Minor in Agricultural Economics and Business

Required Courses                  Hours Credit
Economics 201                              .4
Accounting 200                           .3
Agricultural Economics 212, 342, 350, 412  .12
Agricultural Economics Elective*          .3
Total 22

AGRICULTURE AND NATURAL RESOURCES
(Interdepartmental Unit)

Agriculture and Natural Resources is an interdepartmental unit that offers a general agricultural science major with concentrations in agricultural education and agricultural extension education. The major is designed for students who want a broad, general background in agriculture and natural resources and wish to pursue careers in non-formal agricultural education, agricultural communications, or agriculture public relations. The agricultural education concentration leads to teacher licensure in agricultural sciences in the State of Tennessee. The agricultural extension concentration is designed for those interested in agricultural extension careers. This major is also designed for students who want an individualized plan of study. Plans need to be submitted before the junior year and approved by the advisor, department head, and the dean's office.

Students who are undecided as to their studies in agriculture and natural resources are advised to follow the agricultural science program and explore the different majors available in the college. They should work with their assigned advisor to eventually choose one of the agricultural sciences minors. Students in the agricultural education and agricultural extension education concentrations or one of the minors offered by the College of Communication and Information should follow the appropriate concentration and work with faculty in agricultural and extension education housed in Morgan Hall.

AGRICULTURAL SCIENCE MAJOR

Requirements for the Bachelor of Science in Agriculture
• Agricultural Science Major

First Year                      Hours Credit
Agriculture and Natural Resources 100 .1
Agriculture and Natural Resources 290 .3
Animal Science 160               .3
1Chemistry 100*, 110* or 120*, 130* .3
English 101*, 102*               .6
Mathematics 113* and Quantitative Reasoning Course* .6
Plant Sciences 115               .3
Second Year                      .3
Agricultural and Extension Education 211 .3
Agricultural Economics 212        .3
Food Science and Technology 101   .8
1Biology 130*, 140* or 101*, 102* .8
Environmental and Soil Sciences 210 .4
Plant Sciences 250               .3
2Economics Elective              .3
Communication Studies 210* or 240* .3
Third Year                      .3
Agricultural Economics 342       .3
Entomology and Plant Pathology 313 or 321 .3
3Cultures and Civilizations Elective* .3
3Arts and Humanities Elective* .3
Plant Sciences 330 or 430        .2-3
5Minor                           .15

Fourth Year

• Minor
• Agricultural Sciences and Natural Resources Electives .9
• Arts and Humanities Elective* .3
• Cultures and Civilizations Elective* .3
1, 3, 4Social Sciences Elective* .3-6
Free Electives                   .2-5
Total 124

* Meets University General Education Requirement.
1 Choose any course from University General Education list.
2 A minimum of 6 credit hours must be taken from the following list of courses: Agricultural Economics 315, 330, 337, 355, 360, 420, 430, 444, 450, 470. A minimum of 3 credit hours can be used from each of the following courses: Agricultural Economics 356, 492, and 493.
3 Choose from the University General Education lists.
4 One of the University General Education Electives, Agricultural Sciences and Natural Resources Electives. Free Electives or a course taken as part of one of the minors must be a Communicating through Writing (WC) course.
5 Students should select one of the minors offered by the College of Agricultural Sciences and Natural Resources: agricultural economics, animal science, biosystems engineering technology, entomology and plant pathology, environmental and soil sciences, food science and technology, forestry, international agriculture and natural resources, plant sciences, wildlife and fisheries science, or one of the minors in the College of Communication and Information (see listing in this catalog), or submit an individualized plan of study before the third year, for approval by the advisor, department head, and the dean's office.

Agricultural and Extension Education Concentration

http://aeetennessee.edu/
Professors
Waters, R.G., PhD .......................... Penn State
Fritz, C.A., PhD ............................ Iowa State
Emeriti Faculty
Lessly, R.R., EdD .......................... Oklahoma State
Todd, J.D., EdD ............................ Illinois

The agricultural education concentration is designed to prepare students to meet teacher certification requirements for agricultural education in the public schools. Teacher certification is given in collaboration with the College of Education, Health, and Human Sciences. Progression toward completion of a degree and licensure in agricultural education requires acceptance to the teacher education program by a board of admissions. The admissions process begins at the time of matriculation at the University of Tennessee, Knoxville, whether the student enters as a freshman or transfer student.

Students must maintain a 2.70 undergraduate cumulative GPA to be admitted to the teacher education program. It is important to note that all professional education courses must be passed with a minimum letter grade of C or better or they must be repeated.

Requirements for the Bachelor of Science in Agriculture
• Agricultural Science Major • Agricultural Education Concentration

First Year                      Hours Credit
Agriculture and Natural Resources 100 .1
Agriculture and Natural Resources 290 .3
Educational Psychology 210        .3
1Chemistry 100*, 110* or 120*, 130* .8
English 101*, 102*                .6
Mathematics 113* and 115*         .6
Economics 201*                    .4
Environmental and Soil Sciences 120* or 220* .3

8
Second Year
Agricultural Economics 212 .............................. 3
Agricultural and Extension Education 211 .................. 3
Agricultural and Extension Education 201 .................. 1
1 Biology 101*, 102* or 130*, 140* ...................... 8
Environmental and Soil Sciences 210 ...................... 4
Plant Sciences 230* or 290 or 291 ......................... 3
Animal Science 220 .................................. 3
2 Arts and Humanities Elective* .......................... 3
Food Science and Technology 461 ......................... 3

Third Year
Agricultural and Extension Education 345 .................. 3
Biosystems Engineering Technology 202 and 452 ........ 6
Educational Psychology 401 ................................ 3
Special Education 402 .................................. 3
Entomology and Plant Pathology 313 or 321 .............. 3
2 Cultures and Civilizations Elective* ...................... 3
Plant Sciences 250 .................................. 3
2 Social Sciences Elective* ................................ 3
Forestry, Wildlife and Fisheries 212 or 317 ............... 3

Fourth Year
Agricultural and Extension Education 435 and 436 ...... 12
Agricultural and Extension Education 440*................. 3
Agricultural and Extension Education 434 ................. 3
Animal Science 360* and 381 ............................ 6
1 Arts and Humanities Elective* ........................... 3

Total 125

* Meets University General Education Requirement.
1 Chemistry 130 is a prerequisite/corequisite to Biology 140, therefore
a student selects Chemistry 120-130 and Biology 130-140; otherwise
the student must elect Chemistry 100-110 and Biology 101-102.
2 Choose from the University General Education lists.

