and Registration

B.A., Oglethorpe University, 1964; M.Ed., The University of Tennessee at Chattanooga, 1972.

Sandra Cole Mills

Associate Director of Registration

B.S., The University of Tennessee at Chattanooga, 1974.

Helen B. Arthur

Coordinator, Adult Services Center

B.A., University of Chattanooga, 1962.
Brock Scholars
Robert C. Fulton III (1970) Director

Libraries
Joseph A. Jackson (1973) Professor and Dean

Associate Provost, Graduate Studies and Research

Center for Economic Education
William H. Peterson (1978) Director
B.S., New York University, 1943; M.S., Columbia University, 1948; Ph.D., New York University, 1952.

Lucien Ellington (1983) Assistant Director

Continuing Education and Public Service
Jerry W. Weeks (1979) Dean

Kitty Kirby-Miller (1979) Director of Cooperative Education

W.O.P. Dorsey Jr. (1974) Director, Public Services
B.S., Tennessee A & I University, 1950; M.Ed., The University of Tennessee at Chattanooga, 1974.

William Sutton (1982) Director, Conferences and Non-Credit Programs

Shirley Spiers (1983) Assistant Director, Conferences and Non-Credit Programs

Mary Knaff (1984) Coordinator, Conferences and Non-Credit Programs
B.S., The University of Tennessee at Chattanooga, 1982.

John McCormack (1964) Director, WUTC

Gail Lindberg (1975) Director, FACE Program
A.B., University of North Carolina, Chapel Hill, 1967; M.Ed., The University of Tennessee at Chattanooga, 1980.

Beverly Gibson (1981) Coordinator, FACE Program
B.A., DePauw University, 1956.

Kenton Dickerson (1983) Counselor/Job Advocate, FACE Program
B.S., The University of Tennessee at Chattanooga, 1970.

Robert C. Dennis (1979) Media Services

Fred Landry (1981) TV Producer, Media Services
B.A., Loyola University, 1978.

Betsy Hull (1973) Coordinator of Cooperative Education

Robert Marsh (1984) Director of Adult and Special Credit Programs

Eulah S. Price (1986) Counselor, Job Advocate, FACE Program
B.S.W., Virginia Commonwealth University, 1978.

Robert W. Miller (1978) Coordinator of Cooperative Education
B.S., University of Georgia, 1961.

Graduate Office
Janice W. Rhodes (1977) Director of Graduate Studies
B.S., The University of Tennessee, Knoxville, 1969; M.Ed., The University of Tennessee at Chattanooga, 1976.

Cynthia L. Wideman (1978) Coordinator of Graduate Admissions

Grants and Research
John L. White (1985) Assistant Director

Academic Deans
College of Arts and Sciences
Benjamin H. Gross (1964) Acting Dean
B.S., University of Chattanooga, 1952; M.S., 1954, Ph.D., 1956, The University of Tennessee, Knoxville.

Irvin D. Reid (1979) Dean

School of Education
Roy Stinnett (1967) Dean

School of Engineering
Ronald B. Cox (1970) Dean

School of Human Services
Kenneth R. Venters (1974) Dean
B.S., Manhattan College, 1965; M.S., 1971, Ph.D., 1971, Florida State University.

School of Nursing
Patricia Haase (1982) Dean
B.S.N., 1956, M.S.N., 1957, Indiana University; Ph.D., Purdue University, 1972.

Dean of Students

Counseling & Career Planning Center
Michael J. Sitzman (1975) Director

Marsha Parks Provost (1977) Assistant Director
B.A., Hampton Institute, 1969; M.Ed., The University of Tennessee at Chattanooga, 1976.

Health Services
Carolyn Robinson (1970) Coordinator
R.N., Fort Sanders Presbyterian Hospital, 1960.

Housing
Thomas A. Hays (1985) Housing Management Coordinator

Placement and Student Employment
Jean G. Dake (1975) Director

Racquet Center
Thomas G. Bartlett (1979) Director
B.S., The University of Tennessee, Knoxville, 1952.

