The College of Arts and Sciences is home to a wide array of academic disciplines and interdisciplinary programs. Such diverse areas of study as Computer Science and Classics, Anthropology and Zoology, Women's Studies and Latin American Studies are represented among the twenty-six departments and twelve special programs that compose the College.

The faculty of the College are committed to providing both comprehensive general education and concentrated study in a particular field to all students enrolled at The University of Tennessee, Knoxville. General education offers opportunities to master the basic learning skills necessary to understand a specialized area of study and is essential for the continuation of learning throughout life.

Arts and Sciences faculty are also committed to educating students in a discipline. Education with a disciplinary focus prepares students for further study at the graduate level and for careers in business, public service, or any other endeavor. As our world becomes both more specialized and more changeable, the need to find the right balance between general and specialized knowledge becomes essential.

The central purposes of a liberal education include the encouragement of intellectual tolerance, a dedication to the quest for knowledge as a worthwhile goal, and the cultivation of a responsible, creative, individual mind. These qualities enable one to develop an ability to reason and to express oneself clearly, an incentive to absorb emerging knowledge, and a competence to confront the uncertainties of human experience. For the student whose interests and talents lead into research, scholarship, and teaching, a liberal education provides an invaluable foundation. For the individual who enters business, industry, the professions, or government service, it furnishes a broadly useful and well-rounded educational background. For all, it offers the opportunity to share in a rich intellectual heritage, in the adventures of the mind, and in the life of the educated imagination. A liberally educated person is identified not so much by specific knowledge as by quality of mind and by creative response to the challenges of the times.

The great universities of the world are so labeled because their faculties have earned the reputation of being renowned scholars. The University of Tennessee, Knoxville has earned such a reputation because of the quality of the research and creative activity of its faculty. The student who studies in the College of Arts and Sciences has joined a community of scholars. To study with such a talented faculty is to experience the best education possible.

The faculty of the College of Arts and Sciences provide to all students a general education and to thousands of students a year a more specialized education in any one of twenty-six disciplines and a dozen or more interdisciplinary programs. The College's faculty help their students prepare for any and all careers. Faculty research and creative activity are the foundations on which education in this College is built. As a result of that faculty endeavor the lives of students are enriched and the world's body of knowledge grows. That is the basic mission of the College of Arts and Sciences faculty in a research University.

PROGRAMS OF STUDY

Seeking the broad, general goals of a liberal education, students come into the college also with a wide variety of specific educational and vocational objectives. Recognizing this diversity, the college offers a number of different programs of study leading to the baccalaureate degree and also several pre-professional curricula which prepare the student for advanced study but do not lead to a degree from this college.

DEGREES OFFERED

(1) BACHELOR OF ARTS

The Bachelor of Arts represents the attainment of a broad knowledge of the arts and sciences as well as a comprehensive understanding of one or more areas of special interest. Four programs leading to this degree are open to the student.

Basic Program - The program appropriate for most B.A. students is developed around the basic skills and distribution requirements plus intensive study in one or more of the specified departmental or interdisciplinary major fields described below.

Individualized Program - Designed for students whose educational goals are best met by a program tailored to their particular needs, it is the same as the Basic Program in broad area requirements but permits the student to develop an individual concentration incorporating work in two or more departments.

College Scholars Program - Intended for a limited number of students who are especially qualified and motivated and who have been selected to undertake this honors program, the College Scholars Program permits the students maximum freedom to design a curriculum to meet particular interests and goals.

Pre-Professional Program - The Pre-Professional Program is offered for those who wish to participate in the cooperative 3+2 program in business and Arts and Sciences or the elementary and secondary pre-teaching programs. Students in the 3+2 business and Arts and Sciences program take three years of coursework leading to a B.A. in Arts and Sciences, followed by two years of study in the College of Business leading to the M.B.A.

(2) BACHELOR OF SCIENCE

The Bachelor of Science degree, offered in selected departments and programs, is designed for students who wish to pursue a more scientifically or professionally oriented program of study. Three programs leading to this degree are offered:

Basic Program - The Basic Program for the B.S. degree contains basic skills and distribution requirements similar to the Basic Program for the B.A. as well as a unique set of requirements for the major including additional study in mathematics, statistics, or laboratory sciences.

Pre-Professional Program - The Pre-Professional Program is offered for those who wish to participate in the cooperative 3+2 curricula in the health sciences (medicine,
dentistry, pharmacy, veterinary medicine, or medical technology). Students taking one of the health sciences curricula proceed directly to specialized training in the chosen area after the third year of Arts and Sciences study and complete the first year of professional study in lieu of satisfying the requirements for the B.S. degree with a major concentration in the college. Bachelor of Science in Chemistry - (See Department of Chemistry.)

(3) BACHELOR OF FINE ARTS
(See Department of Art.)

(4) BACHELOR OF MUSIC
(See Department of Music.)

REQUIREMENTS FOR DEGREES
Bachelor of Arts and Bachelor of Science Basic Programs
Each student seeking a Bachelor of Arts or Bachelor of Science degree must develop a program which includes the following:
1. All University degree requirements as stated in the front section of the Undergraduate Catalog.
2. A minimum of 124 credit hours;
3. At least 40 credit hours in courses numbered 300 or above;
4. Appropriate work to satisfy basic skills and distribution requirements, counting no course in more than one area (not required in the College Scholars Program);
5. Completion of at least one major (24-40 credits at 200 level or above for B.S. majors and 24-37 credits at 200 level or above for B.A. majors) (up to 6 hours in the major may also be used, where listed, to satisfy basic skills or distribution requirements);
6. Students may choose to develop one or more minors (minimum 15 hours at the 200 level and above); and
7. Students may take up to 20 hours of courses graded Satisfactory/No Credit in any area outside the major or minor, basic skills or distribution requirements.

PROGRAMS LEADING TO BACHELOR OF ARTS AND BACHELOR OF SCIENCE DEGREES
The Bachelor of Arts and the Bachelor of Science Degrees share the same program of Basic Skills and Distribution Requirements (except where noted otherwise).

BASIC SKILLS

English Composition
Purpose:
1. To gain and improve the skills necessary to write English expository prose coherently and convincingly.
2. To improve reading skills.
3. To enhance critical and analytical abilities as applied to key issues and texts.
Requirement:
Students must meet this requirement in one of the following three ways: (0-6 credits)
1. By completing six credits in English writing courses in one of the following series: (a) English 101 and 102 (English Composition). (b) English 118 (Honors: English Composition) and English 102 (English Composition). Students who obtain a grade of A or B in 118 will complete their freshman requirement by choosing 102, a sophomore literature course in the English Department, or English 355 Advanced Expository Writing. If the sophomore literature course appears on the list for Humanities distribution requirements, it may also be counted toward those requirements. (c) English 131 and 132 (Composition for Non-Native Speakers of English).
2. By earning a score of 4 or 5 on the College Board Advanced Placement Test in English.
3. By obtaining CLEP credit for English composition.

Placement: Student eligibility for English 116 (Honors: English Composition) will be determined on the basis of ACT or SAT scores and a placement exam. Selected students will be placed in English 103 (Writing Workshop) based on ACT or SAT scores, and may not drop this course without departmental approval. (Details available from the English Department.)

NOTE: A student must complete the English Composition requirement prior to enrolling in 200 level (or above) English courses.

Foreign Language
Purpose:
1. To learn the basic grammar, syntax, and vocabulary of a foreign language.
2. To be able to use a foreign language independently as a tool for oral communication and reading.
3. To acquire techniques of language learning.
4. To develop insight into the phenomenon of language.
5. To complement the study of certain aspects of a foreign culture or civilization.

Requirement:
Completion of the intermediate level sequence of a foreign language or a demonstration of competence on a waiver or proficiency examination. All students wishing to enroll in a French, German, Latin or Spanish course who had the same language in high school and who have not yet had a college course in it, must take an LTIK placement examination before enrolling. This rule does not apply to students who receive AP credit in the language. Placement in the appropriate course will be determined by the score on the examination. Ordinarily a student will not be allowed to enroll in a course at a level above that determined by his or her placement examination score. Students who feel they are wrongly placed should consult the appropriate language department. The examination will be administered during summer orientation and at designated times during the fall, spring and summer. Ordinarily, students who place into 200 level language courses will receive six hours of elementary language credit, provided, however, that they do not thereafter receive credit for any 100 level course in the same language. In such event, elementary placement credit is forfeited and removed from the student's transcript. Students who place into 300 level language courses will receive six hours of intermediate language credit. Under no circumstances may any student earn more than six hours of language placement examination credit. Students whose native language is not English may meet this requirement by passing English 131 and 132 and any two semester course package from the Humanities Part I options. These latter courses may also be counted toward the Humanities Distribution Requirement.

The following sequences satisfy the requirement:
Asian Languages 231-232 Intermediate Chinese I, II; 251-252 Intermediate Japanese I, II.
German 201-202 Intermediate German; 208 Honors: Intermediate German.
Italian 211-212 Intermediate Italian.
Portuguese 211-212 Intermediate Portuguese.
Russian 201-202 Intermediate Russian.

Mathematics, Formal Reasoning, or Logic
Purpose:
1. To develop the basic calculation skills necessary to fully appreciate the course of study at the university.
2. To understand the logical processes involved in mathematics, inductive or deductive reasoning, or computing.
3. To acquire the skills that will aid in the process of critical analysis, problem solving, and decision making.

Requirement:
One course chosen from those listed below: Students with a Mathematics ACT score of 24 or above (25 or above on the Enhanced ACT) achieve a quantitative score of 500 or above on the SAT, or those who pass a waiver or proficiency examination on material equivalent to any of these courses, will be exempted from this requirement. Standards for waiver or proficiency examinations will be set by the appropriate department. Exemption from this requirement will also be granted to students who complete a two-course mathematics package under Divisional Distribution.

Mathematics 110 Algebraic Reasoning; 130 Precalculus.
Philosophy 130 Critical Thinking; 135 Formal Logic.

DISTRIBUTION
1. Divisional Distribution
   a. Non-United States History
   Purpose:
   a. To acquire an appreciation for the richness of the past as a statement of human capability, aspiration, and achievement.
   b. To develop a historical perspective on a civilization that differs from or serves as the foundation for studying one's own.
   c. To develop the ability to explore continuity and change among historical events and movements, and to be able to assess them critically.
   d. To learn to keep one's own place and time in proper perspective, and to appreciate it more fully because of an awareness of human creativity as revealed through a study of the past of a civilization.
   e. To further develop writing skills.
   Requirement:
Affairs; 310-330 Plants: An Evolutionary Survey I, II; 330 Field Botany (can be taken as a package with 310 or 320).

Computer Science 102 Introduction to Computer Science; and either 111 Computer Organization or 112 Data Structure.

Geology 201 Darwin, Dinosaurs, and Extinctions: An Introduction to Evolution; 202 Earth as an Ecosystem: Modern Problems and Solutions; 203 Geology of the National Parks (Package of any two courses).

Mathematics 115 Statistical Reasoning (package with 121); 121 Calculus A (package with 115 or 122 or Statistics 201); 122 Calculus B (package with 115 or 121); 141-142 Calculus I, II (or 147-148 Honors); 151-152 Biocalculus I, II; 201 Structure of the Number System; 202 Probability, Statistics, and Euclidean Geometry (Mathematics 201-202 only for Pre-teaching K-8).


Statistics 201 Introduction to Statistics (package with Mathematics 121).

Zoology 210-220 Human Biology; 230 Human Physiology (package with Micro 210).

c. Social Science

Purpose:

a. To promote understanding of society and individual relationships.

b. To develop a critical understanding of one or more approaches, perspectives, or methodologies used in the social sciences.

c. To develop analytical skills relevant to current social, economic, or political problems, their origins in society and individuals, and possible perspectives for their resolution.

Requirement:

a. Bachelor of Arts students must complete a minimum of 12 credits from at least two departments or programmatic areas indicated below.

b. Bachelor of Science students must complete a minimum of 6 credits from at least two departments or programmatic areas indicated below.


Anthropology 120 Prehistoric Archaeology; 130 Cultural Anthropology; 362 Principles of Archeology.

Audiology and Speech Pathology 320 Speech and Language Development.

Botany 305 Socio-Economic Impact of Plants. Economics 100 Survey of Economic Ideas; 201 Introductory Economics: A Survey Course; 207 Honors: Introductory Economics.

Psychological 121-122 Introductory Psychology; 141-142 Nature of the Physical World.

Statistics 201 Introduction to Statistics (package with Mathematics 121).

Zoology 210-220 Human Biology; 230 Human Physiology (package with Micro 210).

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Purpose:

a. To promote understanding of society and individual relationships.

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b. Bachelor of Science students must complete a minimum of 6 credits from at least two departments or programmatic areas indicated below.


Anthropology 120 Prehistoric Archaeology; 130 Cultural Anthropology; 362 Principles of Archeology.

Audiology and Speech Pathology 320 Speech and Language Development.

Botany 305 Socio-Economic Impact of Plants. Economics 100 Survey of Economic Ideas; 201 Introductory Economics: A Survey Course; 207 Honors: Introductory Economics.

Psychological 121-122 Introductory Psychology; 141-142 Nature of the Physical World.

Statistics 201 Introduction to Statistics (package with Mathematics 121).

Zoology 210-220 Human Biology; 230 Human Physiology (package with Micro 210).

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Psychological 121-122 Introductory Psychology; 141-142 Nature of the Physical World.

Statistics 201 Introduction to Statistics (package with Mathematics 121).

Zoology 210-220 Human Biology; 230 Human Physiology (package with Micro 210).

2. Part II: Arts, Literature or Philosophical Perspectives. Either one course in the study or practice of the arts; or one course in literature if a philosophical perspectives package is chosen to meet Part I; or one course in a philosophical perspective if a literature package is chosen for Part I Writing Emphasis Courses, except for hands-on practice of the arts courses. Part I and Part II will be satisfied by selecting packages/courses from the following four lists in accordance with the instructions above.

b. Bachelor of Science students must complete a minimum of 6 credits from the courses listed below; not more than 3 credits may be taken in the Arts.

1. The following course packages are designated literature packages:

Asian Languages 311-312 Chinese Literature in English Translation; 313-314 Japanese Literature in English Translation.

Classics 253-254 Greek and Roman Literature in English Translation.

Comparative Literature 202-203 Cross-cultural Perspectives in World Literature.

English 201 British Literature I: Beowulf through Johnson; 202 British Literature II: Wordsworth to the Present; 221 Literature of the Western World I: Ancient, Medieval and Renaissance; 222 Literature of the Western World II: Enlightenment, Romantic and Modern. (two of these) 231 American Literature I: Colonial Era to the Civil War; 232 American Literature II: Civil War to the Present; 233

1Writing Emphasis Courses require at least 2,000 words, normally comprising one sustained essay or group of at least 1,000 words plus additional writing assignments such as in-class essay exams, journals, book reviews, etc. The purpose of the requirement is to help students a) learn course materials through writing; b) develop critical thinking skills; c) demonstrate the ability to sustain an argument; and d) strengthen existing writing skills.

2Upper Level Distribution

Bachelor of Arts students must complete a minimum of 6 credits in two of the three areas indicated below and 3 credits from one of the remaining two areas (total 9 credits for this requirement). Writing Emphasis Courses

Bachelor of Science students must complete a minimum of 6 credits in two of the three areas indicated below (total 6 credits for this requirement). Writing Emphasis Courses:

- United States Studies
- Foreign Studies
- Capstone Experience

3 United States Studies

Purpose:

a. To develop an appreciation and knowledge of United States culture and civilization.

b. To provide a basis from which to compare foreign cultures and civilizations.

c. To develop a critical understanding of the sources of values and traditions that constitute contemporary United States civilization.

d. To develop an understanding of the relationship between individual and societal behavior.

e. To further develop writing skills.

The following courses are designated United States Studies courses:

- American Studies 364 Contemporary Issues in African-American Education (Same as CSE 364); 429 History and Philosophy of African-American Education; 480 Black Communities in Urban America; 483 African-American Women in American Society (Same as Women's Studies 483).

American Studies 310 Introduction to American Studies.

Anthropology 310 North American Indians; 312 Appalachian Culture; 315 African-American Anthropology (Same as African and African-American Studies 315); 320 American Cultures; 360 North American Prehistory; Economics 413 Macroeconomic Fluctuations; 435, Industrial Organization Analysis; 462 Economics of Resources and Environmental Policy; 471 Public Finance: Optimal Government Functions and Expenditure Analysis; 473 Public Finance: Taxation and Inter-governmental Relations.

English 332 Women in American Literature (Same as Women's Studies 332); 333 Black American Literature and Aesthetics; 334 Film and American Culture (Same as American Studies 334). Geography 361 Regional Geography of the United States and Canada; 363 Geography of the American South; 365 Geography of Appalachia; 425 Historical Geography of the United States.


Psychology 434 Psychology and Gender (Same as Women's Studies 434).

Religious Studies 351 Introduction to United States Religious History; 352 African-American Religion in United States; 355 Religion and Culture in the United States in one of the three areas indicated below and 3 credits from one of the remaining two areas (total 9 credits for this requirement). Writing Emphasis Courses:

Bachelor of Science students must complete a minimum of 6 credits in two of the three areas indicated below (total 6 credits for this requirement). Writing Emphasis Courses:

- United States Studies
- Foreign Studies
- Capstone Experience

4 United States Studies

Purpose:

a. To develop an appreciation and knowledge of United States culture and civilization.

b. To provide a basis from which to compare foreign cultures and civilizations.

c. To develop a critical understanding of the sources of values and traditions that constitute a foreign culture and civilization.

d. To develop an understanding of the relationship between individual and societal behavior.

e. To further develop writing skills.

The following courses are designated Foreign Studies courses:


Anthropology 314 Peoples and Cultures of Africa (Same as African-American Studies 314); 461 African Prehistory (Same as African-American Studies 461). Geography 379 Geography of Africa (Same as African-American Studies 379).

History 371-372 African History.

Political Science 452 Black African Polities (Same as African-American Studies 452). Religious Studies 373 African Religions (Same as African-American Studies 373 and Anthropology 373).

Asia


Religious Studies 374 Philosophy and Religion in India (Same as Philosophy 374); 376 Buddhist Philosophy and Religion (Same as Philosophy 376); 379 Religion and Philosophy in China (Same as Philosophy 379); 383
(Third World); 324 Comparative Economic Systems.
History 374 The West and the Third World Since 1870; 375 Revolutions in Historical Perspective.
Political Science 350 Political Change in Developing Areas.
Religious Studies 371 Eastern Religions and Western Thought.
Sociology 442 Comparative Patterns of Poverty and Development; 446 The Modern World System.
Women's Studies 360 Women in Cross-Cultural Perspective.

Purpose:
a. To offer an intensive integrative experience which will substantially broaden the student's comprehension of the major.
b. To increase significantly an understanding of the ways in which the ideas, methods, and achievements in a major area of study have affected modern society.
c. To examine a major field of study from a value-oriented perspective.
d. To enhance students' mastery of prose communication within the professional context of their major.

The following courses are designated Capstone Courses:

NOTE: Consult with major department for additional approved courses. Course credits must be taken in the major area unless otherwise approved by the department. It is recommended that this option be satisfied during the senior year.


Biochemistry 420 Advanced Topics in Biochemistry.
Chemistry 405 Topics in the Development of Chemistry.
Microbiology 495 Senior Seminar.
Mathematics 411 Mathematical Modeling; 442 Seminar in Classical Studies.

Computer Science 411 Senior Thesis I; 412 Senior Thesis II.

After the general requirements of basics skills, distribution and a major have been satisfied, additional majors may be recorded on the transcript without regard to course overlap among majors or among the additional majors and Basic Skills and Distribution requirements. Students developing multiple majors must declare this intent at the time of application for graduation. Once a student has graduated, the addition of additional majors becomes subject to University second degree requirements.

Students who satisfy the requirements of a degree in a college other than Arts and Sciences may also major inside the College of Arts and Sciences with the approval of the degree granting unit. These students need complete only the major requirements, not the Basic Skills or Distribution requirements for Arts and Sciences degrees. The Arts and Sciences major may also be listed on the student's transcript.

(3) Optional Minors

At the time of application for graduation, single or multiple minors may be recorded on the academic record without regard to course overlap among minors and major or among minors and Basic Skills and Distribution requirements. Students who satisfy the requirements of a degree in a college other than Arts and Sciences may also major in the College of Arts and Sciences with the approval of the degree granting unit. The minimum requirement for a minor is 15 credit hours in courses numbered 200 or above. Minors are available in most departments or programs in which majors are offered, and also in Portuguese and Cinema Studies. Minors may also be recorded in other colleges or schools of the University, but must be approved by the department head in which the minor is proposed and by the Associate Dean for Student Academic Affairs in Arts and Sciences. At least 6 of the 15 credit hours required for a minor must be completed at The University of Tennessee, Knoxville.