AGRICULTURAL EXTENSION EDUCATION
CONCENTRATION
http://aae.tennessee.edu/
Professor
Waters, R.G., PhD ........................................ Penn State
Assistant Professor
Fritz, C.A., PhD ........................................ Iowa State
Emeriti Faculty
Lessly, R.R., EdD ......................................... Oklahoma State
Todd, J.D., EdD ......................................... Illinois

The agricultural extension education concentration is

designed to prepare students to gain the agricultural and educa-
tional skills necessary to work in the national Cooperative Exten-
sion System or the Agricultural Extension Service in Tennessee.

The agricultural extension agent is a generalist in agriculture who
plans and delivers non-formal educational programs for local citi-
zens and community groups. The extension agent has an under-
standing of community needs, educational program planning, and
the non-formal learner, as well as a broad background in the dis-
ciplines of agriculture and natural resources.

Students must maintain a 2.70 undergraduate cumulative GPA to be considered for employment in the Tennessee Agricultural Extension Service. Other states may or may not have estab-
lished GPA requirements for employment.

Requirements for the Bachelor of Science in Agriculture
• Agricultural Science Major • Agricultural Extension
Education Concentration

First Year
Agricultural and Extension Education 211 .................. 3
Agriculture and Natural Resources 100 ..................... 1
Agriculture and Natural Resources 290 ..................... 3
Animal Science 280 .................................. 3
1 Chemistry 100*, 110* or 120*, 130* .................... 8
English 101*, 102* ..................................... 6
Mathematics 113* and Quantitative Reasoning course* .. 6

Second Year
Agricultural and Extension Education 201 ................. 1
Agricultural Economics 212 ................................ 3
Animal Science 220 .................................. 3

1 Agriculture 101*, 102* or 130*, 140* .................... 8
Economics 201* ........................................ 4
Psychology 110* ........................................ 3
Environmental and Soil Sciences 210 ...................... 4
Plant Sciences 115 ...................................... 3
Communication Studies 210* .............................. 3

Third Year
Agricultural and Extension Education 345 .................. 3
Agricultural Economics 342 ................................ 3
Animal Science 330 ...................................... 3
Entomology and Plant Pathology 313 (recommended course) or 321 3
Environmental and Soil Sciences 344 ...................... 3
Food Science and Technology 269 ......................... 2
Forestry, Wildlife and Fisheries 250 ....................... 3
2 Cultures and Civilizations Elective* ...................... 3
3 Arts and Humanities Elective* ........................... 3
Plant Sciences 250 .................................. 3

Fourth Year
1 Agriculture Sciences and Natural Resources Electives .... 3
Animal Science 381 ...................................... 3
Agricultural and Extension Education 434 ................. 3
Biosystems Engineering Technology 432 ................... 3
Biosystems Engineering Technology 442 ................... 3
Biosystems Engineering Technology 462 ................... 3
Free Electives ........................................... 6-7
2 Cultures and Civilizations Elective* ...................... 3
3 Arts and Humanities Elective* ........................... 3
Plant Sciences 330 or 430 ................................ 2-3

Total 124

* Meets University General Education Requirement.
1 Chemistry 130 is a prerequisite/corequisite to Biology 140, therefore
a student selects Chemistry 120-130 and Biology 130-140; otherwise
the student must elect Chemistry 100-110 and Biology 101-102.
2 Choose from the University General Education lists.
3 One of the University General Education Electives, Agricultural Sciences and Natural Resources Electives or Free Electives must be a
writing-intensive (WC) course.

Minor in International Agriculture and
Natural Resources

The minor in international agriculture and natural resources is

intended for students interested in gaining an international per-
spective to the world’s food, fiber, and natural resources systems.

Required courses
1 Select Agriculture and Natural Resources 491 or the 2second course of a foreign language at the intermediate level. .................. 3
Agriculture and Natural Resources 481 ...................... 3
2 Select 2 courses from Africana Studies 235*, 236*;
Anthropology 130*, 316, 319, or 463;
Geography 101*, 102*, 345, 371, or 373;
Global Studies 250*; Political Science 365, 370, or 471;
Religious Studies 102*; or Sociology 446 .................... 6
4 Select 2 courses from Agricultural Economics 420;
Agriculture and Natural Resources 333;
Entomology and Plant Pathology 201*;
Environmental and Soil Sciences 120*, 220*, 334, or 442;
Forestry, Wildlife and Fisheries 420; or Plant Sciences 250 . . . . . . 6

Total 18

* Meets University General Education Requirement.
1 The international experience is a planned experience in a foreign
country, such as a study abroad program, semester abroad, or intern-
ship, with approval on a case-by-case basis.
2 Second courses of a foreign language at the intermediate level are
Arabic 222, Asian Languages 232 or 252, Asian Studies 222 or 242 or 262,
Chinese 232, French 212 or 218, German 202, Hebrew 242, Italian
212, Japanese 252, Persian 262, Portuguese 212, Russian 252, or
Spanish 212 or 218.
3 One course should correspond with subject matter for the continent of
the international experience. If the chosen course appears on the
approved University General Education list, it may be used for both the
minor and the University General Education Requirement. This select-
ed course should be completed before Agriculture and Natural Resources 491 is taken.
DEPARTMENT OF ANIMAL SCIENCE

http://animalscience.ag.utk.edu/

Alan G. Mathew, Head

Professors
Conatser, G.E., MS  .................................................  Kentucky
Gill, W.W., PhD  ....................................................  Kentucky
Godkin, J.D., PhD  ..................................................  Massachusetts
Heitmann, R.N., PhD  ..............................................  Maine
Hopkins, F., DVM  ..................................................  Tennessee
Kattes, H.G., PhD  ....................................................  Virginia Tech
Kirpatrick, F.D., PhD  ................................................  Tennessee
Lane, C.D., PhD  .....................................................  Tennessee
Mathew, A.G., PhD  ..................................................  Purdue
Meadows, D.G., PhD  .................................................  Texas A&M
Neel, J.B., PhD  .......................................................  Tennessee
Oliver, S.P., PhD  .....................................................  Ohio State
Robbins, K.R., PhD  ..................................................  Illinois
Rogers, G.W., PhD  ....................................................  North Carolina State
Saxton, A., PhD  ......................................................  North Carolina State
Schrick, F.N., PhD  ...................................................  Clemson
Smith, M.O., PhD  ....................................................  Oklahoma State