Student Affairs
Richard MacDougall (1970) Associate Dean; Director of Housing
A.B., Boston College, 1959; M.S., Richmond Professional Institute, 1966.
Endowed Funds

Through the years many persons have made generous gifts to establish endowed funds for various purposes. The University would like to recognize and thank them once again by publishing their names here.

Scholarships

**Julius Ochs Adier Scholarship**: Established in July 1956 by an anonymous donor in memory of the distinguished citizen who was associated with Adolph S. Ochs in the management of *The Chattanooga Times*.

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

**Steve Baras Memorial Scholarship Fund**: 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.

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

**Creed F. Bates Scholarship**: Established in 1976 by more than 300 individual gifts from friends, former students, and citizens of the Chattanooga community in honor of Creed Fletcher Bates, student, teacher, principal, University trustee, and community leader, to be awarded annually to a qualified and deserving student from the Chattanooga area.

**Sheryl M. Berger Memorial Scholarship**: Established in 1985 by the family and friends of Sheryl M. Berger. This scholarship is awarded upon the recommendation of the School of Education to a student who shows exceptional ability for teaching children with special educational learning problems.

**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.

**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 at UTC and founder and director of the University's Institute Archaeology. The scholarship award is based on merit and is given to a student who will further advance the academic ideals of conservation and preservation of man's historical past espoused by Dr. Brown.

Margaret Whiteside Buhrman Scholarship: Established in 1978 by friends in honor and recognition of her 46 years of distinguished service to the students, faculty, and staff of the University, for deserving students wishing to attend UTC with preference for students majoring in English.

Gillie Queener Carter 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.

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

Walter W. Colby Memorial Scholarships: Established in 1982 by Benjamin W. Colby, a University of Chattanooga alumnus, in memory of his father Walter W. Colby, an early resident of Walden's Ridge (1878). Preference for scholarship is given to needy and worthy students from the Hamilton and Sequatchie County area of Walden's Ridge.

Thomas O. Duff Scholarship: Established in 1956 by Mr. Duff, business and civic leader, patron and trustee of the University, augmented at his death by memorial gifts from family and friends, with preference to be given to sons and daughters of licensed Chattanooga area pharmacists who desire to make pharmacy a career.

John W. Evans Scholarship: Established in 1966 by the will of John W. Evans, retired Chattanooga real estate dealer, who bequeathed his entire estate to the University for the benefit of "needy and deserving students."

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.

Finch Cannon Scholarship Endowment Fund: Established in 1984 by Mr. Al Finch Cannon. The scholarship is awarded upon the recommendation of the UTC Scholarship Selection Committee to a student who demonstrates a desire to secure a college education that would enhance his or her career.

John E. and Claudia F. Gilbreath Scholarship in Memory of Katherine Frazier: Established in 1971 by Mrs. Gilbreath for deserving male students in memory of her husband and her sister, two of the founders of the Chattanooga Federal Savings and Loan Association, both prominent business and civic leaders who died in 1969. Mr. and Mrs. Gilbreath graduated from The University of Tennessee, Knoxville.

Sharon Gilley Grant Memorial Scholarship: Established in 1984 by Claude and Mildred Gilley in memory of their daughter, an honor's graduate and friend of UTC. This scholarship is awarded on a competitive basis in either opera or voice.


yorin L. Hutcheson Jr. Memorial Scholarships: Established in 1983 by W. Frank Hutcheson in memory of his father John L. Hutcheson Jr., longtime member of the board of the University of Chattanooga and a prominent citizen of North Georgia. Preference for scholarships is given to students from specific North Georgia counties and Tiftonia.

John Earlon Kerr Scholarship: Established in 1959 with a bequest from Mrs. 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.

Norbert Koch Scholarship: 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.

David McKendrie Key Scholarship: Established in 1955 by Mrs. 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.

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 pre-medical student and to a junior or senior member of the wrestling team.

Mr. and Mrs. Charles W. Loftin Scholarships: Established in 1983 by Miss 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 Mr. 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.

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

Burkett Miller Scholarships: Established in 1954 by a generous gift from Mr. Miller, leading Chattanooga attorney and philanthropist, to aid needy and worthy students.