Business Minor for Non-Business Students: Requirements include the following courses: Accounting 201-202, Economics 201,
transfer students with fewer than 42 credit hours and Sciences Advising Center. For further information contact the Arts and Sciences Advising Center, 220 Ayres Hall.

(4) Supplementary Elective Courses
At least one-fourth of each student's curriculum in the Basic Program will be made up of courses selected according to the individual's interests to supplement and support the work being done in the major and Basic Skills and Distribution requirements. This dimension of the student's experience in the University represents that freedom within which total education may be rounded out and enriched. Elective courses should be chosen with care so that they will truly enhance the student's total program and help in the achievement of well thought-out educational objectives.

Some of the choices which the student might make in selecting the elective courses are:

(1) Additional courses in the major field;
(2) A related minor;
(3) An area emphasis within the Arts;
(4) An off-campus semester.

Only the students' imagination and initiative and the willingness to conceive and develop a meaningful academic program limit the choices of supplementary elective courses.

INDIVIDUALIZED PROGRAM
The Basic Program described above will meet the educational needs of most students enrolling in the college. Some, however, come with particular strengths in their preparation or with special interests which do not coincide with the departmental or interdisciplinary majors specified in the Basic Program. For these students the Individualized Program has been established as a means of attaining a closer correlation between student needs and academic programs.

Students in the Individualized Program will satisfy all the Basic Skills and Distribution requirements, just as do those in the Basic Program. The point at which the individualization takes place is in the area of concentration. Although the quantitative aspect of the area of concentration is the same as for the major in the Basic Program (i.e., a minimum of 24 hours in courses numbered above 200), there is no restriction in principle on the choice of courses of which it is composed. The student may design a program in consultation with an advisor and submit it for consideration to the Committee on the Individualized Program. The proposed courses of study must have some clear central purpose, usually implemented through intensive work in two or three departments; an undirected scattering of courses will not be approved. For further information contact the Arts and Sciences Advising Center.

COLLEGE SCHOLARS PROGRAM
A limited number of freshmen, entering transfer students with fewer than 42 credit hours, and resident students with fewer than 82 credit hours are invited each year to enter this distinguished honors curriculum. Selection is based on previous academic record, test scores, recommendations, a written essay, and a personal interview. Admission is provisional for two semesters; continuation depends upon maintenance of a satisfactory record (normally 3.25 or above) and evidence of ongoing motivation and interest.

The College Scholars Program affords the highest degree of freedom to the student in developing a meaningful curriculum. Each program is worked out individually with a special advisor (tutor) who under ordinary circumstances continues to advise the student throughout the college career. Together they determine what kinds of course work and/or other learning experiences will best fulfill the student's objectives, while at the same time achieving that kind of liberal education the college believes is important for every student. In the final two years of the program students will be heavily involved in independent study or research required of all College Scholars. When College Scholars fulfill departmental requirements for additional majors or minors, these will be recorded on the Scholars' transcripts. Scholars will not be required to meet Basic Skills or Distribution requirements in order to have such majors or minors officially recognized.

Further information and applications may be obtained from the Arts and Sciences Advising Center.

PRE-PROFESSIONAL PROGRAMS

PRE-DENTAL PROGRAM
The college offers both a three-year program leading to a Bachelor of Science degree and a four-year program leading to a Bachelor of Arts or Science degree for students preparing for the study of dentistry. Both programs are based upon the curriculum outlined below. In the three-year program the student must complete at least 93 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of the first year of study at UT-Memphis. In the four-year program the degree is granted upon completion of 124 or more credit hours while enrolled in the college, including a major of 24 or more hours in addition to the courses listed below. The requirement for a major is waived for those completing their fourth year at UT-Memphis. Students in either the three- or four-year program must complete the last 30 hours of credit in residence at The University of Tennessee, Knoxville, before entering UT-Memphis. Although the B.A. or B.S. degree is not required for admission to the College of Dentistry at Memphis, most of the students accepted into the study of dentistry have the baccalaureate degree before admission. Therefore, pre-dental students are encouraged to plan to complete all requirements for the B.A. or B.S. degree before enrolling in the College of Dentistry.

Hours Credit
Freshman
1 English 101; 102 or equivalent 6
2 Biology 110-120 or Zoology 117-118 8
3 Chemistry 120-130 8
4 Mathematics 6-8
5 Electives 3
Sophomore
6 Chemistry 350, 360, 369 8
7 Physics 221 4
8 Zoology 230 5
9 Total: 93 hours

Juniort
1 Divisional Distribution Humanities (D) Part I 3
2 Divisional Distribution (A) Non-U.S. History 6
3 Electives 6-8
4 Basic Skills (b) Foreign Language (Intermediate Level Sequence) 6
5 Upper Division Distribution Sciences 6
6 Upper Level Distribution (A) U.S. Studies (B) Foreign Studies or (C) Capstone Experience 6
7 Electives 14
Total: 124 Minimum hours

Senior
1 Completion of major program and B.A./B.S. requirements or completion of one year at UT-Memphis.
2 Or equivalent honors courses.
3 Any student who has had two years of Biology or one very good year in high school should take the proficiency test for Biology 110-120 to determine eligibility for going directly into Biology 210 or 220. Dental schools require 8 hours of General Biology.
4 Math placement depends on high school course grades, ACT scores, and BA/BS requirements. A placement is based on previous academic record, test scores, recommendations, a written essay, and BA/BS requirements. A math placement handout is available in the Arts and Sciences Advising Center, 220 Ayres Hall.
5 Math placement depends on high school course grades, ACT scores, and BA/BS requirements. A math placement handout is available in the Arts and Sciences Advising Center, 220 Ayres Hall.
6 Additional requirements for admission include entrance into the College of Dentistry at Memphis, before entering UT-Memphis. Although the B.A. or B.S. degree is not required for admission to the College of Dentistry at Memphis, most of the students accepted into the study of dentistry have the baccalaureate degree before admission. Therefore, pre-dental students are encouraged to plan to complete all requirements for the B.A. or B.S. degree before enrolling in the College of Dentistry.

PRE-MBA PROGRAM
The college offers a joint B.A./M.B.A. program with the College of Business Administration. Admission requirements are higher than those normally expected of M.B.A. applicants. Desired qualifications include a minimum of 3.4 GPA and a Graduate Management Admission Test Score of 600 or higher.

Students in this program take their first three years of coursework in Arts and Sciences, and their last two years in the College of Business Administration. Within their first three years, students will fulfill all general education requirements for the B.A. degree, both upper and lower division, along with a minor offered by one of the Arts and Sciences departments. They may use one Economics course only to fulfill distribution requirements, and they are required to take a year of calculus as the only pre-requisite to the M.B.A.

Students interested in the Dual B.A./M.B.A. program are counseled initially in the Arts and Sciences Advising Center regarding admission standards and Arts and Sciences require-
PRE-MEDICAL PROGRAM

The college offers a three-year program leading to a B.A. degree or a four-year program leading to a Bachelor of Arts or Science degree for students preparing for the study of medicine. Both programs are based upon the program outlined below. In the three-year program the student must complete at least 93 credit hours while enrolled in the college, and the B.S. degree is granted upon satisfactory completion of the first year of study at UT-Memphis. In the four-year program the degree is granted upon completion of 124 or more credit hours while enrolled in the college, including a major of 24 or more hours in addition to the courses outlined below. The requirements for a major are waived for those taking their fourth year at UT-Memphis. Students in either the three- or four-year program must complete the last 30 hours of credit in residence at UT Knoxville before entering UT-Memphis.

Although the B.A./B.S. degree is required for admission to the College of Medicine, most students accepted into the study of medicine have the baccalaureate degree before admission. Therefore, pre-medical students are encouraged to plan to complete all requirements for the degree before enrolling in the College of Medicine.

NUCLEAR MEDICINE TECHNOLOGY

The Nuclear Medicine Technology Curriculum requires a minimum of 94 hours credit, including the College's basic skills and distribution requirements, prior to application for admission to a final year of study at The University of Tennessee Medical Center, Knoxville. Students who complete the Nuclear Medicine Technology program at UTMCK receive the B.S. degree in Preprofessional Programs with a concentration in Nuclear Medicine Technology from the College of Arts and Sciences.

NOTE: Admission to the Nuclear Medical Technology Program at UTMCK is at the discretion of the admissions committee of that department: successful completion of the three year curriculum noted below does not assure admission to the program.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Freshman English 101, 102 or equivalent</td>
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<tr>
<td>Biology 110-120 or Zoology 117-127</td>
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<tr>
<td>Chemistry 120-130</td>
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<tr>
<td>Mathematics</td>
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<tr>
<td>Sophomore Chemistry 350, 360, 369</td>
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<tr>
<td>Physics 221, 222</td>
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<td>Physics 221-222</td>
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<td>Electives</td>
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<tr>
<td>Senior Completion of Nuclear Medicine Technology program at UTMC (12 month program) or completion of major program and B.A or B.S. requirements.</td>
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<td>Clinical Practicum</td>
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PRE-PHARMACY PROGRAMS

The college offers three programs preparing students for the study of pharmacy at UT-Memphis. The Doctor of Pharmacy (Pharm.D.) degree is conferred by UT-Memphis upon completion of four years of professional study at Memphis following any of the three programs. Bulletins describing the three pre-pharmacy programs in detail may be obtained from the Health Professions Office, 220 Ayres Hall.

The two-year program prepares students to be admitted to the College of Pharmacy upon completion of 60 hours of a prescribed course of study in the College of Arts and Sciences. Further information may be obtained from the Health Professions Office, 220 Ayres Hall.

The three-year program leading to a B.S. degree and the four-year program leading to either a B.A. or B.S. degree from The University of Tennessee, Knoxville, as well as to the professional degree in pharmacy from UT-Memphis, are based upon the program outlined below. In the three-year program, the student must complete at least 93 credit hours while enrolled in the College of Arts and Sciences, and the B.S. degree is granted upon satisfactory completion of the first year of study in Memphis. In the four-year program the B.A. or B.S. degree is granted upon completion of 124 or more credit hours while enrolled in the college, including a major of 24 or more hours in addition to the courses outlined below. The requirement for a major is waived for those taking their fourth year at UT-Memphis. Students in either the three- or four-year program must complete the last 30 hours of credit in residence at The University of Tennessee, Knoxville, before enrolling in the College of Pharmacy.

PRE-TEACHING PROGRAMS FOR PROSPECTIVE K-8 TEACHERS

These programs are designed to prepare students for teaching grades K-8. Alternatively, prospective K-8 teachers may complete a Arts and Sciences Major in a department, in one of the Interdisciplinary Programs, or, if eligible, in the College Scholars Programs. (Prospective teachers of secondary school must fulfill the requirements of appropriate content majors in Arts and Sciences.)

To be licensed for teaching, students must also gain formal admission, normally by the end of the sophomore year, to the Teacher Education Program in the College of Education. This involves completing a series of requirements, including presentation of satisfactory scores on certain tests, completing professional courses in Education, maintenance of a 2.75 or higher GPA and completing a fifth year program that emphasizes practical application. For details, see TEP in section of the Undergraduate Catalog and contact the Education Advising Center, 214 Claxton Addition.

PRE-TEACHING SCIENCE AND MATHEMATICS OPTIONS: BACHELOR OF SCIENCE

(1) Environmental Science

This concentration should develop the knowledge and understanding of the environmental sciences appropriate to the needs of the teacher in grades K-8. The prerequisite courses include that the student has an adequate background in the biological, chemical, and physical sciences to proceed to upper division courses in either of the chosen areas of concentration. The core curriculum stresses the interrelatedness of biological and physical systems. The two tracks beyond the core stress the two major emphases of the ecological sciences—the biological and the chemical-physical. The student choosing to emphasize the biological track should be prepared to teach courses in biological science through the middle school years. The student choosing to emphasize the chemical-physical track should be prepared to teach general and earth science through the middle school years.

Prerequisite courses: NB: One mathematics and one science sequence or two science sequences (14-16 hours) may be used to satisfy general education requirements.

1. Mathematics 121-115 (3,3) or Mathematics 121-122 (3,3) or Mathematics 141-142 (4,4) or Mathematics 151-152 (3,3)
2. Chemistry 100-110 (4,4) or Chemistry 120-130 (4,4)
3. Biology 110-120 (4,4) or Botany 110-120 (4,4) or Zoology 117-118 (4,4)

Total: 22-24 hours

Core courses: (14-16 hours)

1. Biology 220: General Genetics (4)
2. Biology 230: General Ecology (4)
3. Geology 101-102 (4,4) or Geology 131-132 (4,4) or Physics 141-142 (3,3)

Beyond the core curriculum, the student must choose to follow either a Biological Sciences track (12 hours) or a Physical-Chemical Sciences track (12 hours).

A. Biological Sciences Track (At least 12 hours chosen from the following): Botany 305: Socio-Economic Impact of Plants (3); Botany 310: Plants: Evolutionary Survey I (3); Botany 320: Plants: Evolutionary Survey II (3); Botany 330: Field Botany (4); Botany 346: Introduction to Oceanography (3); Botany 431: Plant Ecology (3); Botany 451: Plant Tissue Culture (3); Ecology 370: Environment and Conservation (2); Forestry, Wildlife and Fisheries: Endodontology, Ecology, Silvics (3); Geography 435: Biogeography (3); Geology 326: Paleobotany (3); Geology 426: Paleobotany and Palynology (3); Microbiology 310: Microbiology and Lab (3,1); Zoology 380: General Entomology (3); Zoology 450-459: Comparative Animal Behavior and Lab (3,1); Zoology 470: Aquatic Ecology (3); Zoology 473: Herpetology (3); Zoology 474: Ichthyology (3); Zoology 475: Ornithology (3); Zoology 476: Mammalogy (3).
B. Physical-Chemical Sciences Track (at least 12 hours chosen from among the following):
Biochemistry 310: Introduction to Biochemistry (3); Chemistry 350-360-365; Organic Chemistry and Lab (3,3,2); Biology 370: Environmental Conservation (2); Geography 334: Meteorology (3); Geography 433: Land Surface System (3); Geography 434: Climatology (3); Geography 438: Water Resources (3); Geology 203: Geology of National Parks (3); Geology 325: Geologic History of Land Organisms (3); Geology 450: Process Geomorphology (3); Geology 455: Basic Environmental Geology (3); Geology 485: Principles of Geohydrology (3)

Total: 26-28 hours

(2). Science
This concentration should develop the knowledge and understanding of the sciences appropriate to the needs of the teacher in grades K-8. The curricular requirement that the student take courses in both biological science (anthropology, biology, botany, microbiology, psychology, zoology) and in physical science (chemistry, geography, geology, physics) in addition to the 19 hours in the core curriculum is designed to fulfill the state competencies for General Science and Physical Science II Biology.

Prerequisite courses: NB: One mathematics and one science sequence or two science sequences (14-16 hours) may be used to satisfy general education requirements.
1. Mathematics 121-115 (3,3) or Mathematics 121-122 (3,3) or Mathematics 141-142 (4,4) or Mathematics 151-152 (3,3)
2. Chemistry 100-110 (4,4) or Chemistry 120-130 (4,4)
3. Biology 110-120 (4,4) or Zoology 117-118 (4,4) or Botany 110-120 (4,4)

Total: 22-24 hours

a. Core courses:
1. Two of the following three courses must be taken: Biology 210: Cell Biology (4); Biology 220: General Genetics (4); Biology 230: General Ecology (4)
2. One sequence from among the following:
   - Astronomy 161-162 (4,4) or Geography 131-132 (4,4) or Geology 101-102 (4,4)
   - Philosophy 360: Introduction to the Philosophy of Science (3)

Total: (part a) 19 hours

At least twelve hours must be taken from the courses listed below, but no more than nine hours may be taken from either part b (Biological Sciences) or part c (Physical Sciences).

b. Biological Sciences
1. Anthropology 101: Principles of Biological Anthropology (3); Anthropology 464: Principles of Zoarchaeology (3); Anthropology 480: Human Osteology (3); Anthropology 490: Primate Evolution (3); Anthropology 495: Human Paleoanthropology (3); Anthropology 498: Biology of Human Variability (3); Biochemistry 310: Introduction to Biochemistry (3); Of the following three courses you may choose only one: Botany 305: Socio-Economic Impact of Plants (3); Botany 306: Genetics and Society (3); Botany 309: Biology of Human Affairs (3); Botany 310: Plants: Evolutionary Survey I (3); Botany 320: Plants: Evolutionary Survey II (3); Botany 321: Introductory Plant Physiology (3); Botany 330: Field Botany (4); Geology 201: Fossils and the Meaning of Evolution (3); Geology 320: Paleobiology (3); Geology 420: Paleoecology (4); Microbiology 231: General Microbiology (3); Microbiology 310-319: Introduction to Microbiology and Lab (3,1); Psychology 210: Biological Basis of Behavior (3); Psychology 370: Ethology and Sociobiology (3); Psychology 410: Sensory Processes and Perception (3); Psychology 461: Physiological Psychology (3); Zoology 230: Human Physiology (5); Zoology 240: Human Anatomy (3); Zoology 330-331: Animal Development and Embryology (3); Zoology 350: Comparative Vertebrate Biology (4); Zoology 360: Comparative Invertebrate Biology (4); Zoology 380: General Entomology (3); Zoology 450-459: Comparative Animal Behavior and Lab (3,3); Zoology 473: Herpetology (3); Zoology 474: Ichthyology (3); Zoology 476: Mammalogy (3);
2. +Course has prerequisite other than courses prerequisite to this major. See catalog for details.

C. Physical Sciences
1. Chemistry 350-360-369: Organic Chemistry and Lab (3,3,2); Geography 334: Meteorology (3); Geography 433: The Land-Surface System (3); Geography 434: Climatology (3); Geography 435: Biogeography (3); Geography 436: Water Resources (3);
2. +Geography 445: Geography of Resources (3); Geology 203: Geology of Natural Parks (3); Geology 310: Mineralogy (3); Geology 350: Igneous and Metamorphic Petrology (3); Geology 340: Stratigraphy and Sedimentation (3); Geology 346: Introduction to Oceanography (3); Geology 370: Structural Geology (4); Geology 380: Resource Crises-Minerals and Energy (3); Physics 131-132: Fundamentals of Physics (4,4) or Physics 141-142: Nature of the Physical World (3,3) or Physics 221-222: Elements of Physics (4,4)
3. +Course has prerequisite other than courses prerequisite to this major. See catalog for details.

Total: (parts b and c) 12 hours

(3). Mathematics
This concentration aims at developing a fundamental understanding of some of the primary avenues of mathematical thought including algebra, calculus, computing, geometry, history of mathematics, probability, and statistics.

Mathematics 115: Statistical Reasoning (3); Mathematics 130: Precalculus I (3); Mathematics 141-142: Calculus I and II (4,4); Mathematics 221: Discrete Mathematics (3); Mathematics 341-349: Calculus III (3); Mathematics 251: Matrix Algebra (3); Mathematics 323: Probability (3); Mathematics 400: History of Mathematics (3); Mathematics 401: Math and Microcomputing (3); Mathematics 460: Geometry (3)

Total: 35 hours

(4) Mathematics and Science
This concentration should develop the knowledge and understanding of the natural sciences and mathematics appropriate to the needs of the teacher in grades K-8 and is intended to provide the student pursuing this option with the minimal competiveness to teach in either or both disciplinary areas. Of necessity, depth in any particular discipline is secondary to obtaining breadth from an array of natural science and mathematics areas. Courses included in the major have been selected to maximize the number of upper division courses that can be taken without prerequisites.

Prerequisite sequence: Mathematics 151-152: Biocalculus I and II (3,3),

Mathematics (12 hours): Mathematics 221: Discrete Mathematics (3); Mathematics 251: Matrix Algebra (3) Any two of the following: Mathematics 400: History of Mathematics (3); Mathematics 401: Microcomputing (3); Mathematics 460: Geometry (3)

Science (20-24 hours): NB: One of the science sequences listed below may be used to satisfy general education requirements.