Associate Professors
Edwards, J.L., PhD  ...................................................  Florida
Grizzle, J.M., PhD  .....................................................  Florida
Wallar, J.C., PhD  .....................................................  Nebraska

Assistant Professors
Kojima, C.J., PhD  ....................................................  Missouri
Lin, J., PhD  ...........................................................  Ohio State
Pighetti, G.P., PhD  ....................................................  Penn State

Instructors
Fisher, A.E., MS  .......................................................  Tennessee
Ross, T., MS  ..........................................................  Texas A&M

Advisors
Fisher, Godkin, Grizzle, Heitmann, Kattes, Kojima, Pighetti, Robbins, Ross, Schrick, Smith, Wallar

The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in horse, swine, poultry, sheep, dairy, beef cattle and companion, zoo and laboratory animal production and management may be elected, providing the opportunity for special or additional training in the dynamic livestock and husbandry technology (production) areas. Through course selection, students may prepare for general or livestock farming, management, business, or science, or elect the pre-veterinary courses preparatory for specialization. Elective selection permits special training for work with feed companies, meat animal, milk, egg, or poultry production, managerial or marketing groups, other educational agencies, supply and equipment business, agricultural extension services, agricultural communication, public relations, and various organizations associated with agriculture.

For a complete list of accepted directed electives appearing in the showcases below see the department Undergraduate Advising Guide at http://www.animalscience.ag.utk.edu/undergrad_guide.htm.

ANIMAL SCIENCE MAJOR

PRODUCTION/BUSINESS/COMMUNICATION CONCENTRATION

Requirements for the Bachelor of Science in Animal Science • Animal Science Major • Science/Technology Concentration

• Production/Business/Communication Concentration

First Year  Hours Credit
Animal Science 160 ......................................................  3
Biology 130*-140* or 101*-102*  ....................................  8
English 101*-102* .......................................................  6
Mathematics 125* or 141* or 151* and second approved  ..................................  6
Quantitative Reasoning Course* .......................................  6-8
Chemistry 100*, 110* or 120*, 130* ....................................  8

Second Year  Hours Credit
Animal Science 220, 280* ..............................................  6
Agriculture and Natural Resources 290  ................................  3
Environmental and Soil Sciences 210  ................................  4
Economics 201* ..........................................................  4
1Arts and Humanities Electives* ........................................  6
2Business Administration minor or  ..................................  3
Agricultural Economics and Business minor or  .........................  3
3Communication and Information minor  ............................  3
2Social Science Elective* ...............................................  3
Free Electives ............................................................  3

Third Year  Hours Credit
Animal Science 320, 330, 340, 380, 395  ...........................  13
Biological Science Restricted Elective  ...............................  3
1Cultures and Civilizations Electives*  ...............................  6
Animal Science 360* .....................................................  3
Business Administration minor or  ....................................  3
Agricultural Economics and Business minor or  .......................  3
Communication and Information minor  .............................  3

Fourth Year  Hours Credit
Animal Science 430, 495 ...............................................  4
Select two courses from: Animal Science 481 or 482, 483 or 484, 485 or 489  ....  6
Business Administration minor (10 credits) or  ........................  3
Agricultural Economics and Business minor (9 credits) or  ...........  3
Communication and Information minor (9 credits) ....................  9-10
Free Electives ............................................................  8-11

Total 124

* Meets University General Education Requirement.
1 Courses selected from the University General Education lists. Animal Science 280 satisfies the WC requirement. Animal Science 360 satisfies the OC requirement.
2 Requirements for the business administration minor are Accounting 200 (3); Economics 201 (4); Statistics 201 (3); Business Administration 201 (4); Finance 301 (3); Marketing 300 (3); Management 300 (3). Total 23 hours.
3 Requirements for the agricultural economics and business minor are Economics 201 (4); Accounting 200 (3); Agricultural Economics 212, 342, 350, 412 (12); Agricultural Economics elective (3). Total 22 hours.
4 Requirements for the communication and information minor are Communication and Information 150 (3); select 6 hours from Advertising 250, Communication Studies 201; Information Sciences 102, Journalism and Electronic Media 200 or 275, or Public Relations 270; select 9 hours of 300-level or above from one or more of the following areas: advertising, communication studies, information sciences, journalism and electronic media, or public relations. Total 18 hours.

SCIENCE/TECHNOLOGY CONCENTRATION

Requirements for the Bachelor of Science in Animal Science • Animal Science Major • Science/Technology Concentration

First Year  Hours Credit
Animal Science 160 ......................................................  3
Biology 130*-140* .......................................................  4
English 101*-102* .......................................................  8
Mathematics 125* or 141* or 151* and second approved  .........................  6
Quantitative Reasoning Course* .......................................  6-8
Chemistry 120*-130* ....................................................  8

Second Year  Hours Credit
Animal Science 220, 280* ..............................................  6
Agriculture and Natural Resources 290  ................................  3
Communication Studies 210* or 240* or Animal Science 360*  ..................  3
Arts and Humanities Elective* .........................................  3
Economics 201* ..........................................................  4
Physical Science and Mathematics Restricted Elective  .....................  8
Biological Science Restricted Elective  ................................  3

Third Year  Hours Credit
Animal Science 320, 330, 340, 380, 395 ..................................  13
Biological Science Restricted Elective  ................................  8
Physical Science and Mathematics Restricted Elective  .....................  6
Cultures and Civilizations Elective* ....................................  3

4 Only one 100-level course may be taken as a part of the minor as a prerequisite to other courses in the minor. Any deviations need to be requested via a petition.
Fourth Year
Animal Science 495 ................................................. 1
Select two courses from Animal Science 481 or 482; 483 or 484; 485 or 489 ... 6
Arts and Humanities Elective* ................................ 3
Biological Science Restricted Elective ...................... 3
1Cultures and Civilizations Elective* ....................... 3
Social Science Elective* ......................................... 3
Business Elective .................................................. 5
Free Electives ......................................................... 7-9
Total 124

* Meets University General Education Requirement.
1 Courses selected from University General Education lists. Animal Science 280 satisfies the WC requirement. Animal Science 360 satisfies the CC requirement.