Scrappy Moore Memorial Scholarship: Established in
1971 by memorial gifts from the 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. **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 who was the father of an alumnus. **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. **Jenks Fain Parker Memorial Scholarship:** Established in 1984 by the family of Jenks Fain Parker. The scholarship is awarded to deserving students in the School of Engineering as recommended by UTC Scholarship Selection Committee. **U.G. and William E. Paschal Scholarships:** Established by William Earnest 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 students participating in varsity football. **Elizabeth Bryan Patten Scholarship:** Established in 1972 by Chattanooga 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. **Ruth Clark Perry Scholarship:** Established in 1969 by Mrs. Leonora Miller Seids of Perry, Oklahoma, in memory of her friend, the late Ruth Clark Perry, UC dean of women from 1924 to 1943 and professor of mathematics from 1922 until her death in 1955, to be awarded to an outstanding upperclasswoman majoring in mathematics. **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. **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 Chattanoogans who died in the armed forces of their country. **Dr. Charles Roberts Thomas Scholarships:** Established under terms of the will of Dr. Thomas, well-loved Chattanooga physician who died in 1968, to assist needy students in premedicine. **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. **Vanzant B. Warrenfels Scholarship:** Established in 1976 by Mr. and Mrs. W.O. Cullen of Oxford, Ohio, in honor of Mrs. Cullen's father, Dr. Warrenfels, to be awarded to a student participating in the University Scholars program. **Professorships** **Chattanooga Manufacturers' Association Professorship in Engineering:** Established in 1980 to provide support for the School of Engineering that will enable the University to reward a member of the engineering faculty for excellence in teaching, public service, and research. **George M. Clark Professorship in Management Policy:** Established in 1983 by the Clark Foundation in memory of George M. Clark, longtime Chattanoogaan and chairman of Pioneer Bank until his death in 1979. **Joseph F. Decosimo Professorship in Accounting:** Established in 1977 by Mr. and Mrs. Joseph F. Decosimo, civic and business leaders long associated with The University of Tennessee at Chattanooga, to provide faculty support for the University's program in accounting. **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 enable a group of outstanding professors to bear a revered name and to receive salary supplements. **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. **Alan S. Lorberbaum Professor in Marketing:** Established in 1978 by Alan S. Lorberbaum, a business leader and carpet executive of Dalton, Georgia, to provide faculty support for the marketing program in the School of Business Administration. **AdqiphS. Ochs Chair of Government:** Established in 1925 by Mr. Ochs, distinguished owner and publisher of The Chattanooga Times and The New York Times, longtime citizen of Chattanooga and University trustee, in honor of his dedicated wife, to enable a group of outstanding professors to bear a revered name and to receive salary supplements. **Scott L. Probasco Jr. Chair of Free Enterprise:** Established in 1976 by Mr. Burkett Miller, a leading Chattanooga attorney and philanthropist, in honor of a longtime friend, well-respected Chattanooga citizen, and trustee of the UC Foundation Incorporated, for a distinguished professorship relating to the free enterprise system. **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 1943. **Arthur G. Vieth Professorship in Business Finance:** Established in 1983 by former students and friends in memory of Arthur G. Vieth, holder of the John Stagmaier Chair...
of Economics and Business Administration, a greatly admired teacher and public-minded citizen. 

Marvin Edward White Professor in Business Administration: Established in 1978 by Selox Incorporated to provide faculty support for the University's program in business administration and to honor Mr. White, the company's founder.

**Supported Professorships**

Alumni Distinguished Service Professorships are awarded to outstanding faculty members of each of the four campuses of The University of Tennessee. Each faculty member, chosen on the basis of University and community service, will continue to receive the stipend as long as he or she remains at the University. These awards are made by the University of Tennessee National Alumni Association.

The Distinguished Professor of Religious Studies is supported by the UC Foundation. This professorship was established to insure the continuation of the ties with the University of Chattanooga’s Methodist origin and heritage.

UC Foundation Professorships were established in 1976 to recognize outstanding younger faculty and to provide an incentive for their remaining at UTC.

**Student Loan Funds**

William E. and Mary E. 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 generous gift from the Hartsell, Alabama, physician who took his premedicine work at UC from 1954-1956 and his M.D. from UT in 1960.