Part I. (14-16 hours) A sequence from two of the following three scientific areas (A, B, or C):

A. Biological Sciences (two of the following three courses): Biology 210: Cell Biology (4); Biology 220: General Genetics (4); Biology 230: General Ecology (4) or Zoology 230-240: Human Physiology, Human Anatomy (4,3)

B. Chemistry: Either Chemistry 100-110: Principles of Chemistry, Introduction to Organic and Biochemistry (4,4) or Chemistry 120-130: General Chemistry I and II (4,4)

C. Physical Sciences: Either Geography 101-102: General Geology I and II (4,4); Geography 131-132: Geography of the Natural Environment I and II (4,4) or Physics 141-142: Nature of the Physical World I and II (3,3)

Part II. (6-8 hours) Either another sequence from Part I or two of the following courses:

Astronomy 161: Introductory Astronomy with Lab (4); Botany 305: Socio-Economic Impact of Plants (3); Botany 309: Biology of Human Affairs (3); Geography 334: Meteorology (3); Geology 201: Fossils and the Meaning of Evolution (3); Geology 203: Geology of National Parks (3); Geology 380: Resource Crises: Minerals and Energy (3)

Total: 32-36 hours

PRE-TEACHING HUMANITIES OPTIONS: BACHELOR OF ARTS

(5). Arts
This concentration should develop the knowledge and understanding of the role of the arts in society and should include experiences with the visual arts, music, drama, and creative dance. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics 110-120 (4,4) or Zoology 117-118 (4,4) or Botany 110-120 (4,4) or two years of high school biology are prerequisite to both Biology 210-220-230 and Zoology 230-240.
9 hour(s) of Non-performance courses from 2 or 3 of the following areas: Studio Art (any course); Dance (any course); Music Performance (any course); Speech Communication 280: Introduction to Oral Interpretation (3); Speech Communication 390: Oral Interpretation of Prose Literature (3); Speech Communication 385: Oral Interpretation of Poetry (3); Speech Communication 480: Ensemble Interpretation (3); Theatre 220: Acting (3); Theatre 221: Acting (3); Theatre 245: Basic Costuming (3); Theatre 250: Introduction to Scene Technology (3); Theatre 260: Fundamentals of Light and Sound (3); Theatre 320: Advanced Acting (3); Theatre 340: Introduction to Costume Design (3); Theatre 355: Introduction to Scenic Design (3); Theatre 362: Introduction to Lighting Design (3); Theatre 409: Stage Makeup (3); Theatre 430: Principles of Play Directing (4)

9 hours of Non-performance courses from 2 or 3 of the following departments: Art 172: Western Art I (3); Art 183: Asian Art (3); Music 110: Music Appreciation (3); Theatre 100: Introduction to Theatre (3)

(3); 6 additional hours at the 300 level or higher from any of the courses listed above. +Course requires intermediate level in the language.

Total: 33 hours (at least 15 at 300 level or above)

(6.) Language Arts

This concentration should develop knowledge, understandings, and skills for effective communication, appreciation of literature, and competence in use of language.

Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Arts and Sciences Distribution requirements: Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required: Linguistics 200: Language, Linguistics, and Society (3)

12 hours in courses from at least two of the following areas: Audiology and Speech Pathology; Comparative Literature, English, Library and Information Science; Linguistics, Speech Communication

6 hours in expository and/or creative writing courses in the English Department or Theatre 470-471: Playwriting (3,3)

6 hours from: Audiology and Speech Pathology 305. Speech Science I: Phonetics and History 251-252: History of the United States (3,3); Anthropology 120: Prehistoric Archaeology (3) or Anthropology 130: Cultural Anthropology (3); or Sociology 100: General Sociology (3)

Total: 24 hours

Core courses: Geography 320: Cultural Geography; Core Concepts (3); History 373: Historical Issues (3) or History 379: American Issues: Individualism and Community (3) or History 380: American Issues: War and the Peaceful Ideal (3)

6 hours from the following: History 360-361: History of Latin America (3,3); History 362-363: History of East Asia (3,3); History 364: History of China (3); History 365: History of Japan (3); History 366: Ancient Near East Civilización (3); History 369-370: History of the Middle East (3,3)

6 hours from the following: African-American Studies: 371-372: African History (3,3); Economics 100: Survey of Economic Ideas (3); Economics 201: Introductory Economics: A Survey Course (4); History 376: History Behind the News (3); History 449: History of Tennessee (3); Human Services 220: Introduction to Human Services (3); Psychology 110: General Psychology (3); Women's Studies 310: Emergence of the Modern American Woman (3); Women's Studies 332: Women in American Literature (3); Women's Studies 340: Women, Politics, and the Law (3)

Total: 18 hours

12 additional hours at 300 level or above from one of the following: U.S. History; European History; Ancient and Medieval History; Geography; Political Science; Modern History; African and/or Asian History

Total: 30 hours (15 at the 300 level or above)

6 hours in literature courses in Departments of English, Classics, or Foreign Language at 300 level or above

Total: 33 hours (at least 24 at 300 level or above)

(7.) Ideas and Values

This concentration aims at developing an understanding of the variety of ideas and values evolved by different civilizations in their attempts to comprehend and manage the human condition. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required courses: (15 hours)

Philosophy 110-111: The Human Condition (3,3); Religious Studies 101: World Religions in History (3); Religious Studies 211: Ways of Understanding Religion (3); one of the following: Philosophy 300: The Concept of Woman (3); Philosophy 302: Philosophy of Feminism (3)

At least 9 hours at the 200 level or above from the following or from an option approved by petition: Classics 221: Early Greek Mythology (3); Classics 222: Classical Greek and Roman Mythology (3); Philosophy 320: Ancient Western Philosophy (3); Philosophy 322: Medieval Philosophy (3); Philosophy 324: Seventeenth and Eighteenth Century Philosophy (3); Philosophy 326: Nineteenth and Twentieth Century Philosophy (3); Philosophy 370: Philosophy of Religion (3); Philosophy 390: Philosophical Foundations of Democracy (3); Philosophy 393: Marxism (3); Philosophy 395: Existentialism (3); Philosophy 411: Modern Religious Philosophies (3); Philosophy 425: American Philosophy (3); Philosophy 479: Studies in Recent Continental Philosophy (3); Religious Studies 305: Contemporary Religious Thought (3); Religious Studies 311: Ancient Hebraic Religious Traditions (3); Religious Studies 315: Reformation Europe (3); Religious Studies 321: New Testament Origins (3); Religious Studies 322: Christian Thought (3); Religious Studies 326: Images of Jesus (3); Religious Studies 331: Judaism (3); Religious Studies 342: Religious Ethics (3); Religious Studies 351: Introduction to U.S. Religious History (3); Religious Studies 352: African-American Religion in the U.S. (3); Religious Studies 355: Religion and Culture in the U.S. (3); Religious Studies 425: Seminar in Western Religions (3)

At least 6 hours in non-Western philosophy and religion to be chosen from the following or from an option approved through petition: Religious Studies 302: Religion of Primitive
Preamble (3); Religious Studies 332: Islam (3); Religious Studies 373: African Religions (3); Religious Studies 374: Philosophy and Religion in India (3); Religious Studies 376: Buddhist Philosophy and Religion (3); Religious Studies 379: Religion and Philosophy in China (3); Religious Studies 383: Religion in Japan (3); Religious Studies 382: Classical Indian Systems of Philosophy (3); Religious Studies 435: Seminar in Asian Religions (3)

Total: 30 hours

(at least 21 at 300 level or above)

PRE-TEACHING SOCIAL SCIENCE OPTIONS: BACHELOR OF ARTS

(8.) United States Culture

The aim of this concentration is to develop both breadth and depth of understanding about American culture, its uniqueness, its strengths, and its origins. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-123, 115-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required courses: (6 hours)
- American Studies 310: Introduction to American Culture: Voices of Dissent (3)
- American Studies 410: Topics in American Culture (3)

6 hours from any U.S. History courses

3 hours in Appalachian Studies selected from:
- Anthropology 312: Appalachian Culture (3)
- Geography 365: Geography of Appalachia (3)
- History 449: Tennessee History (3)

6 hours in American Literature at 400 level

9 hours from the following: Anthropology 310: North American Indians (3); Anthropology 315: African-American Anthropology (3); Anthropology 360: North American Prehistory (3); Art 471: History of North American Art (3); Art 472: History of 20th Century American Art (3); Art 473: 19th Century American Painting (3); Economics 331: Government and Business (3); Economics 325: Economic History of the North Atlantic Community (3); English 332: Women in American Literature (3); English 334: Film and American Culture (3); Geography 361: Regional Geography of the US and Canada (3); Geography 363: Geography of the American South (3); Geography 365: Geography of Appalachia (3); Geography 425: Historical Geography of the United States (3); Geography 441: Urban Geography (3); Geography 443: Rural Geography (3); History 440: America: Mind, Mood and Society (3); History 445: The African-American Experience from the Colonial Period to the Present (3); History 453: Women in American History (3); History 454: Cities and Urbanization in American History (3); Music 350: History of Jazz (3); Music 440: Music of North America (3); Philosophy 425: American Philosophy (3); Political Science 315: Tennessee Government and Politics (3); Political Science 330: Law in American Society (3); Political Science 331: Judicial Process (3); Political Science 374: American Political Thought (3); Political Science 411: The Presidency (3); Political Science 412: Congress (3); Political Science 431: U.S. Constitutional Law: Civil Rights and Liberties (3) Religious Studies 361: Introduction to U.S. Religious History (3); Religious Studies 352: African-American Religion in the U.S. (3); Religious Studies 353: Topics in African-American Religion (3); Sociology 405: Sociology of Sport (3); Sociology 415: Sociology of Aging (3); Sociology 455: Society and Law (3);(all 300 level courses except Sociology 321, 331, 336, 344, 351, and 370; Theatre 312-313: History of the American Theatre (3,3)

Total: 30 hours

(9.) Multicultural Studies

This concentration should develop a greater sensitivity, appreciation, and knowledge regarding other cultures both nationally and internationally. It should also increase understanding of issues of race and ethnicity. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-Statistics 201, 121-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required courses: (9 hours)
- Geography 101-102: World Geography (3,3); Anthropology 130: Cultural Anthropology (3)

3 hours from:
- Sociology 340: Class Structure (3); Sociology 345: Race and Ethnicity (3); Sociology 344: Power and Society (3)

3 hours Sociology 446: The Modern World System (3)

3 hours Curriculum and Instruction 451: Education in Cultural Perspective (3)

18 hours selected from Geography, African-American Studies, Anthropology, Economics, History, Latin-American Studies, Religious Studies, Sociology with a multicultural/international emphasis or in a given geographic area (such as Africa, Asia, Latin America)

Total: 36 hours

(at least 18 at 300 level or above)

(10.) Social Studies

This concentration should develop perceptions of the broad field of social science and broaden the historical and geographic knowledge base. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-Statistics 201, 121-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Total: 93 hours

PRE-VETERINARY MEDICINE PROGRAM

The following program is designed for students who wish to pursue an Arts and Sciences degree while preparing for the study of Veterinary Medicine. Students in this program must complete at least 93 credit hours enrolled in the College of Arts and Sciences, must satisfy the Basic Skills and Distribution requirements, and must complete the last 30 hours in residence at UT Knoxville before enrolling in the College of Veterinary Medicine. A departmental major is not required. Upon successful completion of the first year (two semesters) of the professional veterinary medicine curriculum, the Bachelor of Science degree will be conferred by the College of Arts and Sciences.

Note: Admission to the College of Veterinary Medicine is at the discretion of the Admissions Committee of that College; admission to and successful completion of this program does not assure admission to the College of Veterinary Medicine.

Hours Credit
- Divisional Distribution (A) U.S. Studies, Part I 3
- Divisional Distribution (B) Foreign Studies, or (C) Capstone Experience 6
- Upper Level Sequence 12
- Total: 93 hours

Senior
- Completion of major program and B. A./B.S. requirements or completion of one year at UT College of Veterinary Medicine
- Total: 124 Minimum hours

*Or equivalent honors courses.

**This requirement assumes a student has had enough language background in high school to begin an intermediate language sequence at UT Knoxville.

+Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 is a calculator course and a prerequisite for Physics. A math placement document is available in the Arts and Sciences Advising Center, 220 Ayres Hall. All students must complete the Math Basic Skills requirement as outlined in the Arts and Sciences curriculum.
**Math placement depends on highschool courses. This requirement assumes a student has had enough in their electives to satisfy the requirement for biology program. For more information, see Biology 210 or 220. Consult the coordinator of the biology in highschool (e.g., two yearsof biology or an advanced placement course).**

**Students who have had considerable background in medical technology course of study at UTMCK (12 credits) may apply for a special waiver.**

**NOTE:** All students are required to take a general education course in the humanities requirement. A few courses in the college are offered by the Arts and Sciences. The maximum number of S/NC elective hours which may be counted toward graduation is 12 hours. The maximum number of credits that may be counted toward graduation is 126. Each course must be completed with a grade of C or better. Credit per semester will vary from 1-15 hours. Up to 21 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

**STUDY ABROAD AND FOREIGN STUDY COURSES**

Several opportunities for study abroad are available to students in the college. One avenue is through group programs arranged and supervised by departments of the college on a full-semester or summer term basis. A second avenue is through group programs conducted abroad by other academic institutions in which UT Knoxville students may participate with approval from the student's academic advisor and the UT Knoxville Office of International Education. Credit will be awarded only after completion of all agreed upon requirements, and may vary from 1-15 hours in any one department. Up to 21 hours of such credit, exclusive of that earned in group programs offered by departments, could apply toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

**INDIVIDUAL STUDY**

Certain educational goals may best be met through independent study by an individual. Students who wish to do so must agree to the faculty member and the department concerned. It may include certain kinds of work experiences, community involvements, working in political campaigns, etc. Credit per semester will vary from 1-15 hours. Up to 21 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

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**SCIENCE-MEDICAL TECHNOLOGY CURRICULUM**

Students who complete the Science-Medical Technology Curriculum receive the B.S. degree with a major in medical technology from the College of Arts and Sciences. The curriculum requires a minimum of 94 hours of credit which includes the Basic Skills and Distribution requirements of the college prior to application for admission to a final year of study at The University of Tennessee Medical Center, Knoxville (UTMCK). After the course of study is completed, UTMCK awards the student a Certificate of Laboratory Training. Students are then eligible for examination by the Board of Registry of the American Society of Clinical Pathologists to earn certification as registered medical technologists.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Skills (B) Foreign Language (Intermediate Level Sequence)</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Zoology 230</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Biology 210, 220</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Microbiology 310</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Divisional Distribution (D) Humanities Part I-II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Divisional Distribution (A) Non-U.S. History</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Microbiology 420, 429</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry 310, 319</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Microbiology 430</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Divisional Distribution Sciences Part I-II</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Divisional Distribution Sciences Social Sciences</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Upper Level Distribution (A) U.S. Studies (B) Foreign Studies or (C) Capstone Experience</td>
<td>6</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 94 hours

**Lower Division—Upper Division**

Courses numbered at the 100 and 200 levels are considered lower division and are normally taken by students in the freshman and sophomore years. Courses numbered 300 and above are upper division and are designed for students at the junior and senior levels.

**Satisfactory/No Credit**

A few courses in the college are offered only on a Satisfactory/No Credit (S/NC) basis and students may elect to take others on this basis, except in areas where the option is specifically prohibited. Such courses, if successfully completed, will count as hours for graduation although neither S nor NC grades will be calculated in the student's grade point average. Satisfactory is defined as C or better work on the traditional grading scale and No Credit is defined as less than C. The following regulations apply:

1. **S/NC courses, except those offered only on this basis, may not count for Basic Skills or Distribution requirements or major or minor requirements unless specifically permitted by petition. This restriction applies also to major or minor prerequisites or corequisites.**

2. (The maximum number of S/NC elective hours which may be counted toward graduation is 20, exclusive of courses offered only S/NC, physical education courses, and/or satisfactory hours earned by examination, military service, etc.**

3. A student who desires to take a course S/NC should indicate that intention at the time of registration. A change from S/NC grading to regular grading or from regular grading to S/NC will not be permitted beyond the add deadline in each semester. (Exception: Students who register for a course S/NC in a restricted area will be required to change to regular grading when the error is discovered.)

4. A transfer student who has more than 20 S/NC or equivalent hours earned prior to admission to The University of Tennessee, Knoxville, may count all of these hours toward graduation but may not elect additional S/NC hours. **

5. A transfer student with S/NC or equivalent credit earned prior to admission to The University of Tennessee, Knoxville, in a course which satisfies a Basic Skills or distribution requirement may count it for that purpose. In the case of a course which satisfies a major or minor requirement, statement (1) applies.

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**Off-Campus Study**

Recognizing that learning is not restricted to formal classroom situations, the college provides for students to earn credit toward graduation for approved off-campus study. Such study may be undertaken only with prior approval of the faculty member and the department concerned. It may include certain kinds of work experiences, community involvements, working in political campaigns, etc. Credit per semester will vary from 1-15 hours. Up to 21 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

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**Independent Study**

Certain educational goals may best be met through independent study done by an individual under the direction of a faculty member. Students who wish to do so must agree to the faculty member and the department concerned. It may include certain kinds of work experiences, community involvements, working in political campaigns, etc. Credit per semester will vary from 1-15 hours. Up to 21 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

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**Credit Hours**

Credit is defined as less than C. The following regulations apply:

1. A student who wishes to take a course S/NC in a restricted area should indicate that intention at the time of registration. A change from S/NC grading to regular grading or from regular grading to S/NC will not be permitted beyond the add deadline in each semester. (Exception: Students who register for a course S/NC in a restricted area will be required to change to regular grading when the error is discovered.)

2. A transfer student who has more than 20 S/NC or equivalent hours earned prior to admission to The University of Tennessee, Knoxville, may count all of these hours toward graduation but may not elect additional S/NC hours.

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**STUDY ABROAD AND FOREIGN STUDY COURSES**

Several opportunities for study abroad are available to students in the college. One avenue is through group programs arranged and supervised by departments of the college on a full-semester or summer term basis. A second avenue is through group programs conducted abroad by other academic institutions in which UT Knoxville students may participate with approval for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University's Division of International Education. A third opportunity is through individual programs offered by departments, with approval for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University's Division of International Education. A third opportunity is through individual programs offered by departments, with approval for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University's Division of International Education.
ANNUAL AND AFRICAN-AMERICAN STUDIES
See Interdisciplinary Programs.

AMERICAN STUDIES
See Interdisciplinary Programs.

ANCIENT MEDITERRANEAN CIVILIZATIONS
See Interdisciplinary Programs.

ANTHROPOLOGY

Professors:
W.M. Bass (Emeritus, Alumni Distinguished Service Professor), Ph.D. Pennsylvania; C.H. Faulkner, Ph.D. Indiana; W.E. Klippel, Ph.D. Missouri; R.L. Janets, Ph.D. Kansas; R.W. Parmalee (Emeritus), Ph.D. Texas A&M; M.C. Wheeler (Emerita), Ph.D. Yale.

Associate Professors:
F.V. Harrison, Ph.D. Stanford; I. Harrison, Ph.D. Syracuse; B.J. Howell, Ph.D. Kentucky; M.H. Logan, Ph.D. Pennsylvania State; J.F. Simek (Head), Ph.D. SUNY-Binghamton; G.F. Schroedl, Ph.D. Washington State.

Assistant Professors:
L. Konigsberg, Ph.D. Northwestern, A. Kramer, Ph.D. Michigan, M. Marks, Ph.D. Tennessee.

Research Associate Professor:

Research Assistant Professors:
S. Frankenber, Ph.D. Northwestern; D. Morey, Ph.D. Tennessee; S. Tardif, Ph.D. Michigan State.

PROGRESSION STANDARDS:
Progression into the Anthropology major is based on performance in the three prerequisite courses: 110, 120 and 130. Students must maintain a grade point average of at least 3.0 for the three introductory courses, with none of the three grades below a C. Upon satisfactory completion of the prerequisites, the student may apply for progression into the Anthropology major by: (1) completing a formal application for progression in the Anthropology Department and (2) including with that application an academic history demonstrating satisfactory completion of the progression requirements. The Undergraduate Committee of the Anthropology Department will meet regularly to determine the status of these applications. Upon progression to the major, a department advisor will be assigned in consultation with the student.

The anthropology major consists of 450 and 27 additional hours of upper division course work in Anthropology. This course work shall be distributed as follows:
(1) one course from categories (a), (b), (c), and (d); and two courses from category (e).
(a) archaeological and theoretical method and theory: 361, 362, 440, 464
(b) archaeological area: 360, 461, 462, 463
(c) cultural area: 310, 311, 312, 313, 314, 315, 319
(d) cultural method and theory: 410, 411, 412, 413, 414, 431
(e) biological anthropology: 480, 490, 494, 495, 496
(2) Remaining hours may be selected from any upper division Anthropology courses.

Students with senior standing are encouraged to substitute 500 level courses (with permission of the instructor of the course and approval of the Department Head) for any portion of (1) or (2) above.

Continuation in the anthropology major requires maintenance of a 2.5 GPA or better in all anthropology courses. Students failing to meet this standard will be notified in writing that they are on probation and their records will be reviewed. Those who continue in probationary status for two consecutive semesters will be dropped from the major.

Anthropology 110, 120, 130 are prerequisites to a minor in anthropology, which consists of 15 hours of upper division Anthropology courses, chosen in consultation with an Anthropology advisor.

ART

Professors:

Associate Professors:

Assistant Professors:
Sally Brogden, M.F.A., New York State College; T. W. Hiles, Ph.D. Pennsylvania College.

B. F. A in Studio Art

The B.F.A. is Studio Art is a professionally oriented degree especially intended for those students planning careers or graduate study in the visual arts. All students seeking studio degrees (BA Studio, BFA Studio and Art Education, BFA Graphic Design, Illustration) must present and pass the appropriate Portfolio Review for their area of study in order to be admitted into advanced coursework. Students electing a major in Studio Art and having earned a minimum of 12 credits in Studio Art courses may take more than 8 semester hours in Studio Art courses.