SCIENCE/TECHNOLOGY – PRE-VETERINARY MEDICINE CONCENTRATION

Requirements for the Bachelor of Science in Animal Science • Animal Science Major • Science/Technology – Pre-Veterinary Medicine Concentration

First Year
Animal Science 160 .................................................. 3
Biology 130* - 140* ................................................. 8
English 101* - 102* ................................................. 6
Mathematics 125* or 141* or 151* and second approved Quantitative Reasoning Course .................. 6-8
Chemistry 120* - 130* ................................................. 8

Second Year
Animal Science 220, 280* ........................................... 6
Agriculture and Natural Resources 290 ..................... 3
Communication Studies 210* or 240* or Animal Science 360* .................. 3
Arts and Humanities Elective* ................................ 4
Economics 201* ...................................................... 4
Chemistry 350, 360, and 369 ...................................... 8
Biology 240 ........................................................... 4

Third Year
Animal Science 320, 330, 340, 380, 395 ..................... 13
Biology 240, 241* - 242* ......................................... 3
Physics 221* - 222* .................................................. 8
Arts and Humanities Elective* ................................ 3
1Cultures and Civilizations Elective* ....................... 3

Fourth Year
Animal Science 495 .................................................. 1
Select two courses from Animal Science 481 or 482; 483 or 484; 485 or 489 .... 6
Biological Science Restricted Elective ...................... 3
Biochemistry and Cellular and Molecular Biology 401 .......... 4
2Cultures and Civilizations Elective* ..................... 3
Social Science Elective* ......................................... 3
Business Elective .................................................. 5
Free Electives ......................................................... 7-9
Total 124

* Meets University General Education Requirement.
1 Courses selected from University General Education lists. Animal Science 280 satisfies the WC requirement. Animal Science 360 satisfies the CC requirement.

PRE-VETERINARY MEDICINE PROGRAM (3+1)

This program allows students to be awarded a Bachelor of Science in Animal Science after the successful completion of the first two semesters in the College of Veterinary Medicine (CVM). Students must begin this program early in the pre-veterinary curriculum. The specific requirements are as follows:

• Completion of all pre-veterinary requirements.

  English Composition 101, 102 (3, 3) – 6 hours; Humanities and Social Sciences – 18 hours; Elements of Physics 221, 222 (4, 4) – 8 hours; General Chemistry 120-130 (4, 4) – 8 hours; Organic Chemistry 350, 360 and Laboratory 369 (3, 3, 2) – 8 hours; Cellular and Comparative Biochemistry 401 (4) – 4 hours; General Biology 130, 140 (4, 4) – 8 hours; Biology 240 – 4 hours or Animal Science 340 – 3 hours; Biology Elective – 4 hours.

• The last 30 hours of the three-year pre-veterinary curriculum must be taken at the University of Tennessee, Knoxville.

• At least 12 hours of upper-division (300- and 400-level courses) technical agriculture courses must be taken at the University of Tennessee, Knoxville.

• In addition to all the required pre-veterinary medical courses, the following (or approved equivalents) must be completed before entering the College of Veterinary Medicine.

  Mathematics 125 or 141 or 151 plus any QR; Animal Science 160 – 3 hours; Animal Science 220 – 3 hours; Animal Science 320 – 3 hours; Animal Science 330 – 3 hours; Animal Science 340 – 3 hours; Animal Science 380 – 3 hours; Agriculture and Natural Resources 290 – 3 hours; Economics 201 – 4 hours; Communication Studies 210 or 240 or Animal Science 360 – 3 hours.

NOTE: Economics 201 and Communication Studies 210 or 240 will be accepted by the CVM as meeting requirements in Humanities/Social Science category. The remainder must be a Social Science elective, Arts and Humanities electives (6 hours) and Cultures and Civilizations electives (6 hours); one of which must be writing intensive.

• Satisfactory completion of the first two semesters in the College of Veterinary Medicine professional program.

• No later than the first day of the first semester of the student's first year in the College of Veterinary Medicine, (s)he should contact the Department of Animal Science in order to check on graduation procedures for this program.

• A total of 124 hours must be completed by the end of the first year in the College of Veterinary Medicine.

Requirements for the Bachelor of Science in Animal Science • Animal Science Major • Pre-Veterinary Medicine Program (3+1)

First Year
Animal Science 160 .................................................. 3
Biology 130* - 140* ................................................. 8
English 101* - 102* ................................................. 6
Mathematics 125* or 141* or 151* and second approved Quantitative Reasoning Course .................. 6-8
Chemistry 120* - 130* ................................................. 8

Second Year
Animal Science 220, 280* ........................................... 6
Agriculture and Natural Resources 290 ..................... 3
Communication Studies 210* or 240* or Animal Science 360* .................. 3
Arts and Humanities Elective* ................................ 4
Economics 201* ...................................................... 4
Chemistry 350, 360, and 369 ...................................... 8
Biology 240 ........................................................... 4

Third Year
Animal Science 320, 330, 340, 380, 395 ..................... 13
Biology 240, 241* - 242* ......................................... 3
Physics 221* - 222* .................................................. 8
Arts and Humanities Elective* ................................ 3
1Cultures and Civilizations Elective* ..................... 3

Fourth Year
Animal Science 495 .................................................. 1
Select two courses from Animal Science 481 or 482; 483 or 484; 485 or 489 .... 6
Biological Science Restricted Elective ...................... 3
Biochemistry and Cellular and Molecular Biology 401 .......... 4
1Cultures and Civilizations Elective* ..................... 3
Social Science Elective* ......................................... 3
Business Elective .................................................. 5
Free Electives ......................................................... 7-9
Total 124

* Meets University General Education Requirement.
1 Courses selected from University General Education lists. Animal Science 280 satisfies the WC requirement. Animal Science 360 satisfies the OC requirement.