Lewis B. Headrick Memorial Student Loan Fund: Established in 1966 by family, friends, and colleagues of Dr. Headrick, class of 1926, research physicist with the Radio Corporation of American for 34 years.

Ethel Chapin Morgan Student Loan Fund: Established by a bequest from the UC alumna who took her B.S. degree in 1925, taught at several colleges, and lived in Lorain, Ohio, at the time of her death at 86 on October 10, 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 from 1920 until his death in 1942.

**Additional Funds**

Dr. North Callahan Honors Essay Prize: Established in 1984 by Professor Emeritus of History, New York University, author, and UTC Distinguished Alumni. Prize to be awarded to a UTC student for the best honors essay, as determined by an honors committee, based on UTC library research.

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.

Paul W. Curtis Jr. Awards: Endowed in 1948 by Mr. and Mrs. Paul W. Curtis in memory of their son, class of 1933, who was killed in action in World War II, for outstanding students in engineering.

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 solely for the benefit of the chemistry department in such manner and amounts as the administrative department head and the chancellor of the University may in their discretion from time to time determine.

Hartung Fund for Nursing Education: Established in 1969 by Dr. and Mrs. Carl A. Hartung, UC graduates of 1929 and 1931 respectively, with income to be expended in support of the nursing program.

Mary B. Jackson Award Endowment: Established in 1977, monetary endowment established in 1984, to honor outstanding senior nursing student selected by peers.

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.

Hinds Memorial Book Fund: Established in 1921 by Mrs. Kate Hinds Steele and Mrs. Bashiie 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 University of Tennessee National Alumni Association and other friends in honor of the retiring UT president and his wife, for the purchase of books for the UTC Library.

Keese Lecture Series: Established in 1962, endowed in 1984 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 to the campus each year an outstanding speaker who is an authority in some branch of the humanities.

Captain Daphne Marjorie Painter Memorial Art Education Endowment Fund: Endowed in 1984 by Mrs. Marjorie Stanford Painter in memory of her daughter to fund classical art instruction in the UTC Children's Learning Center.

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 graduating with a major in management.

Carl A. Swafford Jr. Endowment Fund: Endowed in 1984 by Mr. Carl A. Swafford Sr. in honor of his son for the purchase of equipment and supplies for the Departments of Biology and Chemistry.

Terrell Louise Tatum Memorial Fund: Established in 1968 by the University in memory of its Guerry professor of Spanish who served her Alma Mater for 43 years, for the purchase of books and teaching materials for the department of modern languages.
Terrell Louise Tatum Spanish Award: Endowed in 1964 by an anonymous donor to honor UC's Guerry professor of Spanish by awarding a yearly prize bearing her name to the outstanding senior majoring in Spanish.

Edgar B. Tolson Memorial Book Fund: Established in 1942 with the residue of Mr. Tolson's estate, authorized by Wilfred O. Stout Sr. of Minneapolis, executor, for the purchase of books of history and philosophy.
Summary of Degrees Conferred

December 21, 1983

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<th>Degree</th>
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May 7, 1984

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August 20, 1984

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Two-year certificate

Summary of Credit Registrations

Fall Semester 1984

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<td>4663</td>
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<td>Part-time students</td>
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<td>Post-baccalaureates</td>
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<tr>
<td>Full-time students</td>
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<td>Part-time students</td>
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<td>Total post-baccalaureate students</td>
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<td>Graduates</td>
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</table>
Environmental Studies 60
Environmental Studies (B.S.) 25, 61
Biology 61
Chemistry 61
Engineering 62
Geosciences 62
Mathematics 62
Physics 62
Sociology-Anthropology 62
Environmental Studies Minor 62
Evening College 172
Expenses, Student 19
Extension Credit 14
FACE Program for Life
Transitions 173
Faculty 177-188
Faculty and Staff 176
Faculty Emeriti 177
"Family Educational Rights and Privacy" Act 41
"Family Financial Statement" 18
Fashion Merchandising 159
Fee Adjustments 20
Fee Payment 20
Fee Refunds 21
Fees and Expenses 19
Finance 108
Financial Aid 15
Financial Aid Application Procedures 18
Food Service Facilities 39
Food Systems Administration 159
Foreign Language Requirement (B.A. and B.M. Degrees) 27
Foreign Languages and Literatures 64
Foreign Languages: French (B.A.) 25, 65
Foreign Languages: Greek (B.A.) 25, 66
Foreign Languages: Latin (B.A.) 25, 67
Foreign Languages: Spanish (B.A.) 25, 68
Forestry (B.A.) 28
Fraternities 38
French 65
French Minor 65
Freshman Admission 10
Full Time Classification (See Registration Limits)