Transfer students are advised that a minimum of 21 hours in Studio Art courses, and 6 upper division hours in art history, must be earned at UT Knoxville. Transfers who expect to enroll in 300 (junior level) or 400 (senior level) courses must present a portfolio of 10-15 works, the majority of which must be in their major area of concentration.

No grade below "C" in art courses may be applied to the B.F.A. major. A minimum of 40 credit hours, 300 level or above, must be earned prior to graduation.

The B.F.A. Studio program may accept up to 12 hours of Studio Art courses and approved Inter-Area combinations, after passing the appropriate portfolio course.

Basic Requirements

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History 171, 172, 173</td>
<td>9</td>
</tr>
<tr>
<td>Additional hours (4)</td>
<td>4</td>
</tr>
<tr>
<td>Studio 101, 103</td>
<td>9</td>
</tr>
<tr>
<td>Studio 235</td>
<td>3</td>
</tr>
<tr>
<td>Studio 211 Drawing I, 213 Painting I (or 215 Watercolor I, Sculpture 241 or 243 or 244 or 245 or 246, Printmaking 161 or 262 or 265)</td>
<td>12</td>
</tr>
<tr>
<td>9 hours from the following: Fiber-Fabric 201 or 202 or 203 or 204, 242 Life Modeling 231 Photography 252 Film Design 212 Ceramics</td>
<td>9</td>
</tr>
<tr>
<td>Total:</td>
<td>46</td>
</tr>
</tbody>
</table>

Concentration - Ceramics, Drawing, Painting, Printmaking, Sculpture, Watercolor; or Inter-Area (approved combinations of studio media). 300 level
| Portfolio Review (Pre-requisite to 200 level) | 0 |
| Portfolio Review (Pre-requisite to 300 level) | 20 |
| Approved Studio Electives for Concentration | 9 |
| Total: | 32 |

Studio Electives

Additional hours in studio course electives to be completed in the Art Department or at our affiliated facility. A maximum of 6 hours of approved studio courses from Architecture, Art Education, Broadcast Journalism, Computer Science, Vocational Technical Education, Interior Design, Theatre. Students electing an additional major in Education and licensure to teach must take 14-15 hours in undergraduate Art Education courses.

Total: | 15 hours |

1 Approved Concentration Elective (Maximum credit hours in parenthesis): Ceramics: Art 212 (6), Art 231 (6), Art 242 (3), Art 262 (3), Art 341 (6), Art 342 (3), Art 420 (2), Art 420 (6), Drawing: Art 210 or Art 215

Total: | 34 hours |

1 Approved Concentration Elective (Maximum credit hours in parenthesis): Ceramics: Art 212 (6), Art 231 (6), Art 242 (3), Art 262 (3), Art 341 (6), Art 342 (3), Art 420 (2), Art 420 (6), Drawing: Art 210 or Art 215
Students must choose a total of 9 hours from:

Art 259, 292, 331, 353, 354, 355, 392, 396, 404, 405, 406, Design and Professional Electives

Both courses must be taken concurrently.

Art 251, 252, 351/356, 352, 451, 452, 453, 454, 455
Art 151

Total: 28 hours

ILLUSTRATION CONCENTRATION

Art Core
Art 171, 172, 173 .............................................. 9
Art History electives ......................................... 6
Art 101, 103 .......................................................... 4
Art 295, 211, 213 (or 215) .................................. 9

Total: 28 hours

Illustration
Art 390 (S/NC) ................................................... 0
Art 212, 9 hours of drawing electives .................. 12
Art 231 ............................................................... 3
Art 151 ............................................................... 2
Art 251, 252, 351/353/356', 354/355, 453, 454, 455 in sequence ................................................... 27

Total: 44 hours

'All three courses must be taken concurrently.

Studio Electives
A minimum of 12 hours from one of the following areas: 9 hours from a second area (A) Fiber-Fabric, (B) Painting, (C) Printmaking, (D) Sculpture, (E) Watercolor

Total: 28 hours

In addition to the general B.A. requirements (found in the Undergraduate Catalog), the following are required for B.A. majors in the Art Department:

B.A. Majors in Art History

Prerequisite: Art 172, 173, 183 ............................. 9
Major: Art History courses numbered 200 and above (May include Greek and Roman Art and Archeology, Department of Classics) ........... 21
Studio courses numbered 200 and above .......... 6
Art 481 ............................................................... 3

Total: 39 hours

Undergraduate work in Art History is enhanced by knowledge of at least one foreign language and by additional studio art experience. Graduate work normally requires reading knowledge of German, French, and any other language appropriate to an area specialization.

Students anticipating possible careers in the museum or gallery field are advised that elective hours in Art 482, Museology II, should be considered.

B.A. Major in Studio

Prerequisite: Art 101, 295, 103 ........................... 7
Art 171 and 6 additional hours of Art History ....... 9
Major: Studio courses numbered 200 and above.

Including a minimum of 15 hours in

300-400 level courses ........................................ 24

Total: 40 hours

In addition to the general B.A. requirements, the following are required for minors in the Art Department:

B.A. Minor in Art History

Prerequisite: Art 172, 173 .................................... 6
Minor: Art History courses 200 and above .......... 15

Total: 21 hours

B.A. Minor in Studio

Prerequisites: Art 101, 103, 295 .............................. 7
Art 171, 172, 173 Art History (Any two) ............... 6
Minor: Studio courses which include a minimum of 8 additional upper-division hours.

Concentration may be Ceramics, Drawing, Fiber-Fabric, Painting-Watercolor, Printmaking, Sculpture or a combination from these areas .......... 15

Total: 28 hours

PI BETA PHI ARROWMONT SCHOOL OF ARTS AND CRAFTS

Director:

Arrowmont, located 40 miles from the UT Knoxville campus, is a visual arts complex which functions as a regional and national cultural center. In 1954, Pi Beta Phi Fraternity established an affiliation with The University of Tennessee, and with the Department of Art in 1978. The program currently includes spring and summer one and two week media workshops, special weekend conferences, and community classes. Media offerings include: clay, fiber, fabric, metal, wood, stained glass, leather, papermaking, drawing, painting, graphics and photography. Students may receive audit, undergraduate or graduate credit for spring and summer classes through The University of Tennessee, Department of Art. Facilities include well-equipped studios, on campus book and supply store, a large auditorium, art library, and resident accommodations. The Arrowmont Gallery presents changing juried, invitational, theme or media oriented exhibitions. The Gallery and Library are open to the public Monday-Saturday, 8:30 a.m. - 5:30 p.m. Arrowmont receives financial support from chapters of the Pi Beta Phi Fraternity, alumnae clubs, and individual members.

Courses are offered periodically at the Pi Beta Phi Arrowmont School of Arts and Crafts, Gatlinburg, Tennessee. Contact varies with faculty. Students should check specific course content as printed in the Arrowmont timetable published each spring.

ASIAN STUDIES

See Interdisciplinary Programs.

ASTRONOMY

See Physics and Astronomy.
AUDIOLGY AND SPEECH PATHOLOGY

Professors:
P.J. Carney, (Head), Ph.D. Iowa; C.W. Asp, Ph.D. Ohio State; D.M. Lipscomb (Adjunct), Ph.D. Washington; H.L. Luper (Emeritus), Ph.D. Ohio State; I.V. Nabelek, Ph.D. Czech Technical (Prague); H.A. Peterson, Ph.D. Illinois; B. Silverstein, Ph.D. Purdue.

Associate Professors:
S.B. Burchfield, Ph.D. Michigan State; C.J. Ferrell, M.A. Tennessee; P. Gordon, Ph.D. Tennessee; E.J. Hatley, Ph.D. Iowa; A. Krishnan, Ph.D. Texas (Dallas); L. Swanson, Ph.D. Purdue; J. Thelin, Ph.D. Iowa; G. Wallace, Ph.D. Northwestern.

Instructors:
D. King, M.A. Tennessee; T.R. Singletary, M.S. Colorado State.

The Department of Audiology and Speech Pathology offers courses work in the scientific study of human communication sciences and disorders. The two undergraduate majors (audiology and speech pathology) are preparatory to graduate work and to professional certification in some aspect of speech, language and hearing disorders. The master's degree is required for most professional certificates and employment positions. Information about the audiology and speech pathology programs may be obtained from the departmental office, 457 South Stadium Hall, and students are strongly encouraged to consult with the undergraduate advisors in the department as early as possible in their programs. Suggested elective courses for students not majoring in Audiology and Speech Pathology include 304, 305, 320, 371, 465 and 473.


Applicants for enrollment in clinical practice must submit an application to the departmental Director of Clinical Services. Requirements for enrollment in practicum courses (404 in Speech Pathology or 445 in Audiology) include a minimum cumulative GPA of 2.7 (or 3.0 in the last 30 hours of enrollments), a minimum of "C" in courses taken within the department, successful completion of 433, and a minimum GPA of 2.75 within the major.

Undergraduate degrees in speech pathology and in audiology are pre-professional degrees. That is, a minimum of a Master's degree is required for professional certification. Students who fail to satisfy the above prerequisites for clinical practicum experience may graduate with a degree from the department, but will not be recommended for graduate study at UTK. Requests for exceptions to this rule may be submitted to the departmental Admissions Committee.

Additional requirements for professional certification include courses in biological/physical sciences, mathematics, and at least six semester hours in behavioral and/or social sciences which pertain to the understanding of normal/abnormal behavior. Students majoring in Audiology and Speech Pathology are strongly encouraged to consult with their advisors before selecting elective courses.

BACTERIOLOGY

See Microbiology.

BIOCHEMISTRY

Professors:
J.E. Churchich (Chancellor's Research Scholar), Ph.D. Sheffield (England); J.G. Joshi, Ph.D. Poona (India); K.J. Monty, Ph.D. Rochester; W.D. Wicks, Ph.D. Harvard.

Associate Professors:
E. Howell, Ph.D. Lehigh; J. Koontz (Head), Ph.D. Kentucky; D. Roberts, Ph.D. California (Davis); E. Serpseru, Ph.D. Hacettepe (Turkey).

Assistant Professors:
B. Bruce, Ph.D. California (Berkeley); C. Peterson, Ph.D. Louisiana State.

Division of Biology

Director:
W.F. Harris, Ph.D Botany.

Basic Faculty:

A B.S. major in Biology may be obtained by completing either Concentration A or Concentration B.

Concentration A is designed for students whose career goals require a broad-based education in the biological sciences and who are directed toward secondary education or the business world and are not planning on gradu-
The B.S. major in Botany may be obtained by completing one of the three concentrations: General Program, Organismal Botany, or Cellular and Molecular Botany. Prerequisites for all three concentrations are: Botany 110-120 or Biology 110-120; and Chemistry 120-130. Corequisites to the General Program are one of the following sequences: Mathematics 115-121 or 141-142 or 151-152, or Physics 121-122, or Geology 101-102, or Chemistry 350-360-369. Corequisites for both of the other concentrations are: Mathematics 141-142 or 151-152; Physics 121-122 or Geology 101-102; and Chemistry 350-360-369.

General Program requirements are: 2 courses from Biology 210-220-230; Botany 310, 320, 321, 330, 1 hour of 371, 1 hour from 400 or 441-442; 4 hours of additional Botany; and 9 hours of upper division non-Botany courses selected from Biochemistry, Microbiology, or Zoology. A minimum of 31 hours completes this major's option.

Concentration in Cellular and Molecular Botany requirements are: Biology 210, 220; Botany 310, 320, 330, 1 hour of 371, 2 hours from 400 or 441-442; 2 additional hours selected from Botany (305, 306, 309 do not meet this requirement), Biology (220 is recommended for partial fulfillment of this requirement), or upper division Biochemistry, Microbiology, Zoology. A minimum of 40 hours completes this major's option (includes 8 hours of Organic Chemistry).

Concentration in Organismal Botany requirements are: Biology 210, 220; Botany 310, 320, 330, 1 hour of 371, 2 hours from 400 or 441-442; Biochemistry 410; and 3 additional hours selected from Botany (305, 306, 309 do not meet this requirement), Biology (220 is recommended for fulfilling this requirement), or upper division Biochemistry, Microbiology, Zoology. A minimum of 40 hours completes this major's option (includes 8 hours of Organic Chemistry).

Minor consists of 2 courses from Biology 210, 220, 230, 1 hour of Botany 371, and 6 hours of upper-division Botany (not more than one course from 305, 306, 309) and 3 additional hours of upper-division Botany or related biological sciences. Prerequisite to the minor is Botany 110, 120 or Biology 110, 120.

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**CHEMISTRY**

**Professors:**
- W.E. Bull (Head), Ph.D. Illinois; J.L. Adcock, Ph.D. Texas; S.D. Alexandratos, Ph.D. California (Berkeley); D.C. Baker, Ph.D. Ohio State; J.E. Bartmess, Ph.D. Northwestern; J.E. Bloor (Emeritus), Ph.D. Manchester (England); J.J. Charnock, E.L. Welch, Ph.D. Cook; J.P. Dubois, Ph.D. Wisconsin; J.A. Dean (Emeritus), Ph.D. Michigan; J.E. Eastham (Emeritus), Ph.D. California (Berkeley); W.H. Fletcher (Emeritus), Ph.D. Minnesota; F.A. Grimm, Ph.D. Cornell; G.A. Guiochon (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Universite de Paris (France); G.W. Kabakaba (Robert H. Cole Professor, Alumni Distinguished Service Professor), Ph.D. Purdue; D.C. Kleinfeilter, Ph.D. Princeton; J.D. Kovac, Ph.D. Yale; M.H. Liebke (Emeritus), Ph.D. Wisconsin; J. Magid, Ph.D. Tennessee; R.M. Manley, Ph.D. Yale; R.M. Pagni, Ph.D. Wisconsin; J.R. Peterson, Ph.D. California (Berkeley); G.K. Schweitzer (Alumni Distinguished Service Professor), Ph.D. Illinois; M.J. Sepanik, Ph.D. Iowa State; W.T. Smith (Emeritus), Ph.D. Ohio State; W.A. Van Hook, Ph.D. John Hopkins; R.D. Purdy, T.F. Williams (Alumni Distinguished Service Professor), Ph.D. London (England); C. Woods, III (Associate Dean), Ph.D. North Carolina State; B. Wunderlich (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Northwestern.

**Associate Professors:**
- C.E. Barnes, Ph.D. Stanford; C.A. Lane, Ph.D. California (Berkeley); C.S. Feigler, Ph.D. Colorado; F.M. Schell, Ph.D. Indiana.

**Assistant Professors:**
- M.D. Dadmun, Ph.D. Massachusetts; R.J. Hinde, Ph.D. Chicago; Z.B. Xue, Ph.D. UCLA.

**Bachelor of Science in Chemistry**

Students who desire to major in chemistry may select from either of two courses of study: Bachelor of Science or Bachelor of Science in Chemistry. Only the latter program is approved by the Committee on Professional Training of the American Chemical Society. It is designed to train students to go directly into positions in the chemical industry or to enter graduate study leading to positions in research and college teaching. A student in the B.S. in Chemistry program should, at the earliest opportunity, contact the Arts and Sciences Advising Center for assignment of a faculty advisor in the Department of Chemistry. For further information, contact the Head of the Department of Chemistry, 575 Buehler Hall.

**Prerequisites to the major are Chemistry 120-130 or (preferably) 121-131 or 128-138, Chemistry 140, and Mathematics 141-142 or 151-152. Corequisites to the major is Physics 221-222, 121-131 or 133-134.**

**Distribution**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**Major consists of Chemistry 310, 319, 350-360, 369, 471-481 or 473-483, 479, and 10 hours of additional work in chemistry that includes at least one laboratory course or lecture/laboratory course; up to 6 hours of Biochemistry 410-420 or Geology 460 may be applied to the 10-hour requirement.**

For students planning careers in Chemistry, the recommended courses (from the list above) are Mathematics 114-142, Physics 133-134 or 133-134, and Chemistry 473-483; although not required, certain additional courses are strongly suggested for students planning to become chemists: Mathematics 231-241 and Chemistry 230, 320, 329, and 406. Because professional chemists need a reading knowledge of foreign languages, intermediate level competency should be acquired in German, French, Russian or Japanese. Students who are undecided about their career goals may consult the Head of the Department at the earliest opportunity. Unlike the Bachelor of Science in Chemistry, the regular B.S. degree is not approved for all three concentrations: General Program, Organismal Botany, or Cellular and Molecular Botany.
A minor in chemistry shall consist of the successful completion of 15 hours of chemistry courses numbered 200 and above including 310, 319 (4 hours) and at least one of the following sequences: 350-360, 369 (8 hours); or 471-481, 479 (8 hours); or 473-483, 479 (8 hours).

Cooperative Program

A cooperative program is available to students who are Chemistry majors. After the freshman year, the student alternates a semester in school with a semester in a job in the chemical industry. The program normally requires five years and involves a total of four work semesters and eight school semesters. Students are required to have at least a 2.5 average to enter and remain in the program. Some opportunity exists for students to enter the program later than the end of the freshman year. Interested students should make application to the head of the department at least one semester in advance of the beginning of the first work period. Further information will be supplied on request.

Placement in General Chemistry Sequences

The sequences which meet all requirements of a year of general chemistry and which serve as prerequisite for upper-division courses are 120-130, 121-131, and 128-138; chemistry majors are strongly encouraged to take either of the latter sequences. Courses 100 and 110 emphasize organic and biochemistry, and may be used as prerequisite only for 431. It is possible to move from one sequence to another if permission for substitution is obtained. For example, a student who finds a need to complete the 120-130 series after having completed 100 may substitute 100 for 120 with approval of the Department of Chemistry and may then take 130. Credit may be received for only one of the courses 100, 120, 121, or 128.

In any chemistry course above the freshman level which has Chemistry 130 as a prerequisite, 110 may be used as a prerequisite with approval of the Department of Chemistry. Chemistry 128-138 is an honors course designed for the student who has already made considerable progress in science. Class size is limited to a half of the normal faculty-student interaction. Selection is based on ACT scores, high school chemistry grade, and, if necessary, performance on a placement examination to be given during the first class meeting. A student receiving a passing grade below B in 128 will complete the year's work by taking 130 or 131. Beginning students who have had high school chemistry and who have had additional experience (e.g. summer institute study, special research projects, home laboratory) are invited to apply during the summer to the head of the department for permission to take a proficiency examination in one or more semesters of general chemistry. If a satisfactory grade is made on the examination, credit will be allowed for the semester (or course) for which the exam was taken. The Department of Chemistry gives credit in general chemistry to students who present satisfactory scores on the Chemistry Advanced Placement Examination.

CHINESE

See Interdisciplinary Programs (Asian Studies).

CLASSICS

Professors:
G.C. Geseii, Ph.D. North Carolina (Chapel Hill); H.C. Rutledge, Ph.D. Ohio State.

Associate Professors:
C.P. Craig, Ph.D. North Carolina (Chapel Hill); S.D. Martin (Head), Ph.D. Michigan; J.E. Shelton, Ph.D. Vanderbilt; D.W. Tandy, Ph.D. Yale.

The B.A. major concentration in Greek consists of 27 hours including 21 hours of Greek language courses numbered above 200, and including 3 hours of Classes 422 (capstone); 6 hours chosen from Classics 221-222, 331, 334, 491. The student majoring in Greek is strongly encouraged to have as background History 310 before taking the capstone course. The student concentrating in Greek is encouraged to begin or take advanced work in Latin.

The B.A. major concentration in Latin consists of 27 hours including 21 hours of Latin language courses numbered above 200, and including 3 hours of Classes 422 (capstone); 6 hours chosen from Classics 221-222, 331, 334, 491. The student majoring in Latin is strongly encouraged to have as background History 310 or 311 before taking the capstones course. The student concentrating in Latin is encouraged to begin or take advanced work in Greek.

The Latin Minor consists of 18 hours including 12 hours of Latin language courses numbered above 200, and 6 hours chosen from Classics 221-222, 331, 334. The student concentrating in Latin is encouraged to take Classics 422 (capstone).

Placement Examination. Students who transfer to UT Knoxville from other colleges and students who enter with high school units in Latin should register for the courses in which they would normally be placed on the basis of such credits. During freshman orientation a placement test will be given, and students will be advised if a change in registration is indicated by the results.

Proficiency Examinations. Students who have acquired a knowledge of Latin through private study or tutoring should request from the Department a proficiency test. A student who earns a grade of B or better in this examination is eligible for credit toward graduation. A student who omits an entry in a sequence may receive credit for it by passing the appropriate proficiency examination.

COMPARATIVE LITERATURE

See Interdisciplinary Programs.

COMPUTER SCIENCE

Professors:
R.C. Ward (Head), Ph.D. Virginia; Jack Dongarra, Ph.D. New Mexico; M.A. Langston, Ph.D. Texas A&M; J.H. Poore, Ph.D. Georgia Tech; G.R. Sherman (Emeritus), Ph.D. Purdue; M.G. Thomason, Ph.D. Duke.