This curriculum meets the requirements for entrance to the College of Veterinary Medicine and after the first successful year in the College of Veterinary Medicine, the student will be award-
ed a Bachelor of Science in Animal Science. Should the student not gain admittance to the College of Veterinary Medicine after the junior year, the student could complete the requirements for a major in animal science during the senior year.

### Minor in Animal Science

**Required Courses** | **Hours Credit**
---|---
Animal Science 220 | .3
Animal Science 280 | .3
Animal Science 381 | .3
Animal Science 480 series | .3
Nine credits from Animal Science 320, 330, 340, 360, 380, 420, 430, and the 480 series | .9

**Total 21**

**NOTE:** The core courses give the student a broad background in physiology, nutrition, and management. Careful selection of the directed electives allows the student to emphasize physiological reproduction, nutrition, or management.

### DEPARTMENT OF BIOSYSTEMS ENGINEERING AND SOIL SCIENCE

http://bioengr.ag.utk.edu

**George F. Grandle, Interim Head**

**Professors**

Ammons, J.T., PhD | West Virginia
Ayers, P.D., PhD, PE | North Carolina State
Buscher, M.J., PhD | Clemson
Essington, M.E., PhD | California (Riverside)
Freeland, R.S., PhD, PE | Tennessee
Mote, C.R. (Assistant Dean, Tennessee Agricultural Experiment Station), PhD, PE | Ohio State
Tompkins, F.D. (Associate Vice President for Research), PhD, PE | Tennessee
Tyler, D.D., PhD | Kentucky
Wilkerson, J.B., PhD | Purdue
Wills, J.B., MS | Tennessee
Womac, A.R., PhD, PE | Tennessee
Yoder, D.C., PhD, PE | Purdue

**Associate Professors**

Buchanan, J.R., PhD, PE | Tennessee
Eash, N.S., PhD | Iowa State
Grandle, G.F., PhD | Tennessee
Hart, W.E., PhD | Purdue
Hayes, D.G., PhD | Michigan
Leib, B.G., PhD | Penn State
Logan, J., PhD | Nebraska
Radosavljevic, M., PhD | Ohio State
Savoy, H.J., PhD | Louisiana State
Walker, F.R., PhD | North Carolina State

**Assistant Professors**

Johnson, A.M., PhD | North Carolina State
Lee, J., PhD | Iowa State
Tyner, J.S., PhD | Oklahoma State
Ye, X., PhD | Minnesota

The Department of Biosystems Engineering and Soil Science offers two undergraduate degree programs—Bachelors of Science in Biosystems Engineering and Bachelor of Science in Environmental and Soil Sciences. Biosystems engineering is a four-year, ABET-accredited engineering program emphasizing engineering applications to biological systems. Environmental and soil sciences is a strong science-based program for students interested in environmental science, soil science, and agricultural systems technology. Minors in either environmental and soil sciences or in biosystems engineering technology are also available. More detailed descriptions of each program are included with the curricular material that follows.

In order to provide students with the best advice concerning course selection, general academic success, and career choices, the programs within the Department of Biosystems Engineering and Soil Science require that all undergraduate students meet with their academic advisors every semester before registering for classes.

### BIOSYSTEMS ENGINEERING MAJOR

**Advisors**

Ayers, Freeland, Hart, Hayes, Wilkerson, Womac, Yoder

The College of Agricultural Sciences and Natural Resources, in cooperation with the College of Engineering, offers a four-year curriculum leading to the Bachelor of Science in Biosystems Engineering. The curriculum is accredited by the Engineering Commission of the Accreditation Board for Engineering and Technology (ABET). Overall goals of the program are emphasized in the educational objectives and program outcomes statements listed below. Program details are given in the showcase curricula and the individual course descriptions.

Career opportunities for graduates include the design, development, or management of practices that minimize soil erosion and conserve water resources; biological waste treatment systems; safer machinery systems with lower environmental impact and improved food and bio-processing systems. Employment opportunities are available in a wide variety of industries, government agencies, research and testing organizations, and educational and non-profit institutions.

The mathematics requirement for freshman admission to the biosystems engineering program is 3 1/2 units, including trigonometry and geometry. Otherwise, the general admission requirements of the university apply.

The curriculum provides instruction in the analytical and design skills needed to solve engineering problems related to biological and agricultural systems. Comprehensive design of systems and their components is emphasized in the senior year. In addition to the standard biosystems engineering curriculum, a pre-professional concentration is available. The degree program has provisions for elective courses to be taken in specified subject areas. Students should outline a plan for all such electives not later than their second year of study. Proper scheduling of courses is very important since prerequisite requirements must be met. Students must consult with their advisors each semester to review their scheduling plan.

Students majoring in biosystems engineering are eligible to participate in the Engineering Cooperative Scholarship Program and other student activities in the College of Engineering. Biosystems engineering majors interested in the Engineering Cooperative Scholarship Program should consult with their faculty advisor or the head of the Biosystems Engineering and Soil Science Department, (865) 974-7266; e-mail bess@utk.edu.

The biosystems engineering program at the University of Tennessee, Knoxville, has specific educational objectives that follow the objectives of the University of Tennessee Institute of Agriculture. In order to meet the Institute’s objectives, program graduates will receive the educational tools necessary to perform as entry-level engineering professionals. Recent graduates are to be

- Competitive in seeking employment or graduate placement at the regional and national levels.
- Aware of meeting their own and societal needs consistent with the goals of life-long learning, professional ethics, and leadership.
- Performing as entry-level engineers or graduate students in a manner that positively reflects on the overall program’s reputation.

### Program Outcomes

To achieve the educational objectives listed above, a series of program outcomes have been adopted. These program outcomes provide specific measures to determine the degree of success in meeting each of the educational objectives. These outcomes are as follows.