General Admission Requirements 10
General Business Administration 118
General Education Requirements 28-28
General Regulations 41
General Science 93
General University Honors 31
Geography Minor 25, 70
Geology 69
Geology (B.S.) 25, 69
Geology Minor 70
Georgia Tuition Equalization Grant 17
Geosciences 69
German 66
Glossary of Academic Terms 3
Goals Statement, University 7
Golden Key 32
Grade Explanation 23
Grade Point Average 24
Grades 23
Grading Policies 23
Graduate Admissions 33
Graduate Admission Classifications 34
Graduate Admissions Tests 35
Graduate Degree Programs 33
Graduate Studies 33
Graduation Fee 20
Grants 16
Graphic Design Minor 47
Greek 66
Greek (B.A.) 25, 66
Greek Minor 67
Greek Week 38
Guaranteed Student Loans 17
Handicapped Student Services 39
Health and Physical Fees 19
Health and Physical Education: Recreation Specialist (B.S.) 25, 142
Health Education (HPER) 140
Health, Physical Education and Recreation (HPER) 140-144
Health Plan 40
Health Professions 29
Health Services, Student 40
High School Units Chart 11
History 72
History (B.A.) 25, 72
History Minor 72
History of Art Minor 47
Home Economics (B.S.) 25, 159
General 159
Business 160
Honor Code 41
Honors and Honor Societies 31
Housing 40
Housing Costs 20
HPER 140-144
Humanities (B.A.) 25, 76
Human Services (B.S.) 25, 162
Management 162
Allied Health Management 163
Human Services, School of 157-168
I. D. Cards 40
Individualized Education Program (IEP) 173
Individualized Education Program (IEP) Limitations 14
Industrial Engineering 147-148
Industrial Management 115
In-Plant Service 173
Institute of Archaeology 100
Institutional Employment, On-Campus 17
Instructional Staff 177
Interdisciplinary Studies 75
Interfraternity Council 38
Interior Design 159
International Students 12, 34
Intramurals 38
Italian 67
Job Location and Development Program 17
Jobs, Off-Campus (See Placement and Student Employment)
Jobs, On-Campus (See Institutional Employment)
Journalism (See Communication B.A.)' Keese Lectureship 38
Languages, Foreign 64
Late Service Fee 20
Latin 67
Latin (B.A.) 25, 67
Latin Minor 67
Library 175
Library Fines 175
Limitations for B.A. Degree 28
Limitations on Nontraditional Credit 14
Listener's Fee 19
Loans, Student 16-17, 193
Macellican Gymnasium 38
Maintenance Fees 19
Management 113
Management, Engineering 148
Manker Patten Tennis Courts 38
Marketing 116
Mathematics 77
Mathematics (B.A.) 25, 79
Mathematics, Applied (B.S.) 25, 78
Actuarial Science 78
Computer Science 78
Corporate Science 79
Systems Science 79
Mathematics Minor 80
Meal Costs 20
Meal Tickets 20
Mechanical Engineering 147-148
Media Services 174
Medical Technology (B.S.)
Preprofessional 29, 49
Medicine Preprofessional 29
Military Science Department 164
Military Service Credit 14
Military Service Credit Limitations 14
Minors 25
Moccasin 38
Modern Languages 68
Mortar Board 32
Music 82
Music (B.A.) 25, 83
Music (B.M.) 25, 83
Instrumental Performance 84
Sacred Music 84
Theory and Composition 84
Vocal Performance 85
Music Education (B.S.) 25, 85, 127
Instrumental 127
Vocal 128
Music Fee 19
Music Minor 86
National Direct Student Loans (NDSL) 16
Noncredit Programs (See Continuing Education Division)
Nursing (B.S.N.) 25, 170
Nursing, School of 169-171
Nursing Student Loans 17
Oak Street Apartments 40
Off-Campus Credit Courses
(See Continuing Education Division)
Office Administration/Business Education 118
Office Management 118
On-Campus Institutional Employment 17
Orientation and Advising 10
Orientation Fee 20
Panhellenic 38
Parking 42
Parking Fees 20
Part-Time Classification (See Registration Limits)
Part-Time Fees 19
Part-Time I.D. 40
Payment Options 20