Associate Professors:
B.J. MacLennan, Ph.D. Purdue, M.D. Vose, Ph.D. Texas.

Assistant Professors:
M.W. Berry, Ph.D. Illinois; M. Beck, Ph.D. Cornell; J. Gregor, Ph.D. Aalborg (DK); M.T. Jones, Ph.D Duke; J.S. Plank, Ph.D. Princeton; P. Raghavan, Ph.D. Pennsylvania State; D.W. Straight, Ph.D. Texas; B.T. Vander Zanden, Ph.D. Cornell.

Instructor:
J.W. Mayo, M.S. Tennessee.

Computer Science 102, 111, and 112 are prerequisites to a major in computer science which consists of 311, 320, 340, 360, 371, and 380, plus an additional 3 hours of CS Advanced Topics Courses. Mathematical 141-142, 221-222, 231, 241, and 251, Physics 151-152, and English 461 are also required. Students must select a two-semester lab science sequence in either Biology or Chemistry, or a sequence approved by the Computer Science Department. It is highly recommended that all Computer Science majors own a personal computer with communications capability.

An undergraduate minor in Computer Science consists of 111 and 112 plus fifteen hours of 300 or 400 level courses.

Progression Standards:
Progression into the Computer Science major is based on the availability of space in the laboratories and other resources. Progression requirements are adjusted periodically and current requirements can be determined by consulting with an advisor in the Undergraduate Programs Office, or by contacting the Computer Science Department directly. Students who enter the College of Arts and Sciences as freshmen or sophomores are expected to apply for the major immediately after attempting 10 hours in Computer Science.

In 1994 the progression standards were:
1. Has completed at least the following three courses at UTK with an average of 3.0 or better: CS 102, 111, 112.
2. Has achieved an average of 2.5 or better of grades in all Computer Science courses taken at UTK that apply to the major. All grades received for these courses are averaged.
3. Has received at most one W or repeated grade in a Computer Science course.
4. Has not been disciplined for academic dishonesty in a Computer Science course or for abuse of university computing privileges.

Progression standards are subject to change; current standards are available in Undergraduate Programs Office and the Computer Science Department Office, 107 Ayres Hall.
Transfers from Other UTK Programs:

Students in other colleges or majors at UTK must apply for progression to the major at the earliest possible date but definitely prior to 75 hours. As a minimum, all students must be admitted to the CS major for at least the last 30 hours of work. Only in exceptional circumstances will application be considered after 75 hours of coursework (at UTK or elsewhere) have been attempted. It should not be supposed that CS admission must be granted to those who accumulate a substantial number of hours in CS courses. On the contrary, an academic record reflecting substantial work after 75 hours in the CS curriculum may be taken as prima facie evidence of intent to evade this policy and may result in denial of admission.

Transfers from other institutions

Transfers from other institutions are generally handled the same as transfers from other UTK programs. However, a prospective transfer student should consult with an advisor in the Computer Science Department to determine which courses can be accepted toward the Computer Science major. It should not be assumed that courses with similar names to UTK courses can be accepted toward the major.

Appeals

Those students denied progression may appeal to the Undergraduate Committee of the Computer Science Department. Information on the appeals procedure can be obtained by calling the Computer Science Department, 974-5097, the Undergraduate Programs Office, 974-5096, or by contacting an advisor in that office.

ECOLOGY

Dewey L. Bunting, Director
J. Larry Wilson, Associate Director
Paul A. Delcourt, Associate Director

Shared Faculty:
Adams, Marshall, Ph.D., ORNL; Amundsen, C.C., Ph.D. Botany, Blaylock, B.G., Ph.D. ORNL; Beake, Christine R.B., Ph.D. Zoology; Buckner, E.R., Ph.D., Forestry, Wildlife and Fisheries; Bunting, Dewey, L., Ph.D. Zoology; Burghardt, G.M., Ph.D. Psychology; Clebsch, E.E.C., Ph.D. Botany; Cooper, Lee, Ph.D. ORNL; Countant, C.C., Ph.D. ORNL; DeAngelis, D.L., Ph.D. ORNL; Deardon, B.L., Ph.D. Forestry, Wildlife and Fisheries; Deltcourt, Hazel, Ph.D. Geology; Delcourt, Paul A., Ph.D. ORNL; Diggin, Ralph W., Ph.D. Forestry, Wildlife and Fisheries; Drake, James A., Ph.D. Zoology; Echternacht, Arthur C., Ph.D. Zoology; Elwood, J.W., Ph.D. ORNL; Emmanuell, William, Ph.D. ORNL; Elner, D.A., Ph.D. Zoology; Farkas, Walter, Ph.D. Environmental Practice; Fribourg, Henry A., Ph.D. Plant and Soil Science; Gardner, R.H., Ph.D. ORNL; Goehs, C.W., Ph.D. ORNL; Gist, C.S., Ph.D. ORNL; Graff, G., Ph.D. ORNL; Goss, L. Barry, Ph.D. Science Appl.; Greenburg, Neil, Ph.D. Zoology; Gross, L.J., Ph.D. Mathematics; Hallam, Thomas G., Ph.D. Mathematics; Harrop, Cas, Ph.D., Ph.D. Geography; Herbes, S.E., Ph.D. ORNL; Hildebrand, S.G., Ph.D. ORNL; Hilty, J.W., Ph.D. Entomology and Plant Pathology; Horn, Sally P., Ph.D. Geography; Houston, M. Ph.D. ORNL; Kelly, Jim, Ph.D. TVA; Kimmel, B.L. Ph.D. ORNL; McCarthy, J.F., Ph.D. ORNL; McCrackin, J. Frank, Ph.D. Botany; McCracken, G.F., Ph.D. Zoology; McKenzie, M.L., Ph.D. Geology; Mulholland, P.J., Ph.D. ORNL; Nodvin, Stephen C., Ph.D. CPSU; Norby, Richard, Ph.D. ORNL; O'Neill, R.V., Ph.D. ORNL; Pagni, R.M., Ph.D. Chemistry; Parker, Charles, Ph.D. ORNL; Pelton, Michael R., Ph.D. Forestry, Wildlife and Fisheries; Pimm, S.L., Ph.D. Zoology; Plass, C.D., Ph.D. Entomology and Plant Pathology; Post, W., Ph.D. ORNL; Reed, R.M., Ph.D. ORNL; Rehder, J.B., Ph.D. Geography; Reichle, D.E., Ph.D. ORNL; Reichenie, J.C., Ph.D. Forestry, Wildlife and Fisheries; Reynolds, John H., Ph.D. Plant and Soil Science; Riechert, Susan E., Ph.D. Zoology; Rose, K.A., Ph.D. ORNL; Sayler, Gary S., Ph.D. Microbiology; Schubert, S.A., Ph.D. Forestry, Wildlife and Fisheries; Schneider, Gary, Ph.D. (Acting Dean), Agricultural Sciences and Natural Resources; Smith, W.O., Ph.D. Botany; Stacey, G., Ph.D. Microbiology; Stewart, A., Ph.D. ORNL; Strange, R.J., Ph.D. Forestry, Wildlife and Fisheries; Tumer, Monica G., Ph.D. ORNL; VanHook, R.I., Ph.D. ORNL; VanWinkle, W., Ph.D. ORNL; Vaughan, G., Ph.D. Zoology; Walton, B.T., Ph.D. ORNL; Wehry, E.L., Ph.D. Chemistry; West, D.C., Ph.D. ORNL; White, David C., Ph.D. Microbiology; Wilson, J.L., Ph.D. Forestry, Wildlife and Fisheries; Witherspoon, J.P., Ph.D. ORNL.

The Graduate Program in Ecology offers Master of Science and Doctor of Philosophy degrees. This intercollegiate program provides advanced courses in contemporary ecology for students from undergraduate programs in biology, botany, zoology, mathematics, environmental studies, and other disciplines. Research opportunities in both fundamental and applied ecology are intended to prepare students for academic careers as well as professional positions in industry or government. The Environmental Sciences Division of the Oak Ridge National Laboratory, the National Park Service, and the Tennessee Valley Authority provide advisors and research facilities. The Great Smoky Mountains, Cumberland Plateau, valley and ridge topography, TVA reservoirs and wild rivers provide local, a spectrum of natural habitats and consequent biodiversity that is truly unique. In addition, faculty research programs provide opportunities for student research elsewhere in the continent and abroad. Application forms for admission should be obtained from the Graduate School as well as the program. Inquiring about the admission requirements should be addressed to the Director, Graduate Program in Eco., University of Tennessee, Knoxville, Tennessee, 37996-1610. Consult the Graduate Catalog for listing of graduate level courses.

ECONOMICS

See faculty listing the College of Business Administration.

The program in economics combines a broad liberal education with the rigorous study of current issues of the day such as employment, inflation, personal, and corporate Reh. and the benefits and costs of economic growth. Courses offered in the Department of Economics of the College of business Administration provide opportunity for a major or minor in economics in the College of Arts and Sciences. A major in economics consist of: (1) Economics 201 or equivalent honors courses as a prerequisite to the major and (2) Economics 311 and 313 plus 21 additional hours in upper division economics courses. Majors are encouraged to satisfy Part II of the Natural Science Division Requirement with one of the mathematics packages Mathematics 115-121, 121-122, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.
Hirst, Ph.D. Rensselaer Polytechnic; L.L. Howes, Ph.D. Columbia; L.D. Jennings, Ph.D. North Carolina.

Instructors:
G. Albright, Ph.D. North Dakota; E. Bailey, Central Arkansas; L. Berry, M.A. Tennessee; G. Brewster, Ph.D. Duke; J. Burton, Ph.D. SUNY; M. J. Celtrae, M.A. Tennessee; L. Faulks, Ph.D. Florida; A. Holmes, Ph.D. Alabama; D. McKinstry, Ph.D. Tennessee; E.D. Overby, M.A. Virginia; J. Torricelli, Ph.D. Iowa; P.A. Tschantz, M.A. New Mexico State; J. Vincent, M.A. Michigan State.

Prerequisites and Corequisites: English 101 and 102, or the equivalents, are prerequisites to all English courses at the 200, 300, and 400 levels.

Major Requirements: At least 36 semester hours of coursework in the English Department, 30 of which must be at the 300 or 400 level. For all English Majors: English 201-202 (British Literature), or 221-222 (Literature of the Western World), or any two of 231-232-233 (American Literature). This requirement should be satisfied, if possible, before the student takes courses at the 300-400 level. Courses in the study of the English language, 371 or 372, are recommended for all majors.

Concentration in Literature: Ten English courses at the 300-400 level, including: (1) English 376 (Colloquium in Literature), to be taken, if possible, near the beginning of the student's major program; (2) at least four courses in literature before 1900, including at least two before 1800 (see departmental brochure, Undergraduate Study in English, for a course list); and (3) five other courses, at least one of which is based on an approach to literature other than literary history (see departmental brochure, Undergraduate Study in English, for a course list).

Concentration in Writing: Ten English courses at the 300-400 level, including: (1) a two-course sequence in expository, technical, or creative writing; and (2) three other courses in writing; and (3) five other courses, at least three of which must be literature courses selected in consultation with the advisor.

Individualized Program: The Director of Undergraduate Studies is empowered to approve individualized programs developed by students in consultation with their advisors. These programs should be designed to achieve academically sound objectives that are not addressed by the above requirements.

Honors: For students who qualify, the English Department offers specially designed courses at the freshman, sophomore, junior, and senior levels. The freshman and sophomore honors courses are enriched versions of regular sections in composition, in introduction to the various genres, and in American and British literatures. To be given "Honors" in English on the transcript, a student must have achieved a 3.0 or better GPA, a 3.5 or better grade point in English courses, and grades of A or B in English 398 and 498.

An English minor consists of at least 15 semester hours of English courses at the 300-400 level.

Certification for Teaching: Students planning to teach English in public schools should consult the Certification Clerk, Room 212, Claxton Education Building.

Graduate Study: Students wishing to enter a graduate program in English should address inquiries to the Dean of the Graduate School. To be accepted for graduate study in English, the student should in general have had at least eighteen semester hours in English courses above the freshman and sophomore level with a better than B average and a B average in all other undergraduate courses. Students who lack eighteen semester hours of undergraduate English may be required to take and pass with a grade of B or better a designated number of undergraduate courses at The University of Tennessee before being admitted to graduate study. Admission is also dependent on satisfactory GRE scores. Consult the Graduate Catalog for specific requirements.

FRENCH
See Romance and Asian Languages.

GEOGRAPHY

Professors: S.R. Jump (Head), Ph.D. Tennessee; C.S. Aiken, Ph.D. Georgia; T.L. Bell, Ph.D. Iowa; P.A. Foresta, Ph.D. Rutgers; E.H. Hammond (Emeritus); P.D. California (Berkeley); R.G. Long (Emeritus); Ph.D. Northwestern; C.W. Minkel (Vice Chancellor for Academic Affairs and Dean of the Graduate School), Ph.D.; Syracuse; C.T. Pauidan (UTSI), Ph.D. Denver; B.A. Ralston, Ph.D. Northwestern; T.H. Schmudde, Ph.D. Wisconsin; T.J. Wilbanks (Adjunct), Ph.D. Syracuse.

Associate Professors: T.J. Blasing (Adjunct), Ph.D. Wisconsin; L.W. Brinkman, Jr., Ph.D. Wisconsin; M.A. Brown (Adjunct), Ph.D. Ohio State; C.P. Harden, Ph.D. Colorado (Boulder); S.P. Hom, Ph.D. California (Berkeley); L.M. Pulisher, Ph.D. Southern Illinois; J.B. Rehder, Ph.D. Louisiana State.

Assistant Professors: Cheng Liu, Ph.D. Tennessee; R. McKeown-Ice (Adjunct), Ph.D. Oregon; Kenneth Orvis, Ph.D. California (Berkeley); J.J. Ray (Adjunct), Ph.D. Tennessee.

A B.A. major in Geography Geography 131 and 132 are prerequisite to a major in Geography, which consists of Geography 310, 320, 340, 415, and 499, and 12 additional credits selected from Geography courses at the 300 and 400 levels. At least one course must be chosen from among Geography 361, 363, 365, 072, 373, 375, and 379, and at least nine must be at the 400 level.

Minor: The B.A. minor in Geography consists of 15 semester hours of Geography courses at the 300 level or above.

1 Students who enter the major with more than 80 hours of credit, and who have completed a laboratory science sequence other than Geography, may petition the department to substitute certain upper division physical geography courses for 131 and/or 132.

GEOLOGICAL SCIENCES


Associate Professors: D.W. Byerly, Ph.D. Tennessee; G. M. Clark, Ph.D. Pennsylvania State; D.E. DeWald, Ph.D. Minnesota; S.G. Driese, Ph.D. Wisconsin; W.M. Dunne, Ph.D. Bristol; M.L. McKinney, Ph.D. Yale; R.T. Williams, Ph.D. V.P.I.

Assistant Professors: D. McKay, Ph.D. Waterfro, C.J. Mora, Ph.D. Wisconsin.

Prerequisites to a B.S. major are: Geology 101-102; Chemistry 120-130; Mathematics 141-142 or 147-148; plus one two semester sequence and one additional course from Physics 151-152 (or 221-222) and Biology 110-120. The single course requirement may be satisfied by high school course work in that area.

Major requirements: Geology 310, 320, 340, 370, and 440 (22 hours); plus 12 additional hours of geology courses at the 400 level. Geology majors must attend the UTK field camp or an approved equivalent elsewhere. (For equivalent camps, prior approval by the Department on an individual-case basis is required.)

Minor requirement consists of: Prerequisites: Geology 101 and 102 or 103. Geology courses at least 16 hours of courses numbered 200 or higher.

Concentration in Engineering Geology: Students wishing to prepare for a career in environmental/engineering geology, where communication with engineers is important, may elect this multidisciplinary concentration. Electives in the major and some of the courses necessary to satisfy the Arts and Sciences College Distribution requirements are specified. Required coursework includes: Geology 310, 320, 340, 370, 440, 455, 460, 470 and 485; Mathematics 141, 142, (or equivalent honors courses) and 231 (or substitution of Geology 401 for Math 231); Physics 231; Basic Engineering 101, 121, and e131; Civil Engineering 330, 435 and any one of the following: 390, 440, 530, 532 or Environmental Engineering 530; Plant and Soil Science 541; and Speech 240. Courses from the College's approved lists for satisfying the Social Sciences, Humanities and Upper Level Distribution requirements will be recommended and approved by the student's advisor.

Honors: Students who have completed 5 upper division courses in the major and have an overall GPA of 3.0 may elect to participate in an enrichment program involving research in the geological sciences. Research, in the form of an approved senior thesis, will be accomplished by successful completion of a minimum of 6 semester hours of Geology 491, 492, or 493 under the direction of a faculty member. The results of the research must be formally presented to the Department's Seminar (Geol 585), the Tennessee Academy of Science, or other acceptable professional organization. Also, an approved written copy of the "thesis" must be submitted to the Department of Geological Sciences. A GPA of 3.0 must be maintained throughout matriculation. Interested students should consult their advisor for details about participation.
GERMANIC AND SLAVIC LANGUAGES

Professors:
James E. Faler (Emeritus), Ph.D.
Pennsylvania; Donald M. Fiene (Emeritus), Ph.D.
Indiana; Henry Kratz (Emeritus), Ph.D.
Ohio State; John C. Osborns (Emeritus), Ph.D.
Northwestern; Ursula C. Riztenhoff (Emerita), Ph.D.
Connecticut.

Associate Professors:
Carolyn R. Hodges, Ph.D.
Chicago; Nancy A. Lauckner, Ph.D.
Wisconsin; David E. Lee (Heed), Ph.D.
Stanford; Chauncey J. Mellor, Ph.D.
Chicago.

Assistant Professors:
Peter Hoeyng, Ph.D.
Wisconsin; Beverly Moser, Ph.D.
Georgetown; Natalia Pervukhin,
Ph.D. Bryn Mawr.

Instructors:
Rosemarie Greenman, M.A.
Pennsylvania State; Stefanie Ohneburg, Ph.D.
McGill; Avigail Rashkovsky, M.A.
Tartu.

Placement Examination: Students who have had previous work in German or Russian either in high school or at another college should take a placement test to determine what level course they should elect. Placement tests are given for incoming freshmen during orientation in the summer and also the first week of each semester.

Proficiency Examinations: Students who have acquired a knowledge of German or Russian through private study, tutoring, residence in foreign countries, or the like, should request a proficiency test. A student earning a grade of C or better on such a test will receive credit for an appropriate number of courses. Superior students are encouraged to proceed as rapidly as their achievement permits. Students who omit any course in a sequence may receive credit for it on the basis of a proficiency examination.

Foreign Study: Students are encouraged to study abroad, particularly through participation in the University’s International Student Exchange Program (ISEP). The department is also prepared to recommend summer study programs and year abroad programs for students who are interested in foreign study. Credits from recognized foreign study programs can readily be transferred to UT Knoxville. For qualified students, the department also offers German 491 Foreign Study and Russian 491 Foreign Study. Students should consult the department before registering for the foreign study course.

B.A. Major in German: Majors or minors in German should carefully prepare their programs in consultation with a departmental faculty advisor. German 201-202 or the equivalent is a prerequisite to the major. The major shall consist of at least 18 hours of German courses numbered above 300, which normally include German 301-302 and 12 additional hours of courses numbered above 300 (excluding 331-332 and courses in English translation).

Minor in German: German 201-202 or its equivalent is a prerequisite to the minor. The minor shall consist of at least 18 hours of German courses numbered above 300, which normally include German 301-302 and 12 additional hours of courses numbered above 300 (excluding 331-332 and courses in English translation).

B.A. Major in Russian or Russian with a Concentration in Language and World Business: Students who wish to prepare for careers in international business must complete (a) a special major in either German or Russian, (b) a professional minor in either International Business, International Retail Merchandising or International Agricultural Economics, and (c) some form of practical experience related to the concentration. Admission is by permission of the program Director.

(a) The Special Language Major:
(1) The German major consists of 30 hours. The following are required: German 301-302, 311-312, 323 or 363, 485, three credit hours of 490, 491 or 493, and three courses numbered 320 or above.
(2) The Russian major consists of 30 hours. The following are required: Russian 301-302, 311-312, 401-402, 451-452, 490 or 491, and 3 hours from the following: 221, 222, 226, 321, 326, 371, 372, or any 400-level courses.
(b) Professional Minor:
(1) International Business students will take 24 hours. The following are required: Accounting 201, 202, and Business Administration 495. Students then choose two courses from the following General Business courses: Marketing 301, Management 301, 303, Logistics and Transportation 301, 302, Finance 301 or Business Law 301. Students choose three courses from the following International Business courses: Management 471, Marketing 440, Logistics and Transportation 441, Economics 321, Business Administration 311, Retail and Consumer Sciences 421.
(2) International Retail Merchandising students will take 28 hours. The following are required: Accounting 201, Marketing 301, Retail and Consumer Sciences 210, 310, 321, 410, 421, and three credit hours from the following Retail and Consumer Sciences 350, 411, 412, 415, 450, or 493.
(3) International Agricultural Economics students will complete 24 hours. The following are required: Accounting 201, Agricultural Economics 210, 320, 342, 350, 420, 430, and three credit hours from the following: Marketing 301, Management 301, Finance 301, Logistics and Transportation 301 or 302.
(c) Practical Experience: Through German 490 or Russian 490, each Language and World Business student must undertake study abroad, an internship, or a relevant research project for a minimum of 3 hours (included in major requirements).