- An ability to apply knowledge of mathematics, science, and engineering.
• An ability to design and conduct experiments, as well as to analyze and interpret data.
• An ability to design a system, component, or process to meet desired needs.
• An ability to function on multi-disciplinary teams.
• An ability to identify, formulate, and solve engineering problems.
• An understanding of professional and ethical responsibility.
• An ability to communicate effectively.
• The broad education necessary to understand the impact of engineering solutions in a global and societal context.
• A recognition of the need for and an ability to engage in, life-long learning.
• A knowledge of contemporary issues.
• An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.
• An understanding of the complexity of biological systems and the ability to apply engineering principles to those systems.

One of the primary tools engineers bring to the solution of many problems is a mastery of mathematics, so mathematical competence is a critical component of an engineering education. In order to graduate with a major in biosystems engineering, students must display this competence by achieving an average GPA of at least 2.00 in the required mathematics courses. It is the student’s responsibility to work with their academic advisor in assuring that they meet this requirement.

Requirements for the Bachelor of Science in Biosystems Engineering • Biosystems Engineering Major

First Year

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 104</td>
<td>1</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151, 152, 202</td>
<td>11</td>
</tr>
<tr>
<td>1Chemistry 120*</td>
<td>4</td>
</tr>
<tr>
<td>1Mathematics 141*, 142*</td>
<td>8</td>
</tr>
<tr>
<td>1English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>3Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 201, 221, 231, 321</td>
<td>10</td>
</tr>
<tr>
<td>Mechanical Engineering 231, 321</td>
<td>6</td>
</tr>
<tr>
<td>Nuclear Engineering 203</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 231, 241</td>
<td>7</td>
</tr>
<tr>
<td>Microbiology 210*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 411, 416, 431, 451</td>
<td>13</td>
</tr>
<tr>
<td>Statistics 251</td>
<td>3</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 200</td>
<td>3</td>
</tr>
<tr>
<td>4Fluid Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>5Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>English 360*</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 401*, 402, 404, 444</td>
<td>14</td>
</tr>
<tr>
<td>5Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201 (Social Sciences Elective)*</td>
<td>4</td>
</tr>
<tr>
<td>3Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>3Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 128

* Meets University General Education Requirement.
1 Or equivalent honors course.
2 If mathematics placement test does not indicate placement into at least Mathematics 141, discuss mathematics options with advisor.
3 Select from the corresponding University General Education list after consultation with advisor.
4 Select from Civil and Environmental Engineering 390 or Aerospace Engineering 341 after consultation with advisor.

Typically, upper-division courses in engineering or related areas. Must be approved in advance by advisor.

PRE-PROFESSIONAL CONCENTRATION

The pre-professional concentration provides comprehensive training in biosystems engineering while preparing the student for candidacy to medical school. While this program meets most of the general published pre-medical requirements, it is the student’s responsibility to work with an academic advisor to ensure that his or her program meets the demands of specific schools.

Requirements for the Bachelor of Science in Biosystems Engineering • Biosystems Engineering Major

• Pre-Professional Concentration

First Year

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 104</td>
<td>1</td>
</tr>
<tr>
<td>Engineering Fundamentals 105, 151, 152, 202</td>
<td>11</td>
</tr>
<tr>
<td>1Chemistry 120*, 130*</td>
<td>8</td>
</tr>
<tr>
<td>1Mathematics 141*, 142*</td>
<td>8</td>
</tr>
<tr>
<td>1English 101*, 102*</td>
<td>6</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 201, 221, 231, 321</td>
<td>10</td>
</tr>
<tr>
<td>Mechanical Engineering 231, 321</td>
<td>6</td>
</tr>
<tr>
<td>Nuclear Engineering 203</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 231, 241</td>
<td>7</td>
</tr>
<tr>
<td>Biology 130*</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 350</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 411, 431, 451</td>
<td>10</td>
</tr>
<tr>
<td>Statistics 251</td>
<td>3</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 200</td>
<td>1</td>
</tr>
<tr>
<td>3Fluid Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>3English 360*</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 360, 369</td>
<td>5</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 401*, 402, 404, 444</td>
<td>14</td>
</tr>
<tr>
<td>Economics 201 (Social Sciences Elective)*</td>
<td>4</td>
</tr>
<tr>
<td>4Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>3Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>4Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 128

* Meets University General Education Requirement.
1 Or equivalent honors course.
2 If mathematics placement test does not indicate placement into at least Mathematics 141, discuss mathematics options with advisor.
3 Select from Civil and Environmental Engineering 390 or Aerospace Engineering 341 after consultation with advisor.

Minor in Biosystems Engineering Technology

Advisors

Ayers, Freeland, Hart, Wilkerson, Womac, Yoder

No baccalaureate degree program is offered in biosystems engineering technology; however, undergraduate courses are offered to prepare students in other disciplines to apply elementary principles, techniques, and systems of engineering to the broad industry of agriculture.

Required Courses

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering Technology 202 or 212, 326, and 432</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 18
ENVIRONMENTAL AND SOIL SCIENCES MAJOR

Advisors
Eash, Essington, Hart, Lee, Logan, Radosевич

Many human activities adversely impact soil, water, and environmental quality. The Bachelor of Science in Environmental and Soil Sciences provides students with a strong grounding in basic sciences and technology to prepare them for careers in environmental and natural resource management. Students in this program study basic natural sciences as well as applied areas such as ecology, soil sciences, and natural resource policy. Students also build expertise with modern technologies such as geographical information systems, global positioning systems, and computer modeling. A strong background in natural resource management and environmental organizations with interests in agriculture, environment, and natural resources. Students receiving this degree are also very competitive for placement in graduate programs in environmental and agricultural sciences and technology, as well as law school.

The core program provides a strong grounding in the sciences and technology, while concentrations permit a focus on either science or technology. The three concentrations in this program are soil science, environmental science, and agricultural systems technology.

TECHNICAL ELECTIVES FOR SOIL SCIENCE AND ENVIRONMENTAL SCIENCE CONCENTRATIONS

Note that some electives have required prerequisites. The prerequisites are either required in the major or are listed below. See individual course descriptions in the catalog for specific information.