School of Human Services 157-168
School of Nursing 169-171
Secondary Education: Biology (B.S.) 129
Secondary Education: Business (B.S.) 129
Secondary Education: Chemistry (B.S.) 129
Secondary Education: Earth and Space Sciences (B.S.) 130
Secondary Education: Economics (B.S.) 131
Secondary Education: English (B.S.) 131
Secondary Education: Foreign Language (French, Latin, or Spanish) (B.S.) 132
Secondary Education: Health and Physical Education (B.S.) 141
Secondary Education: History (B.S.) 133
Secondary Education: Mathematics (B.S.) 133
Secondary Education: Physics (B.S.) 134
Secondary Education: Political Science (B.S.) 135
Secondary Education: Psychology (B.S.) 135
Secondary Education: Sociology (B.S.) 136
Second Bachelor's Degree 28
Secretarial Science 119
Senior Citizens and Disabled Persons Fee
Audit Program 173
Senior Citizens Fees 19
Sequoya Review 38
Service Program (HPER) 144
Social Work (B.S.W.) 166
Sociology 101, 102
Sociology and Anthropology 100
Sociology and Anthropology (B.A.) 25,100
Anthropology 101
Sociology 101
Urban Studies 101
Sociology and Anthropology (B.S.) 25,101
Anthropology 102
Sociology 102
Urban Studies 102
Sociology Minor 25, 102
Sororities 38
Spanish 68
Spanish (B.A.) 25, 68
Spanish Minor 25, 69
Special Audit Students 13
Special Credit 13
Special Education and Counseling 121, 139
Special Education: General (B.S.) 25,137
Special Examination Credit Limitations 14
Special Examination Fees 20
Special Fee Students 13
Special Services/Upward Bound Division 174
Stagemaier Hall 40
Student Activities 38
Student Employment 17, 40
Student Fees and Expenses 19
Student Financial Aid 15
Student Government Association (SGA) 39
Student Handbook 41
Student Life 37
Student Loan Funds 16,195
Student Loans 16-17
Student Orientation Board (SOB) (See Orientation and Advising)

Student Placement Service 17, 40
Student Records 41
Student Services 39
Student Teaching 123
Student Tickets 41
Student Village 40
Summary of Credit Registrations 197
Summary of Degrees Conferred 197
Summer School Fees 21
Supplemental Educational Opportunity Grants (SEOG) 16
Suspension, Academic (See Retention and Continuation Standards)

Teacher Certification 121-125
Teacher Education Program (HPER) 140
Teacher Education Program (TEP) 121
Tennis Courts 38
Tennessee Student Assistance Corporation Grant Program 18
Test of English as Foreign Language (TOEFL) (See International Students)
Theatre and Speech 105
Theatre and Speech (B.A.) 25, 105
Theatre Minor 105
Tickets, Student 41
Transfers 10, 42
Transfers Students 13
Transient Students 13
Tuition and Maintenance Fees 19

UC Foundation Trustees 5
Undergraduate Admissions 10
Undergraduate Alumni Council 42
Undergraduate Degrees 25
University Center Association for Campus Entertainment (ACE) 39
University Goals 7
University History 7
University Studies 77
Upward Bound 174
Urban Studies, Sociology-Anthropology 101, 102
UT Administration and Service 4
UTC Administration 5
UTC Alumni Council 42
UT National Alumni Association 42
UT Trustees 4

Vehicle Operation and Parking 42
Veteran’s Benefits 15
Village, Student 40

William E. Brock Jr. Scholars Program 16, 31, 106
Withdrawals 24
Work-Study 17
Writing Concentrations 58
WUTC 174

Yearbook (See Moccasin)
Youth Educational Assessment and Research Center 175

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