Additionally, Language and World Business students must consult an advisor in the Department of Romance and Asian Languages for help in selecting relevant courses under the Basic Skills and Distribution requirements of the College.

Students interested in the Language and World Business track program must contact the Director for advising as early as possible in their college careers. Students must have attempted 60 hours in order to be considered for progression to the Language and World Business major. The academic record presented will be assessed by the Director of Language and World Business Program. Minimum requirements for progression to the concentration are a 2.75 cumulative average in the courses specifically required by the College of Arts and Sciences in Basic Skills and Distribution and in the Language and World Business plan of studies, and a 3.0 average in language courses. Course prerequisites for the program include: German or Russian 199, Economics 201 (under Social Science electives), and Math 121 and Statistics 201 (under Part II of the Natural Science electives). Progression is based on availability of space in the program. Progression standards are adjusted periodically, and current requirements are available from the Director of Language and World Business. For further information inquire in T-1208 McClung Tower.

B.A. Major in Russian: Russian 201-202 is a prerequisite to the major. Russian majors should prepare their programs in consultation with the departmental faculty advisor. The major in Russian shall consist of at least 30 hours of Russian courses, including Russian 301-302; 311-312; 401-402; 451-452; and 6 hours from Russian 221, 222, 226, 321, 322, 326, 371, 372, or other courses numbered above 400. It is recommended that majors also take Russian History 340-341 and 6 hours of sophomore English. Majors are urged to consider a minor in some other area of the humanities.

Minor in Russian: Russian 201-202 is a prerequisite to the minor. The minor in Russian shall consist of at least 18 hours of Russian courses, including Russian 301-302; 311-312; 401-402; 451-452; and 6 hours from Russian 221-222 or other Russian courses numbered above 300.

GREEK
See Classics.

HEBREW
See Religious Studies.

HISTORY

Professors:
P.H. Bergeron, Ph.D.
Vanderbilt; R.D. Buhite (Head), Ph.D.
Michigan State; E.V. Chmielewski, Ph.D.
Harvard; J.C. Cobb (Bernadotte E. Schmitt, Professor), Ph.D.
Georgia; W. Cutler, Ph.D.
Texas; J.R. Finger, Ph.D.
Washington; Y.P. Hao (Lindsay Young Professor), Ph.D.
Harvard; A.G. Haas, Ph.D.
Chicago; R.W. Haskins (Emeritus), Ph.D.
California (Berkeley); C.O. Jackson (Associate Dean, Arts and Sciences College), Ph.D.
Emory; M.M. Klein (Alumni Distinguished Service Professor, Limentra, Emeritus), Ph.D.
Columbia; A. Mayhew, Ph.D.
Texas; H. Moser, Ph.D.
Wisconsin; L.A. Ratner (Dean, Arts and Sciences College), Ph.D.
Cornell; J.G. Utey (Emeritus), Ph.D.
Illinois; W.B. Wheeler, Ph.D.
Virginia.

Associate Professors:
S.D. Becker, Ph.D.
Case Western Reserve; J.D. Bing, Ph.D.
Indiana; J. Bohstedt, Ph.D.
Harvard; P. Brummert, Ph.D.
Chicago; W.W. Farris, Ph.D.
Harvard; C.W. Johnson, Ph.D.
Michigan; O.G. Fleming, Ph.D.
Duke; J. Muldowny, Ph.D.
Yale; P.J. Pinckney, Ph.D.
Vanderbilt.
African and African-American Studies

Director:
Dr. Cynthia G. Fleming (History and African and African-American Studies)

Assistant Professor:
Dr. Asafa Jalata (Sociology), Ph.D. State University of New York (Binghamton).

The African and African-American Studies Program offers both a major concentration and a minor in African and African-American Studies. AAAS courses are offered not only by the program itself but also by numerous departments within the College of Arts and Sciences and some other colleges as well. This diversified sponsorship of AAAS courses enables the University to offer a particularly varied range of courses in the field of African and African-American Studies.

Major concentration: African-American Studies 201-202 are required in the concentration which consists of 24 hours from the African-American Studies curriculum. At least 15 hours must represent upper division credits. Majors are required to take AAAS 431, preferably in their senior year. A minimum of 6 hours in AAAS 492 and 493 combined can be applied toward the AAAS major. In planning their program majors must include courses from at least 2 other departments which crosslist courses with African and African-American Studies in addition to the AAAS core course offerings.

Minor: African-American Studies 201-202 are required in the minor which consists of 15 hours at least 9 of which must be upper division credits. A maximum of 3 hours in AAAS 492 and 493 combined can be applied to a minor. In planning their programs minors must include courses from at least 2 other departments which crosslist courses with African and African-American Studies in addition to the AAAS core course offerings.

American Studies

Chair:
Dr. George B. Hutchinson (English)

Major concentration: English 231 and either 232 or 233 are prerequisite to a major concentration in American Studies which consists of 27 upper-division semester hours including American Studies 310; at least two approved American History courses; and six hours of approved courses chosen from the following disciplines: anthropology, economics, political science, or sociology. Courses in the major will be chosen in consultation with an American Studies advisor, from a list approved by the program, in such a way that at least 3 courses help the student achieve a focus within the field. One course in the student's curriculum must specifically focus upon one or more American ethnic minority cultures. An additional 3-5 hours of American Studies 493 (Independent Study) are recommended for majors in their senior year. A list of approved elective courses is published annually.

All majors and prospective majors should contact the Chair of the program.

The American Studies minor consists of at least 15 hours of coursework from the program's list of electives, including American Studies 310, American Studies 410 or 440, and nine additional hours from at least two different disciplines.

Ancient Mediterranean Civilizations

Chair:
Dr. David W. Tandy (Classics)

Co-chair:
Dr. W. L. Humphreys (Religious Studies)

The major concentration in Ancient Mediterranean Civilizations consists of Classics 381 and 382, History 366, and 18 additional hours from the following list, distributed in such a way that no more than 12 hours are in any one of the three divisions: (a) Ancient Near Eastern Cultures; Religious Studies 311, 312, 326; (b) Greek Culture: Classics 221, 222, 232, 233, 253, 331, 334, 383; History 310; Philosophy 120, 320; Political Science 475; Religious Studies 321, 322, 328; and (c) Roman Culture: Classics 222, 233, 254, 383, 462; History 311; Philosophy 120, 320; Political Science 475; Religious Studies 321, 322, 326, 416.

A minor in Ancient Mediterranean Civilizations consists of 18 hours, including at least two of the three core courses (Classics 381, 382; History 366). No more than nine of the remaining hours can come from one division.

Courses of variable content, topics courses, and African-American Studies

American Studies

American Studies consists of 26 credit hours from the upper-division courses of American Studies and approved departmental offerings. Twelve of the hours must be taken from courses listed within one of the four geographical-cultural areas (Islamic World; South Asia; China; Japan), and 6 of those 12 hours must come from Subdivision A and 6 from Subdivision B. Subdivision A includes Art, Literature, Music, Philosophy, and Religious Studies; Subdivision B includes Anthropology, Economics, Geography, History, Political Science, and Sociology.

Six of the 26 hours must be taken from courses listed for other geographical-cultural areas.

Prerequisite to the concentration is American Studies 101-102. Corequisites to the major
A major concentration in comparative literature consists of 27 hours including Comparative Literature 201 and 401-402, and 9 hours of literature in a foreign language in courses numbered 300 and above, from at least two of the following departments: Classics, English, Germanic and Slavic Languages, Ruggileus Studies, Romance Languages. Certain courses in Philosophy and Speech Communication may be substituted with the approval of the chairperson of the Comparative Literature Program. Students concentrating in comparative literature are strongly encouraged to acquire a working knowledge of a second foreign language, especially if the concentration includes a non-Indo-European language. A minor in comparative literature consists of 18 hours including Comparative Literature 201 and either Comparative Literature 401 or 402, 6 hours of literature in a foreign language in courses numbered 300 and above, and 6 hours of literature courses numbered 300 and above in a different department.

The major concentration consists of two parts—a core and a minor. The core includes: Biology 203, Sociology 360, Philosophy 346, Economics 482, Agricultural 101; one of the following: Geology 455, Geography 436, or Agricultural Engineering 340 and 341; and either Geography 334, Geography 434, or Plant and Soil Science 432. The second part of the major consists of meeting the requirements for a minor in one of the environment-related curriculums offered by the various colleges of the University. Most minors are likely to require 15-18 hours. Curricula that would be suitable for an Environment Studies minor include, but are not limited to: Plant and Soil Science, Wildlife and Fisheries Science, Forestry, Geography, Geology, Zoology, Biology, Sociology, Economics, Political Science, or Business Administration.

The minor consists of 18 hours including Latin American Studies 251-252, three hours of an approved Spanish or Portuguese literature/culture course at either the 300 or 400 level, and nine additional hours selected from courses offered by three different participating departments. A practical working knowledge of Spanish or Portuguese is a prerequisite for majors and minors. All students are strongly encouraged to earn credit hours through UT Knoxville's Latin American Studies Abroad Program at the Federal University of Ceara in Fortaleza, Brazil. Other foreign study programs are also available for Brazil and Spanish-speaking Latin America. For further information, consult with Dr. Cynthia Duncan (601 McClung Tower), Chairperson of the Latin American Studies Program.

LINGUISTICS

Chair: Dr. Bethany K. Dumas (English)

This major concentration offers a broad exposure to the various linguistics (including historical, descriptive, theoretical, and applied linguistics) along with an opportunity to study areas where linguistics overlaps with other disciplines such as psycholinguistics, sociolinguistics, and speech pathology. The program of study is designed to prepare a student for graduate work in linguistics or related areas or to serve as a general survey of language and linguistics. The program of study provides the additional possibility of emphasizing the teaching of English as a second language for the student interested in language-related employment at the B.A. level.

Students should consult program advisors early in planning a Linguistics major or minor. Linguistics 200 is highly recommended. Audiology and Speech Pathology 305 should be taken as soon as possible. Other 300-level courses should, if possible, be completed before 400-level courses are begun.

Corequisites: (a) Completion of a third year of foreign language study (literature) which satisfies the Foreign Studies option to fulfill the upper-level distribution requirement (required). (b) A two-semester sequence of one non-Indo-European language to be selected from the following: Asian Studies 121-122 (5,5) (Arabic); Asian Studies 131-132 (5,5) (Chinese); Asian Studies 141-142 (4,4) (Hebrew); Asian Studies 151-152 (5,5) (Japanese); Religious Studies 305-310 (3,3) (Hebrew); other non-Indo-European language sequences approved by the Linguistics Committee (required).

The concentration shall consist of 30 hours distributed as follows: (a) 24 hours composed of Audiology and Speech Pathology 305 (3); English 371, 372, and 471 (3,3,3); French, German, Russian or Spanish 425-426 (3,3); and Linguistics 420-430 (3,3); and (b) 6 hours of the following, selected in consultation with the Linguistics Committee: Anthropology 411 (3); Audiology and Speech Pathology 320, 466, 579, 582, 583 (3,3,3); Educational and Counseling Psychology 467 (3); Special Education and Rehabilitation 522 (3), 532-533 (3,3); English 371, 372, 472, 475, 486, 508-509, 680 (3 hours each); French 421, 422, 521-522 (3 hours each); German 436-436 (3,3), 571-572 (3,3); Linguistics 400 (3), Philosophy 479 (3),
MEDEIVAL STUDIES

Chair: Dr. Paul Barrette (French)

A major concentration in Medieval Studies consists of Medieval Studies 201 and 403 and 21 hours of upper-division courses concerned primarily with the medieval experience, divided among the following three categories: (1) history, philosophy, political science, and religious studies; (2) language and literature; (3) the arts: history of art, architecture, music, and speech and theatre. Courses should either form a related pattern (for example, courses in the literature and history of Medieval England or Italy), or should revolve around a particular discipline or two closely related disciplines (for example, courses in the history of art and architecture).

A concentration in Medieval Studies focuses upon culture and society from the collapse of the Roman Empire to the 16th century. Such a concentration offers the opportunity to deepen one's self-awareness and broaden one's view of the range of human possibilities by studying a very different and remote culture, its conditions of life, social and political institutions, values and ideals, and modes of perception and expression.

Latin is the most appropriate language for students in the Medieval Studies concentration and is essential for those who plan to continue their studies in graduate school. In addition, students planning to go on to graduate school are strongly advised to supplement their Medieval Studies concentration with extensive work in one of the traditional disciplines.

A minor in Medieval Studies consists of Medieval Studies 201 and 403 and 12 additional hours distributed among the categories listed above for the major. Each student's program, major or minor, must be approved in advance by the Medieval Studies Coordinating Committee, chairperson Dr. Paul Barrette.

Category #1—History, Philosophy, and Political Science: History 312 Medieval History: 300-1100 (3); History 313 Medieval History: 1100-1400 (3); History 330 History of England to 1688 (3); History 334 History of Germany to 1871 (3); History 369 History of the Middle East (3); History 474 Studies in Medieval and Early European History (3); Philosophy 322 Medieval Philosophy (3); and Political Science 475 Ancient and Medieval Political Thought (3).

Category #2—Language and Literature: Classics 435 Medieval Latin (3); English 371 Foundations of the English Language (3); English 401 Medieval Literature (3); English 402 Chaucer (3); French 410 Medieval French Literature (3); Italian 401 Dante and Medieval Culture (3); and Italian 402 Petrarch and Boccaccio (3).

Category #3—The Arts: Architecture 415 Seminar in Medieval Architecture (3); Art 371 Early Christian and Byzantine Art to 1550 (3); Art 372 Northern European Painting, 1350-1600 (3); Art 381 Medieval Art of the West, 800-1450 (3); Art 382 The Art of Italy, 1250-1400 (3); and Music History 210 History of Music to 1750 (3).

RUSSIAN AND EAST EUROPEAN STUDIES

Chair: Dr. Lorayne Lester (College of Arts and Sciences)

The major concentration consists of 30 hours from the following: Geography 375, six hours from History 340-341, Philosophy 393; Political Science 459 and four additional hours from Political Science 469, 574; Russian 311-312; Russian and East European Studies 410; and additional hours in courses numbered 301 and above offered by the Russian section of the Department of Germanic and Slavic Languages. Recommended prerequisites to the major concentration are the completion of Russian 201-202 and Russian Culture 371-372.

URBAN STUDIES

Chair: James A. Spencer (Graduate School of Planning)

Urban Studies is a valuable major concentration for students who plan to work in such areas as housing, real estate, development, neighborhood organization, and environmental design.

A major concentration in Urban Studies consists of a minimum of 30 semester hours, including Urban Studies 250, 350, 450, 460, and at least 15 additional semester hours from the Urban Studies curriculum.

A minor consists of 18 semester hours, including Urban Studies 250 and 350 plus additional semester hours from the Urban Studies curriculum. Curricular planning should be done with an advisor in Urban Studies. For more information, contact the chairperson of the Urban Studies Committee.

Approved Courses in other departments: Geography 365 Geography of Appalachia; Rural Sociology 380 Rural Sociology; Sociology 363 The City, 462 Population; and Transportation 302 Transportation Principles and Policies.

WOMEN'S STUDIES

Chair: Dr. Nancy Goselee (English)

Women's Studies encourages inquiry into the full range of the human experience by raising new questions and opening new areas of research concerning women. The discipline enriches the traditional Arts and Sciences curriculum by adding new perspectives on women's lives and accomplishments. Women's Studies can broaden the education of both male and female students by helping them to understand the limitations placed on both sexes by narrowly defined sex roles. Wherever there is a need to understand women and an interest in the new role they are playing in society, Women's Studies can enhance a student's career preparation and opportunities.

The Women's Studies Program offers a wide variety of courses, some interdisciplinary in nature and others originating in supporting departments throughout the university. These courses may be taken as electives, they may be used to satisfy requirements in various colleges, or they may serve as a concentration in Women's Studies within an Interdisciplinary Program major or minor.

The major concentration in Women's Studies consists of 30 semester hours including one of the Images of Women in Literature courses (either 210 or 215), Women in Society (220), Emergence of the Modern American Woman (310), at least three hours of Independent Study (493), and at least one course from each of the three major areas: Women's Heritage (324, 326, 388, 432, 453, 466, 468, 483), Contemporary Issues (375, 382, 410, 425, 434), and Literature and the Arts (330, 332, 422). As its content varies, 400 may be included in any of these areas. Students are encouraged to take at least nine hours in one of these areas.

The Women's Studies minor consists of one of the Images of Women in Literature courses (either 210 or 215), Women in Society (220), and an additional 12 hours of upper-division Women's Studies courses. Approved special topics courses related to Women's Studies may also be applied toward a major or a minor.

ITALIAN

See Romance and Asian Languages.

JAPANESE

See Interdisciplinary Programs (Asian Studies).

LATIN

See Classics.

LATIN AMERICAN STUDIES

See Interdisciplinary Programs.

LINGUISTICS

See Interdisciplinary Programs.

MATHEMATICS

Professors: J.B. Conway (Head), Ph.D. Louisiana State; N. Alkakos, Ph.D. Brown; V. Alosiades, Ph.D. Delaware; P.F. Anderson, Ph.D. Chicago; G.A. Baker, Ph.D. Cornell; J.S. Bradley (Emeritus), Ph.D. Iowa; J.H. Carruth, Ph.D. Louisiana State; E.E. Chastain, Ph.D. Florida; R.J. Daverman, Ph.D. Wisconsin; D.J. Dessart, Ph.D. Maryland; D.E. Dobbs, Ph.D. Cornell; G.
the requirements for the B.S. degree in Mathematics, but take 12 (rather than 9) hours in Mathematics 499 and Mathematics courses numbered 421 through 472. The grade point average computed on the 24 hours of Mathematics courses consisting of 232, 341, 351, and 371, plus the aforementioned 12 hours, will determine the honors category: GPA at least 3.4 - Honors; GPA at least 3.8 - High Honors; GPA at least 3.8 - Highest Honors.

Students with credit for more than 12 hours in Mathematics 499 and Mathematics courses numbered 421 through 472 may designate the 12 hours to be included in the above average. Minor: Mathematics 141-142 (or 147-148) is prerequisite to a minor in Mathematics. A minor in Mathematics consists of (1) 121 and 251; (2) 221 or 231; and (3) three additional hours in Mathematics courses numbered 300 or higher. The grade in each of the above courses must be at least C.

MEDIEVAL STUDIES
See Interdisciplinary Programs.

MICROBIOLOGY

Professors:
Dwayne C. Savage (Head), Ph.D. California (Berkeley); R.W. Beck (Emeritus), Ph.D. Wisconsin; J.M. Becker, Ph.D. Cincinnati; D. Bernis, Ph.D. Cornell; D.A. Brian, Ph.D. D.V.M. Michigan State; T.C. Montie, Ph.D. Maryland; P.N. Moore, Ph.D. Texas (Austin); W.S. Rigsby, Ph.D. Yale; B.T. Rouse; Ph.D. Rhode Island; G.S. Saylor, Ph.D. Idaho; Stacey, Ph.D. Texas (Austin); D.C. White (Distinguished Scientist), Ph.D. Washington; M.D. Tull's, Ph.D. Rockefeller; J.M. Woodward (Emeritus), Ph.D. Kansas; C.J. Wust, Ph.D. Indiana.

Assistant Professors:

B.S. Major: Prerequisites are Biology 150 or 110-120, 210-220, Chemistry 120-130, and Mathematics 151-152 or 141-142, and Physics 221-222 or 251-232. The major consists of Chemistry 390-360-369, Microbiology 410, Microbiology 310, 319, 320, 329, 12 additional hours of 400-level Microbiology courses.

Honors B.S. Major: An honors major is offered to selected students who have achieved junior standing and have completed the required 300-level Microbiology courses with a minimum grade point average of 3.5 in Microbiology courses and 3.2 for all courses. In addition to these 300-level courses, an honors major requires successful completion of 15 additional hours of 400-level Microbiology courses, including 401 and 402.

MEDICAL TECHNOLOGY
Courses in this major are open only to qualified students who have completed the first three years of the Science-Medical Technology Curriculum, described in the College of Arts and Sciences curricula section of this catalog, and who have been approved by the Medical Technology Admissions Committee.
In June of 1991, the merger of the Departments of Music and Music Education into a single unit within the College of Arts and Sciences was approved by the Board of Trustees. All inquiries regarding degrees in music and music education should be directed to the Department of Music.