Animal Science 220, 280, 320, 330, 380, 381; Biochemistry and Cellular and Molecular Biology 306, 310, 321, 401, 402, 404, 411, 417, 481; Biology 240, 250; Biosystems Engineering Technology (any course not required for the major); Chemistry 230, 319, 320, 329, 350, 360, 369, 430, 439, 471, 481; Ecology and Evolutionary Biology 240, 304, 305, 330, 370, 380, 410, 414, 421, 433, 470, 474, 484, 485; Entomology and Plant Pathology 313, 321, 451; Environmental and Soil Sciences (any course not required for the major); Food Science and Technology 420, 429; Forestry 314, 321; Forestry, Wildlife and Fisheries 250, 312, 313, 317, 410, 412, 420; Geography 101, 102, 131, 132, 310, 334, 410, 411, 412, 413, 415, 434, 436, 439; Geology 102, 103, 201, 202, 203, 310, 345, 370, 381, 450, 455, 485, 486; Management Ecology 319, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420; Microbiology 310, 319, 410, 411, 412, 417, 418, 419, 420, 421; Natural Sciences 310, 451, 452, 453, 454, 455, 456, 457, 458, 459; Plant Sciences 222; Plant Sciences 335, 433, 435, 445, 457, 461; Political Science 300, 330, 340, 402, 430, 431, 440, 442, 470; Public Health 310; Sociology 360,462,464,466; Statistics (any course above 201); University Studies 322.

TECHNICAL ELECTIVES FOR AGRICULTURAL SYSTEMS TECHNOLOGY CONCENTRATION

Note that some electives have required prerequisites. The prerequisites are either required in the major or are listed below. See individual course descriptions in the catalog for specific information.

Accounting 200; Agricultural and Extension Education 450; Agricultural Economics 342, 350, 355; Biosystems Engineering Technology 202, 442, 452; Business Administration 201; Entomology and Plant Pathology 325, 410; Environmental and Soil Sciences 442, 444, 462; Industrial Engineering 304, 423; Marketing 300; Plant Sciences 240, 410, 430, 434, 435.

AGRICULTURAL SYSTEMS TECHNOLOGY CONCENTRATION

The agricultural systems technology concentration emphasizes the skills needed to manage the sophisticated technological systems that are increasingly essential to modern agricultural production. The program starts with a basic science foundation, adds courses in crop production, pest control, and protection of soil and water resources, then introduces the technologies and control systems available to make production more efficient and environmentally sound. It rounds out the curriculum with analysis and management courses to tie all the information together and to most effectively use it in making and carrying out management decisions. Directed technical electives allow the student to concentrate in a particular area of agricultural production or to develop increased skills with particular technologies or management tools. Students from this program will have the skills and understanding to be successful in agribusiness, agricultural consulting, or employment with agricultural equipment and material suppliers.

This degree program has pre-approved educational courses for Tennessee Professional Land Surveyor-In-Training application. For more information, visit http://bioengr.ag.utk.edu/surveying.

Requirements for the Bachelor of Science in Environmental and Soil Sciences • Environmental and Soil Sciences Major • Agricultural Systems Technology Concentration

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 111, 112</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 120, 130</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 151, 152</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Social Sciences Elective*</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 212</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210, 334</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Physics 221*</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 200</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 350 or 355</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1Arts and Humanities Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 320</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>English 360*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 313, 321</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 301*</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 324</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 457</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Arts and Humanities Elective*</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 414, 432, 434, 462, 474</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Agricultural Economics 412</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 124

* Meets University General Education Requirement.
1 Choose from the University General Education lists.

ENVIRONMENTAL SCIENCE CONCENTRATION

The environmental science concentration is a blended program of science and technology that provides a strong, broad background in the natural sciences. The plan of study emphasizes human impacts on the long-term use and productivity of land and water resources. Emphasis is also placed on the tools used in the management of these resources. The curriculum provides a good foundation in the collection and analysis of information required to characterize resource conservation problems and to make good resource use decisions. Directed technical electives allow the students to concentrate in an area of interest. Students in this program will gain the practical knowledge necessary to compete for career opportunities in government, environmental consulting firms, public health services, environmental research laboratories, and agricultural production, while also...
gaining the theoretical training necessary for continuing on for advanced degrees in a variety of environmentally related fields.

Requirements for the Bachelor of Science in Environmental and Soil Sciences • Environmental and Soil Sciences Major • Environmental Science Concentration

First Year
- Biology 130*, 140* ........................................... 8
- Chemistry 120*, 130* ........................................... 8
- English 101*, 102* ............................................. 6
- Environmental and Soil Sciences 120* .................... 3
- Mathematics 151*, 152* .................................... 6

Second Year
- Agriculture and Natural Resources 290 .................... 3
- Biology 250 ..................................................... 4
- Economics 201* .............................................. 4
- Environmental and Soil Sciences 210 ....................... 4
- Geology 101* .................................................. 4
- Microbiology 210* ............................................ 3
- Statistics 201* .................................................. 3
- Physics 221* ................................................... 4

Third Year
- English 295* or 360* or Agricultural and Extension Education 440* ................................................. 3
- Biosystems Engineering Technology 326 .................. 3
- Chemistry 350 or 110* ..................................... 3-4
- 1Cultures and Civilizations Elective* ....................... 3
- Environmental and Soil Sciences 301*, 324, 334, 355 .... 10
- 1Social Sciences Elective* .................................... 3
- Philosophy 245* .............................................. 3
- Technical Elective ............................................. 3

Fourth Year
- Agricultural Economics 470 or Economics 462 ......... 3
- Biosystems Engineering Technology at the 300 level or higher .............................................. 9
- Economics 470 or Economics 462 .......................... 3
- Environmental and Soil Sciences 434, 442, 444, 462 .... 12
- 1Social Sciences Elective* .................................... 3
- Technical Electives ............................................ 6
- Free Electives .................................................. 5-6

Total 124

* Meets University General Education Requirement.
1 Choose from the University General Education lists.

SOIL SCIENCE CONCENTRATION

This concentration is a rigorous, science-based program for students interested in the field of soil science. The curriculum emphasizes soils and their long-term use and productivity, as well as surface and sub-surface water resources. Students will understand natural resource problems and their management, including soil and water conservation issues, land use problems, waste disposal, and reclamation of disturbed lands. Other areas of interest can be addressed through the appropriate selection of technical electives in the program. Students in this program will gain the practical knowledge necessary to compete for career opportunities in government, environmental consulting firms, public health services, environmental research laboratories, and agricultural production, while also gaining the theoretical training necessary for continuing on for advanced degrees in a number of environmentally related fields.