**Bachelor of Music Degree:** The Department of Music offers curricula leading to the Bachelor of Music degree with concentrations in music theory, composition, electronic music, music history and literature, and applied music (voice; piano; organ; sacred music-organ or piano; sacred music-vocal pedagogy and literature; strings; woodwind, brass, and percussion instruments; studio music and jazz; string pedagogy). This study prepares students for graduate music study or for positions in music for which a professional music degree is required.

The General Education (6 hours foreign language requirement) is in addition to the University admission requirement. Students may continue at the 200 level in a language begun in high school or to elect a new language at the 100 level. Students majoring in vocal performance must complete one year of each of two languages chosen from French, German, and Italian. Students majoring in music history and literature must complete two years of either French or German.

**ENSEMBLES**

Ensemble participation during each semester of residence is required of all students studying applied music. String, woodwind, brass, and percussion students must meet the following ensemble requirements: (1) string students must participate in orchestra each semester; (2) woodwind, brass, and percussion students must acquire a minimum of four credits in any of the following ensembles: marching band, concert band, campus band, symphony orchestra, jazz ensemble; (3) voice students must acquire a minimum of four credits in any of the following ensembles: Concert Choir, Chamber Singers, University Chorus, Women's Chorale.

A student's preference for musical organization will be honored whenever possible, but factors considered in making the assignment will include playing ability, specific needs of various organizations, and previous performance experience at the University.

**APPLIED MUSIC**

Applied study is classified as Principal or Secondary. Students studying their principal (major) instrument register for credit appropriate to their program, 2-4 credit hours; students studying a secondary instrument register for 1 hour of credit. Study at the principal level receives one hour of private instruction per week or a one-hour class lesson plus a half-hour private lesson. Determination of the mode of instruction rests with the department. Study at the secondary level receives one-half hour private instruction per week or its equivalent in class instruction. Applied music courses do not permit non-credit registration nor may students elect non-conventional grading.

Non-music students will be accepted at the secondary level if they meet audition requirements established by area faculty (piano, voice, violin, etc.) and instruction time is available.

Al students majoring in music are required to pass the Junior Music Examination, which must be taken concurrent with or subsequent to enrollment in Music Theory 220, 240 and Music History 220. The examination consists of three sections: ear training, music theory, and music history and is administered annually in April, on the second day of Fall registration, and in October. Students may retake once on the next scheduled date any sections of the examination they miss the first time. Students should register to retake the examination only after substantial review of the materials failed. Appeals for additional testing must be presented to the Undergraduate Committee of the Department.

Students transferring into the Department as majors at the junior level or above are required to pass the examination.

Departmental study guides for all sections of the examination are available in the Department Office.

All music majors are required to register for Music General 200 - Solo Class. The requirements for this course are to attend scheduled concerts, recitals, master classes, repertoire, and solo classes, and to perform at least once each semester as partial fulfillment of applied music credit requirements.

Applied Music Fees: $45 per semester for half-hour lesson (1 credit hour) $90 per semester for hour lesson (2-4 credit hours).

Computer registration and applied music fee payment must be verified in the Department of Music office no later than the end of the second day of classes of the fall and spring semesters and the first day of the summer terms in order to be accepted for applied music study.

Applied music fees are not refundable after lessons have been scheduled.

**Bachelor of Music in Music Education:** Students seeking licensure to teach music in the public schools should pursue one of the options within this degree program. Four-year and five-year options are available to prepare teachers for instrumental teaching or for the teaching of vocal and general music. The four-year program leads to a Bachelor of Music degree with teaching licensure. The five year program provides for the granting of the degree at the end of four years, with teacher licensure being awarded after a fifth-year, graduate level internship. Students choosing the five year program earn twenty-four hours which may be applied to the Master's degree.

The Department of Music requires all music students to participate, with credit or as a registered auditor, in a major instrumental or vocal organization each term in residence (on campus) as a music major, as approved by the student's advisor and the directors of the organizations concerned. Students preparing to be band directors are expected to enroll in marching band unless officially excused. **Instrumental Major Options:** Concert Band, Campus Band, University Marching Band, or University Orchestra. **Vocal Major:** Concert Choir, University Choir, Chamber Singers.

**Bachelor of Arts Degree:** The Department of Music offers curricula leading to the Bachelor of Arts degree with a major and minor in Music, designed for those students who have a strong interest in music, but desire a comprehensive liberal education.

The Bachelor of Arts Degree - Major Music Courses Requirements **Prerequisites:** Music Theory 110, 120 (6); Music Theory 130, 140 (2); Music Performance 100 level (2). Courses toward the major: Music Theory 210, 220 (6); Music History 200 (3); Music History 210, 220 (6); Music Performance 200 level or above (four semester minimum) (6); Music General 200 - 4 semester minimum (6); Music Ensemble 4; Music Theory 310 (3); 3 hours selected from: Music History 350, 380, 380. **Music Electives** (0-3 hours) selected from: Music History 480 (3); Music General 301 (0); Music Theory 493 or Music History 493 (3); Music General 411 (0). Total of 43-46 hours.

**Music Minor** (a) Concentration in Applied Music - consists of 17 hours in courses numbered 200 and above, distributed as follows: Music History 200, 8 hours in applied music, and 6 hours in music electives. Prerequisites are Music General 100 or equivalent and two semesters of applied music study (Music Performance) at the 103-190 levels. (b) Concentration in Music History and Literature - consists of 17 hours in courses numbered 200 and above, distributed as follows: Music History 200, 9 hours in Music History and Literature courses, and 5 hours in music electives. Prerequisites are Music General 100 or equivalent and two semesters of applied music study at the 103-190 levels.

**B.M. Curriculum in Music Education-Instrumental Emphasis**

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<th>College of Arts and Sciences</th>
<th>Hours Credit</th>
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Total: 127 hours

1 Must be chosen from French, German, or Italian.
2 Full Recital Optional with approval of major area.
### B.M. Curriculum in Music Education-Instrumental Emphasis (4 year alternative)

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<thead>
<tr>
<th>Year</th>
<th>Courses</th>
<th>Hours Credit</th>
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*Must be chosen from French, German, or Italian.

*Full Recital Option with approval of major area.

### B.M. Curriculum in Music Education-Vocal/General Concentration Keyboard Emphasis (4 year alternative)

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*Must be chosen from French, German, or Italian.

*Full Recital Option with approval of major area.
### B.M. Curriculum in Piano

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*Must be chosen from French, German, or Italian.*

### B.M. Curriculum in Sacred Music (Organ or Voice)

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*Must take 1 year of French, German, or Italian.*

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*Must be chosen from French, German, or Italian.*
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### B.M. Curriculum in Studio Music and Jazz

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### B.M. Curriculum in Woodwind, Brass and Percussion Instruments

<table>
<thead>
<tr>
<th>Level</th>
<th>Code</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
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<tr>
<td>English</td>
<td>Composition 101, 102</td>
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<tr>
<td>Music</td>
<td>Theory 110, 120</td>
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<tr>
<td>Music</td>
<td>Theory 130, 140</td>
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<td>Music</td>
<td>History 300</td>
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<td>Music</td>
<td>Ensemble</td>
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<tr>
<td>Music</td>
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<td><strong>Sophomore</strong></td>
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<td>Music</td>
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<td>Music</td>
<td>History 380</td>
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<td>Music</td>
<td>History 380</td>
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<td>Music</td>
<td>Performance 395, 495, Lecture</td>
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<td>Music</td>
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<td>Music</td>
<td>Option B: Electronic Composition</td>
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<td>Music</td>
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<td>Music</td>
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<td>Music</td>
<td>Performance 394, 495, Independent Study</td>
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<td>Music</td>
<td>History Elective (300 level and above)</td>
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<td>Music</td>
<td>Humanities-Electives</td>
<td>6</td>
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</table>

### Organizational Psychology Program

See Graduate School.
PHILOSOPHY

Professors:
G.S. Breneman (Head), Ph.D. Michigan; R.E. Aquila, Ph.D. Northwestern; L.B. Cablk, Ph.D. Nebraska; R.B. Edwards, Ph.D. Emory; G.C. Gruber, Ph.D. Michigan; F. H. Marsh, Ph.D. Tennessee; B.C. Postov, Ph.D. Yale; D. Van de Vate, Ph.D. Yale.

Associate Professors:
J.O. Bennett, Ph.D. Tulane; S.M. Cohen, Ph.D. Northwestern; K.A. Bohstedt, Ph.D. Ohio State; J.E. Nolt, Ph.D. Ohio State; M.L. Osborne, Ph.D. Pennsylvania.

Assistant Professors:
F.E. Baylia, Ph.D. Western Ontario; H.P. Hamlin, Ph.D. Georgia; M. Lonzi (Adjunct), Ph.D. Pennsylvania.

Major Prerequisite: Three hours of logic, normally 130 or 135. Requirements: 24 hours of courses numbered 200 or above, including three hours of ethics, normally 240 or 443, and six hours in the history of philosophy, three in ancient, normally 320, and three in modern, normally 324. Majors are required to discuss their programs with a member of the Philosophy faculty.

Minor: 18 hours in courses 200 or above. Minors should discuss their program with a member of the Philosophy faculty.

PHYSICS AND ASTRONOMY

Professors:
W.M. Bugg (Head), Ph.D. Tennessee; C.R. Bingham, Ph.D. Tennessee; W.E. Blasi, Ph.D. Michigan State; A.A. Breazeale, Ph.D. Michigan State; M.J. Brown, Ph.D. Oregon; W.M. Bugg, Ph.D. Tennessee; J. Burgdorfer, Ph.D. Freie Universität Berlin; T.A. Callcott, Ph.D. Purdue; R.W. Childeford, Ph.D. Vanderbilt; L.G. Christophorou, Ph.D. Manchester (England); G.T. Condon, Ph.D. Illinois; W.E. Dads (Emeritus), Ph.D. Ohio State; K.E. Duckett, Ph.D. Tennessee; A.G. Eklund, Ph.D. Brown; S.B. Elston, Ph.D. Brown; C.G. Frey, Ph.D. Brown; N.M. Gaton (Head), Ph.D. Ohio State; S. Georgiou, Ph.D. Manchester (England); M.W. Guidry, Ph.D. Tennessee; T.H. Handler, Ph.D. Rutgers; E.G. Harris (Emeritus), Ph.D. Tennessee; E.L. Hart, Ph.D. Cornell; H.C. Jacobson, Ph.D. Yale; D.T. King (Emeritus), Ph.D. Brillié (England); J.W. Lewis (UTSI), Ph.D. Missouri; I. Mississipii; J. Macek (Distinguished Scientist), Ph.D. Rensselaer Polytechnic Institute; G.D. Madill (Distinguished Scientist), Ph.D. University of California (Berkley); A.A. Mason (UTSI), Ph.D. Tennessee; W.K. McGregor (UTSI), Ph.D. Tennessee; W. Nazarewicz, Ph.D. Warsaw; E.F. Obershan, Jr., Ph.D. Pittsburgh; L.R. Painter, Ph.D. Tennessee; D.J. Pegg, Ph.D. New Hampshire; E.W. Plummer, Ph.D. Cornell; J.J. Quinn, Ph.D. Maryland; L.L. Riedinger, Ph.D. Vanderbilt; I.A. Sellin (Chancellor's Research Scholar), Ph.D. Chicago; C.C. Shih, Ph.D. Cornell; S.P. Sorenson, Ph.D. Copenhagen (Denmark); M.R. Strayer, Ph.D. Massachusetts Institute of Technology; J.R. Thompson (Emeritus), Ph.D. Duke; J.O. Thompson, Ph.D. Illinois; G.W. Wheeler (Emeritus), Ph.D. Yale; J.W. White (Emeritus), Ph.D. North Carolina.

Associate Professors:
F.E. Barnes, Ph.D. Cal Tech; J.W. Mehlhauiser (UTSI); Ph.D. Tennessee; S.Y. Shieh, Ph.D. Maryland.

Assistant Professors:
G. Canright, Ph.D. Tennessee; S.J. Daunt, Ph.D. Queens (Kingston, Ontario, Canada); R. Harmatz, Ph.D. Ohio State; J.C. Levin, Ph.D. Oregon; K.F. Read, Ph.D. Cornell; A.J. Sanders, Ph.D. Tufts; G.B. Siopsis, Ph.D. California Institute of Technology; H.H. Wetterting, Ph.D. Groningen.

Research Professors:
I. Kamchikov, Ph.D. ITEP (Russia); J. Zhang, Ph.D. Lanzhou.

Research Associate Professor:
D.L. McCorkle, Ph.D. Tennessee.

Research Assistant Professors:
X. Chen, Ph.D. Purdue; P.E. Datskos, Ph.D. Tennessee; L. Davis (UTSI), Ph.D. Auckand; Y.Y. Efremenko, Ph.D. ITEP (Russia); A. Mezzacappa, F.D. Texas (Austin); W.E. Ormand, Ph.D. Michigan State; L.A. Pinnaduwa, Ph.D. Pittsburgh; C.O. Reindold-Larsson, Ph.D. Buenos Aires; S.A. Yost, Ph.D. Princeton.

Laboratory Director:
J.E. Parks, Ph.D. Kentucky.

PHYSICS

B.S. Major: The undergraduate physics major provides a thorough introduction to all of the core disciplines of physics so that students are prepared to pursue related specialties later in their careers. Students with special interests are encouraged to pursue one or more interests through research projects and/or independent study under the direction of members of the Physics faculty.

Minor: A minor in physics shall consist of Physics 133-134, 240, and twelve hours from Physics and Astronomy courses numbered 300 and above.

POLITICAL SCIENCE

Professors:
Michael M. Gant (Head), Ph.D. Michigan State; Douglas H. Carlisle (Emeritus), Ph.D. North Carolina; Robert G. Cunningham, Ph.D. Indiana; Michael R. Friedman, Ph.D. Oklahoma; Robert Gorman, Ph.D. New York; Vernon R. Iredell, Ph.D. Chicago; William Lyons, Ph.D. Oklahoma; Hyrum Plass, Ph.D. Utah; Nelson M. Robinson (Emeritus), Ph.D. Syracuse; John M. Scheibner, Ph.D. Florida; Thomas A. Smith, Ph.D. Ohio State; Otis H. Stephens, Jr. (Alumni Distinguished Service Professor), Ph.D. Johns Hopkins; Thomas D. Jeng, Ph.D. Iowa; David M. Welborn, Ph.D. Texas.

Associate Professors:
Gill E. Evans, Ph.D. Columbia; David H. Folz, Ph.D. Tennessee; Patricia K. Freeland, Ph.D. Wisconsin; Robert L. Peterson, Ph.D. Yale; Thomas M. Simpson, III (Emeritus), Ph.D. Johns Hopkins.

Assistant Professors:
David J. Houston, Ph.D. SUNY-Binghamton; Anthony J. Nowinski, Ph.D. Kansas; Lillian E. Richardson, Ph.D. Texas; Jan E. Salingher-McBride, Ph.D. California-Santa Barbara; Yang Zhong, Ph.D. Kentucky.

B.A. Major: Political Science 101 or 107, 102 and 201 are prerequisites to the major. Students must complete all three courses with no grade below "C" in any of the three courses, and with a "A" of at least 2.25 in the three courses, before they are accepted as majors in Political Science. The major consists of 24 hours of courses numbered 300 and above. These 24 hours must include at least one course in each of the four areas of the discipline.

United States Government and Politics:
311, 312, 315, 320, 321, 322, 320, 331, 340, 410, 411, 420, 421, 430, 431, 440, 441 and 442

Comparative Government and Politics:
350, 365, 381, 452, 454, 455, 455, 461, 463, 464

International Relations:
365, 366, 370 and 470

Political Theory:
374, 475 and 476.

Students whose GPA in political science courses, or in all courses, falls below 2.25 will be given a warning. If after one semester's grades have been received, either the overall GPA or the GPA in political science courses is below 2.25, the student will be dropped as a major in Political Science. Students who subsequently raise the GPA to at least 2.25 may reapply for admission as a major in Political Science, and will normally be readmitted.

Minor: Prerequisites to the minor are Political Science 101 or 107 and 102. The minor consists of 15 hours of courses numbered 300 and above.

Honors in Political Science: The Honors Concentration encourages highly motivated students to obtain a superior liberal education and more rigorous preparation in the discipline. Admission is selective. The Honors Concentration is normally a two-year program. Political Science 101 or 107, 102 and 201 are prerequisite to the major which consists of 27 hours: 387-388, 487-488, and 15 additional hours, which must include at least one course in each of the four areas of the discipline described under the B.A. major. Political Science 387 and 388 may be used to satisfy this requirement in the appropriate area.

To graduate with Honors in Political Science, the student must have a minimum GPA of 3.3 in Political Science, and a minimum cumulative GPA of 3.0.

Major in Political Science with a Concentration in Public Administration: Students majoring in Political Science who wish to prepare for a career in the public service may elect to follow the concentration in Political Science. Political Science 101 or 107, 102 and 201 and Economics 201 are prerequisites to the major in Political Science with a concentration in Public Administration. Corequisite courses are Mathematics 121 and Mathematics 115 or Statistics 201 and Accounting 201 and 202. Majors must earn a "C" or better in prerequisite and corequisite courses. The con-
PSYCHOLOGY

Professors:
Warren H. Jones (Head), Ph.D. Oklahoma State University; G.M. Burghardt (Alumni Distinguished Professor), Ph.D. Chicago; A.G. Burstein, Ph.D. Chicago; W.H. Calhoun, Ph.D. California (Berkeley); C.P. Cohen, Ph.D. Kansas; H.J. Fine (Emeritus), Ph.D. Syracuse; S.J. Handel, Ph.D. Johns Hopkins; L. Hansen, Ph.D. Michigan State; J.E. Lawler, Ph.D. North Carolina; K.A. Lawler, Ph.D. North Carolina; J.W. Lounsbury, Ph.D. Michigan State; J.F. Lubar, Ph.D. Chicago; J.C. Malone, Ph.D. Duke; K.R. Newton (Emeritus), Ph.D. Tennessee; H.R. Pollio (Alumni Distinguished Service Professor), Ph.D. Michigan; F. Samejima, Ph.D. Keio (Japan); R.A. Saudargas, Ph.D. Florida State; R.S. Shrader (Emeritus), Ph.D. Tennessee; E.D. Sundstrom, Ph.D. Utah; C.B. Travis, Ph.D. California (Davis); R.G. Wahler, Ph.D. Washington; J.A. Wiberly (Emeritus), Ph.D. Syracuse.

Associate Professors:
M.G. Johnson, Ph.D. Johns Hopkins; A. McIntyre, Ph.D. Yale; W.G. Morgan, Jr., Ph.D. Tennessee; M.R. Nash, Ph.D. Ohio.

Assistant Professors:
D. Baldwin, Ph.D. Kent State; R.E. Hopson, Ph.D. Michigan State; Deborah P. Welsh, Ph.D. Univ. of Mass.

Major: The Department offers two concentrations, General and Academic. The General Concentration is a broad major with many options. The Academic Concentration is intended for those students planning postgraduate study in psychology or a related field and has fewer options.

All students wishing to follow the General Concentration must satisfy prerequisites of one year of a biological science (e.g., Biology 110-120), Psychology 110 with a grade of C or better, and a GPA of at least 2.00. Completion of this Concentration requires: (1) Psychology 210 or 220; (2) Psychology 395 and one semester of 396; (3) Two courses from Psychology 330, 310, 320, 330, 340, and 370; (4) One course from Psychology 410, 450, and 461; (5) One course from Psychology 400, 420, and 480; (6) One course from Psychology 440, 445, and 470; (7) Psychology 496; (8) One semester of 459, 469, or 489; and (9) One elective course at the 300 or 400 level. Completion of the Academic Concentration requires a maintenance of 2.25 GPA. At any time a student drops below this level, he or she will be transferred to the General Concentration, and must apply for readmission upon achieving a 2.25 or better GPA. Re-admission is not automatic, and review of the student's total program will be undertaken, before a decision is made about re-admission to the Academic Concentration.

Minor: Consists of 110 or equivalent; 210 or 220; and 12 additional upper-division hours. NOTE: 389, 489, 491, 492, 493 cannot be used in this minor.

RELIGIOUS STUDIES

Professors:
C.H. Reynolds (Head), Ph.D. Harvard; F.S. Lusby (Emeritus), M.Div. Colgate (Rochester); D.L. Dungan, Th.D. Harvard; W.L. Humphreys, Ph.D. Union; D.E. Vanderbilt; R.V. Norman, Jr., Ph.D. Yale.

Associate Professors:
J.L. Fitzgerald, Ph.D. Chicago; R.W. Gwynne, Ph.D. Washington; R.J. Hackett, Ph.D. Aberdeen; J.O. Hodges, Ph.D. Chicago; Mark Huselius, Ph.D. Minnesota; M.L. Levering, Ph.D. Harvard; Gerda Schmidt, Ph.D. Pittsburgh.

Adjunct:

Instructors:
D.G. Deffenbaugh, M.A. Vanderbilt; R.T. McCutcheon, Ph.D. Toronto.

Major: The basic concentration is designed to assure that students attain skills to analyze and interpret religious phenomena in different cultures and in different historical periods, including how sacred texts and traditions, and interpretations of critical reasoning, inform and are informed by religion. The basic concentration consists of at least 24 hours of religious studies courses at the 300 level or above, including 300, one course from the first six categories listed below, and two courses from the second six categories listed below.

- religion, 301, 305, 342, or 371; (2) religion and culture in the United States, 351, 352; (3) two 400 level seminars on methods of interpreting religious phenomena, at least one of which must be 499. The remaining 3 hours which complete this major shall not include related language courses.

As an alternative to the basic concentration, a student-initiated concentration is available for students with special educational needs, such as those who intend to enter a graduate or professional school (seminary, law, medicine) which recommends a specific course of undergraduate study. A faculty member in Religious Studies will assist a student to formulate this major consisting of at least 27 hours of credit at the 300 level or above, including 300 and 499. Up to 9 hours in this major may be taken in approved courses from other programs or departments in the College of Arts and Sciences. Students whose vocational goals would best be served by such a major must discuss this option with a faculty member in the department, who will submit any specific proposal to the faculty in religious studies for approval.

Further details on the major and on department courses are available in the department office, located in 501 McClung Tower, or from any member of the religious studies faculty.

Minor: Fifteen hours of courses at the 300 level or above, not including related language courses. It is recommended that students minor in religious studies discuss their program with a member of the department faculty.

ROMANCE AND ASIAN LANGUAGES

Professors:
J.B. Romeiser (Head), Ph.D. Vanderbilt; P.E. Barrette, Ph.D. California (Berkeley); P. Brady, Ph.D. Université de Paris (Sorbonne); C.W. Cobb, Ph.D. Tulane; J.C. Elliott (Emeritus), M.A. Illinois; M.H. Handselman, Ph.D. Florida; W.H. Hefflin, Jr., Ph.D. Florida State; T.B. Irving (Emeritus), Ph.D. Princeton; K.D. Levy, Ph.D. Kentucky; F.D. Maurino (Emeritus), Ph.D. Columbia; C.R.M. Pinsky (Emeritus), Ph.D. California (Berkeley); M. Petrovaska (Emeritus), Ph.D. Kentucky; Oscar Rivera-Rodas, Ph.D. California; A.M. Vazquez-Big (Emeritus), Ph.D. Minnesota; A.H. Wallace (Emeritus), Ph.D. North Carolina; Y.M. Washburn, Ph.D. North Carolina.

Associate Professors:
F. Brizio, Ph.D. Washington; E.J. Campion, Ph.D. Yale; O. Cazenave, Ph.D. Penn State; B. Creel, Ph.D. California; R.M.E. DeFlyecke, Ph.D. Illinois; S. DiMaria, Ph.D. Wisconsin; D.M. DiPuccio, Ph.D. Kansas; C.K. Duncan, Ph.D. Illinois; C. Holmurl, Ph.D. Wisconsin; D.J. Young, Ph.D. Texas.

Assistant Professors:
M. Beauvois, Ph.D. Texas; C. Cox (Emeritus), M.A. Tennessee; Jose DaCruz, Ph.D. University of California, L. Ehrlich, Ph.D. Hawaii; L. Essif Ph.D. Brown; E. Johnson, Ph.D. Tennessee; J. LaCure, Ph.D. Indiana; E. Lewis Ph.D. Virginia; C. Nakuma, Ph.D. Universite De Paris (Sorbonne); E. Silvalitho, Ph.D. North Carolina; D. Wilkerson, Ph.D. Yale; Wilson (Emeritus), M.A. Tuffs; D. Young, Ph.D. Texas.

Instructors:
A. McKeaby, M.A. Tulane; M.T. Rabot (Emeritus), Cert. de Lic. Poitiers.
French Major: Consists of 30 hours in courses numbered 232 and above. All majors must have the following courses (or their equivalent with consent of the department): 333 or 334; 345; 351-352; 353; 421; 422; 440. Literature concentration students must also have 6 hours of literature at the 400 level, 3 hours of which must be either 410, 411, 412, 413, 414, or 415; a language-oriented or civilization courses at the 300 or 400 levels. Japanese concentration students must also have 9 hours of language-oriented or civilization courses at the 300 or 400 levels.

French Minor: Consists of 18 hours in courses numbered 311 or above. Students pursuing a minor must consult with a departmental advisor.

Portuguese Minor: Consists of 18 hours in courses numbered 300 or above. Students pursuing a minor must consult with a departmental advisor.

Italian Minor: Consists of 18 hours in courses numbered 311 or above. Students pursuing a minor must consult with a departmental advisor.

Italian Major: Consists of 27 hours in courses numbered 311 and above. Students pursuing a minor must consult with a departmental advisor.

Italian Major: Consists of 30 hours in courses numbered 323 or above. The following are required: 333, 334, 345, 351-352; 353; 421; 422; 440. Students must also have a minimum of 3 hours of civilization, either 431 or 471; a minimum of 6 hours of conversation and composition from 323, 324, 423 or 424; and a minimum of 6 hours of literature from 432, 435, 436, 450, 451, 452, 461, 473, 474, 479. Majors are encouraged to take as many hours as possible, especially the surveys, 435-436 and 473-474.

Spanish Minor: Consists of 18 hours in courses numbered 232 or above, including 335 and 336; 422; one course in conversation and composition from among the following: 323, 324, 423, 424; and the remaining courses to be chosen among conversation and composition, civilization, phonetics, or literature. Students pursuing a minor are strongly advised to consult with a advisor.

Major in French, Italian, or Spanish with a Concentration in Language and World Business or major concentrations in Language and World Business—Japanese or Portuguese: Students who wish to prepare for careers in international business may complete (a) a special language major in either French, Italian, or Spanish, or a major concentration in Language and World Business—Japanese or Portuguese, (b) a professional minor in either International Business, International Retail Merchandising, or International Agricultural Economics, and (c) some form of practical experience related to the concentration. Admission is by permission of the program director.

(a) The Special Language Major:
(1) The French major consists of 33 hours. The following are required: French 333, 345, 351, 352, 432, 440, 441, 440, 445, a 400-level literature elective, and 3 hours of 491, 490 or 493.
(2) The Italian major consists of 27 hours. The following are required: Italian 311-312, 314, 341, 401, 490 or 491, and 9 hours of any 400-level literature course.
(3) The Language and World Business Japanese major concentration consists of 30 hours. The following are required: Japanese 251-252, 351-352, three hours of 490 or 491, and 9 hours of courses from the following: Art 386, Asian Studies 102 or 471 (if related to Japan), History 365, Japanese 313 or 314, Religious Studies 383.
(4) The Language and World Business Portuguese major concentration consists of 33 hours. The following are required: Portuguese 301-302, 309, 315, 316, 409, 431, six hours of 490 or 490 as approved by the director of the program, History 360 or 361, three hours of an approved Latin American Studies course.
(5) The Spanish major consists of 30 hours. The following are required: Spanish 233, 333, 336, 345, 422, 431 or 471, 459, three hours of 490 or 491, and any 400-level literature course.

(b) The Professional Minor:
(1) International Business students will take 24 hours. The following are required: Accounting 301, 401, 421, and Business Administration 456. Students then choose two courses from the following General Business courses: Marketing 301, Management 301, 303, Logistics and Transportation 301, 302, Finance 301, or Business Law 301. Students choose three courses from the following International Business courses: Management 471, Marketing 440, Logistics and Transportation 441, Economics 321, Business Administration 311, Retail and Consumer Sciences 421.
(2) International Retail Merchandising students will take 25 hours. The following are required: Accounting 301, Marketing 301, Retail and Consumer Sciences 210, 310, 321, 410, 421, and three credit hours from the following: RSC 350, 411, 412, 415, 450 or 493.
(3) International Agricultural Economics students will complete 24 hours. The following are required: Accounting 201, Agricultural Economics 210, 320, 342, 350, 420, 430, and three hours of the following: Management 301, Management 301, Business Administration 311, Business Administration 311, Retail and Consumer Sciences 421.
(c) Practical experience: Through French 490, Italian 490, Portuguese 490, or Spanish 490, each Language and World Business student must undertake study abroad, an internship, or a relevant research project for a minimum of 3 hours (included in major requirements).

Additionally, Language and World Business students must consult an advisor in the Department of Romance and Asian Languages for help in selecting relevant courses under the Basic Skills and Distribution requirements of the College. Students interested in the Language and World Business program should contact the Director for advising as early as possible in their college careers. Students must have attempted 60 hours in order to be considered for progression to the major. Their academic records presented will be assessed by the Director of Language and World Business. Minimum requirements for progression to the concentration are a 2.75 cumulative average in the courses specifically required by the College of Arts and Sciences in Basic Skills and Distribution Areas and in the Language and World Business plan of studies, and 3.0 average in language courses. Course prerequisites for the program include: French, Spanish, Portuguese, Italian, or Japanese 199, Economics 201 (under Social Science electives), and Math 121 and Statistics 201 (under Part II of the Natural Science electives). Progression is based on availability of space in the program. Progression standards are adjusted periodically, and current requirements are available from the Director of the Language and World Business Program. For further information, inquire in T-1208 McClung Tower.

Placement Examination: Students who have had two or more years’ work in French, Italian, or Spanish in high school or one year’s work in another college should register in French, Italian, or Spanish 211. During the first week of the semester a placement test will be given, and students will be advised if a change in registration is indicated.

Proficiency Examinations: Students who have acquired a knowledge of French, Italian, or Spanish through private study, tutoring, residence in foreign countries, or the like should initiate a request for a proficiency test in the Office of the Dean of Admissions and Records. A student earning a grade of C or better on such a test will receive credit for a limited number of courses. Superior students are encouraged to proceed as rapidly as their achievement permits.

Study Abroad: Four summer study abroad opportunities are available to students through the Department of Romance and Asian Languages. The department sponsors programs in Brazil, France, Italy, and Mexico. Students can earn up to six credit hours by participating in these programs. In most cases, the courses will fulfill part or all of the foreign language requirement (completion of the elementary or intermediate level). Upper division classes in literature, culture, and language are also available for major and minor credit. Participation in these programs will satisfy the foreign study requirements for the Language and World Business degree. A faculty member accompanies students on the program. In addition to formal classes held at a major university in the city, group excursions to cultural and historical sites are an integral part of the programs. For more information concerning prerequisites, lodging arrangements, costs, and dates of an individual program, contact the Department of Romance and Asian Languages, 601 McClung Tower.

RUSSIAN
See Germanic and Slavic Languages.

RUSSIAN AND EAST EUROPEAN STUDIES
See Interdisciplinary Programs.

Sociology

Professors:
D.M. Betz, Ph.D. Michigan State; J.A. Black, Ph.D. Iowa; D. Clelland, Ph.D. Michigan State; D.W. Hastings, Ph.D. Massachusetts; T.C. Hood, Ph.D. Duke; D.P. Hoch, Ph.D. North Carolina; N.E. Shover, Ph.D. Illinois (Urbana); S.E. Wallace, Ph.D. Minnesota.

Associate Professors:
M.L. Benson (Head) Ph.D. Illinois; S. Cable, Ph.D. Pennsylvania State; D.K. Harris, M.A. Tennessee.

Instructor:
D.K. Harris, M.A. Tennessee.
Major: Before applying to the Sociology Department for admission to the major a student must complete either Sociology 110 or 120 and Sociology 200 with no grade lower than a C and with a 2.5 average for the two courses. Upon granting admission to the major, the department will assign the student an academic advisor who will help the student plan a program of study for the major. The major consists of 24 upper-division hours in sociology and must include Sociology 321 and 331. Students should complete Sociology 321 and 331 by the end of their junior year.

Minor: The minor consists of 15 upper-division hours in Sociology and must include Sociology 321 and 331. Prerequisites to the minor are six lower-division hours in Sociology which must include Sociology 200.

Concentration in Criminal Justice: All prerequisites and upper-division courses required for general majors are required for this concentration. In addition, the concentration consists of 18 hours of upper-division sociology as follows: 360, 464, either 344 or 345, and eighteen hours of upper-division sociology courses as follows: 350, 351, 451, either 455, 459, or 492, and two courses selected in consultation with advisor.

Concentration in Environment and Sociology: All prerequisites required for the major are required for this concentration. An additional prerequisite is Geology 101 and 103; or 202 plus Geology 201 or 203; or Botany 306 and 309. The Concentration in Environment and Sociology consists of Sociology 321 and 331 and eighteen hours of upper-division sociology courses as follows: 360, 464, either 344 or 345, either 442 or 446, and two courses selected in consultation with advisor.

Minor with Concentration in Environment and Sociology: Prerequisite to the minor is Sociology 110 or 120. The minor consists of Sociology 200, 321, 331, and two courses from 344, 345, 442, 446 and 464.

COLLEGE SCHOLARS HONORS

Director: Dr. Harry C. Jacobson

College Scholars is a major with selective admission. For details contact the director. All Scholars must enroll in one of the College Scholars Seminars 317-318 each term. They are encouraged to complete work in College Scholars Honors 491-492-493. Each student must complete a substantial piece of research, scholarship or creative imagination. College Scholars 498 is the appropriate course to use to receive credit for this work.

SPANISH

See Romance and Asian Languages.

SPEECH COMMUNICATION

Professor: F.D. Julian (Head), Ph.D. Tennessee; L.W. Lester, Ed.D. Tennessee; G.A. Yeomans (Emeritus), Ph.D. Louisiana State.

Associate Professors: M.L. Ambrester, Ph.D. Ohio; J.E. Buckley, Ph.D. Northwestern; N.C. Cook, M.A. Alabama; R.W. Glenn, Ph.D. Northwestern.

Assistant Professors: R.S. Arnold, Ph.D. Ohio State; C.L. Arnold, Ph.D. Florida; J.W. Haas, Ph.D. Kentucky.

Major: Speech Communication 100 with a grade of C or higher, one course in quantitative analysis (e.g., Speech Communication 295, Math 115, Statistics 201, or the equivalent), and a GPA of not less than 2.0 are prerequisites to a major which consists of 310, 390, 499, and one course from each of the following two categories: (1) 210, 270, or 280; (2) 300, 320, or 330. An additional 12 hours in Speech Communication courses are required, six of which must be at the 400 level, and not more than three at the 300 level. No more than three hours from Speech Communication 445, 491, 492, 493 may be counted toward the major. Students should inquire in the Department Office for information and recommended advisors. Students whose GPA in Speech Communication courses fails below 2.25 or whose GPA in all courses fails below 2.0 will be warned that if the next semester's grades do not improve to those minimum levels, the student will be dropped as a Speech Communication major. Students who subsequently raise the overall GPA to at least 2.0 and the GPA in Speech Communication courses to at least 2.25 may reapply for admission to the major.

Minor: Speech Communication 100 is prerequisite to a minor which consists of 18 additional hours of Speech Communication courses at least 12 of which must be at the 300 level and above. No more than 3 hours from Speech Communication 445, 491, 492, 493 may be counted toward the minor.

STATISTICS

See faculty list in the College of Business Administration.

Arts and Sciences students may major or minor in statistics under the supervision of the faculty of the Statistics Department in the College of Business Administration. The major is designed to prepare students for graduate study in statistics or for professional work in various applications of statistical methods, including applications in the natural and social sciences, business and industry. Contact the Statistics Department for further information on careers in statistics and appropriate courses to take. It is highly recommended that a student majoring in statistics have a minor in an area of application.

Major: (a) Required courses consist of 25 hours from Mathematics 241, 251; Statistics 251, 252, 261, Statistics 461, 462, Statistics 471 or Mathematics 323; (b) Statistics electives consists of 3 hours from upper-division statistics courses not listed in part (a); and (c) Electives consist of 6 hours to be selected from two of the following groups: Computer Science 111, 112, Industrial Engineering 301, 402, 406; Management 481; Mathematics 371, 421, 423, 425, 453 (other quantitative courses may be substituted as Electives with the faculty advisor's approval).

Minor: (a) Required courses consist of 16 hours from Mathematics 241, 251; Statistics 251, 252, 261; and (b) Statistics electives consist of 3 hours from upper-division statistics courses not in part (a) of the minor.

THEATRE


Major: Theatre 100 is a prerequisite to a major which consists of 220, 245, 250, 260, 310, 311, 312 and 430, and 12 additional hours of Theatre courses numbered 200 and above, of which may be in cognate areas approved by the Department. At least one half of the hours in the major must be at the 300 level or above. No more than 6 hours of Theatre 481, 482, 483, 484, or 485 may apply to the major. Students majoring in Theatre should elect a literature package which includes English 252 to satisfy the College's Humanities Part 1 Divisional Distribution requirement.

Minor: Theatre 100 is a prerequisite to a minor which consists of 220, 430, 6 hours in Theatre history and criticism and 6 additional hours of Theatre courses.

General requirements for the master's degree are given in the Graduate Catalog.

URBAN STUDIES

See Interdisciplinary Programs.

WOMEN’S STUDIES

See Interdisciplinary Programs.

ZOOLOGY

Professors: A.C. Echternacht (Head), Ph.D. Kansas; R.M. Bagby, Ph.D. Illinois; D.L. Bunting, II, Ph.D. Oklahoma State; J.G. Carlson (Emeritus), Ph.D. Pennsylvania; T.T. Chen, Ph.D. Florida; D.A. Etner, Ph.D. Minnesota; M.A. Handel (Distinguished Service Professor), Ph.D. Kansas State; B. Hochman (Emeritus), Ph.D. California (Berkeley); K.W. Jeon, Ph.D. London (England); D.C. Joy (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Oxford (England); J.R. Kennedy, Ph.D. Iowa; J.N. Lites (Emeritus), Ph.D. Ohio State; J.A. MacCabe, Ph.D. California (Davis); G.F. McCracken, Ph.D. Cornell; S.L. Pimm, Ph.D. New Mexico State; S.E. Riechert (Distinguished Service Professor), Ph.D. Wisconsin; L.E. Roth, Ph.D. Chicago; C.A. Shivers, Ph.D. Michigan State; G.L. Vaughan, Ph.D. Duke; H.G. Welch (Emeritus), Ph.D. Florida; G.L. Whitson, Ph.D. Iowa.
Associate Professors:
C. Boake, Ph.D. Cornell; K.D. Burnham (Emeritus), Ph.D. Iowa; J. Drake, Ph.D. Purdue; D.J. Fox, Ph.D. Johns Hopkins; R. Ganguly, Ph.D. Nebraska; J.L. Gittleman, Ph.D. Sussex (Brighton, England); N.B. Greenberg, Ph.D. Rutgers; B.D. McKee, Ph.D. Michigan State; M.L. Pan, Ph.D. Pennsylvania.

Assistant Professors:
J.C. Hall, Ph.D. Illinois; R.A. Prosser, Ph.D. Illinois.

Research Associate Professor:
R. Tindall, Ph.D. Pennsylvania State.

Prerequisites to upper division courses:
Biology 110-120 or Zoology 117-118 are prerequisites for all upper division courses (with the exception of 480). Additional prerequisites are included with course descriptions.

Major: Prerequisites to the major are Biology 110-120 or Zoology 117-118 and Chemistry 120-130. Corequisites are Mathematics 121-122 or 151-152 or 141-142 and a year sequence in physics (except 141-142). Physics 221-222 are recommended and are required for admission to some professional schools.

The major consists of Biology 210-220-230, 18 hours of upper division Zoology courses and two semesters of chemistry or biochemistry at the 200 level or above. (Acceptable second year chemistry sequences include: Chemistry 350-360-369; Chemistry 350 and 310-319; Chemistry 350 and Nutrition 200; Chemistry 350, 351 and Biochemistry 310; Chemistry 310-319 and Biochemistry 310). All Zoology majors are required to take at least 4 hours at the 400 level, including at least one laboratory or field course. The upper division Zoology courses must include at least one course from three of the following four areas: (1) Cellular and Developmental Biology (330, 420); (2) Physiology (440, 445); (3) Animal Diversity (350, 380); and (4) Evolution and Behavior (450, 460).

Minor: Prerequisites to the minor are Biology 110-120 or Zoology 117-118 and Chemistry 120-130 or 100-110. The minor consists of Biology 210-220-230 and 9 hours of upper division Zoology.

Honors in Zoology: An Honors major in Zoology must fulfill all of the requirements for the B.S. degree in Zoology, and take 302 and 409 during the junior year, four hours of 400 during the junior and senior years, and a senior thesis (Zoology 401) the last semester of the senior year. All prospective juniors who are declared Zoology majors with a minimum overall GPA of 3.2 in the major and prerequisite and corequisite courses are invited to apply. To remain in the program, the student must maintain a GPA of 3.2 in the major. Students interested in the Honors degree should consult with the department's Honors Coordinator.

Note: Certain Zoology courses require organic chemistry or other prerequisites; consult the catalog description for each course.

Many courses in this department are offered only in specific semesters. Students should plan in advance the proper sequence. Information on the semesters a course is to be offered is available in the departmental office.