Requirements for the Bachelor of Science in Environmental and Soil Sciences • Environmental and Soil Sciences Major • Soil Science Concentration

First Year
- Biology 130*, 140* ........................................... 8
- Chemistry 120*, 130* ........................................... 8
- English 101*, 102* ............................................. 6
- Environmental and Soil Sciences 120* .................... 3
- Mathematics 151*, 152* .................................... 6

Second Year
- Agriculture and Natural Resources 290 .................... 3
1Arts and Humanities Elective* ............................. 3
1Cultures and Civilizations Elective* ....................... 3

DEPARTMENT OF ENTOMOLOGY AND PLANT PATHOLOGY

http://eppserver.ag.utk.edu

Carl J. Jones, Head

Professors
- Bernard, E.C., PhD ........................................... Georgia
- Bost, S.C., PhD ................................................. North Carolina State
- Burgess, E.E., PhD .......................................... Tennessee
- Gerhardt, R.R., PhD .......................................... North Carolina State
- Grant, J.F., PhD ............................................... Clemson
- Hale, F.A., PhD ............................................... Ohio State
- Jones, C.J., PhD .............................................. Wyoming
- Lambdin, P.L., PhD ........................................... Virginia Tech
- Newman, M.A., PhD ........................................ Texas A&M
- Patrick, C.R., PhD ........................................... Mississippi State
- Skinner, J.A., PhD ........................................... California (Davis)
- Trigiano, R.N., PhD ........................................... North Carolina State
- Windham, A.S., PhD ......................................... North Carolina State
- Windham, M.T., PhD ......................................... North Carolina State

Associate Professors
- Canaday, C.H., PhD .......................................... Ohio State
- Gwinn, K.D., PhD .............................................. North Carolina State
- Lentz, G. PhD ................................................ Iowa State
- Owlen, B.H., PhD ............................................. North Carolina State
- Stewart, S.D., PhD ........................................... Auburn
- Vail, K.M., PhD ................................................ Florida

Assistant Professors
- Hajimorad, M., PhD .......................................... Adelaide (Australia)
- Jurat-Fuentes, J.L., PhD .................................. Georgia
- Lamour, K., PhD ............................................. Michigan State
- Moulton, J.K., PhD .......................................... Arizona

Advisor
- Gerhardt

Courses in economic entomology, diseases and insects of ornamental plants, forest protection, plant pathology, and veterinary entomology are available to undergraduate students. No undergraduate degree exists in the Department of Entomology and Plant Pathology, but a program leading to the Master of Science degree with a major in entomology and plant pathology and
a PhD with a major in plants, soils and insects and concentrations in entomology, plant pathology, integrated pest management, and bioactive natural products are available (see Graduate Catalog). Instruction and training is provided in those disciplines which deal with the natural hazards that are major causes of losses in agricultural production, namely, insects and plant diseases. Courses of study in entomology or plant pathology should give the student an appreciation of insects and microorganisms, their ecology, population dynamics, potential damage to plants and their products, and various considerations in control alternatives.

Minor in Entomology and Plant Pathology

Required Courses  Hours Credit
Choose from Entomology and Plant Pathology 201, 213, 321, 325, 410, 411, 448, 451, 493  16

Total 16

DEPARTMENT OF FOOD SCIENCE AND TECHNOLOGY

http://foodscience.utk.edu

P.M. Davidson, Interim Head

Professors
Davidson, P.M., PhD  Washington State
Draughon, F.A., PhD  Georgia
Goan, H.C., PhD  Michigan State
Morris, W.C., PhD  Iowa State

Associate Professors
Golden, D.A., PhD  Georgia
Loveday, H.D., PhD  Kansas State
Mount, J.R., PhD  Ohio State
Zivanovic, S., PhD  Arkansas

Assistant Professors
D'Souza, D., PhD  Georgia
Harte, F.M., PhD  Washington State
Zhong, Q., PhD  North Carolina State

Emeriti Faculty
Brekke, C.J., PhD  Wisconsin
Penfield, M.P., PhD  Tennessee

Advisors
Davidson, Draughon, Golden, Loveday, Mount, Zivanovic

The curriculum concentrations in food science and technology include a science concentration, a technology/business concentration, and a pre-professional concentration. They prepare students to apply basic scientific and business principles to manufacturing, processing, distribution, and utilization of food products that meet the needs and desires of consumers. Coursework emphasizes the basic principles of converting raw food materials into safe acceptable consumer products. Selected commodity courses detail processing of specific types of food materials. Students entering the program should have an interest in the sciences, such as chemistry, microbiology, and biology.

Career opportunities include positions in the food industry in quality assurance, production management, marketing, government inspection, etc. The science concentration of coursework conforms to the guidelines in the model curriculum of the Institute of Food Technologists. The technology/business concentration allows students to obtain an agribusiness or business minor or specialization in an area such as animal science or nutrition that strengthens the food science and technology major. A special problems course provides opportunity for practical training in food processing plants and laboratories or federal and state laboratories. The pre-professional concentration provides the science background necessary for medical, pharmacy, dental or veterinary medicine school and also allows the student to develop an understanding of food science principles that will apply to their chosen profession.

FOOD SCIENCE AND TECHNOLOGY MAJOR

PRE-PROFESSIONAL CONCENTRATION

The programs in pre-dental, pre-medicine, pre-pharmacy, and pre-veterinary medicine allow students to be awarded a Bachelor of Science in Food Science with a major in food science and technology after three years and the successful completion of the first year (two semesters) in UT-Memphis dental, medical, or pharmacy programs or the University of Tennessee College of Veterinary Medicine. The last 30 hours of the three-year curriculum must be taken at the University of Tennessee, Knoxville. A total of 124 hours must be completed by the end of the first year in professional school. No later than December 31 of the student's first year in professional school (s)he should contact the Department of Food Science and Technology to check on graduation procedures for this program.

Although a Bachelor of Science degree is not required for admission to the Colleges of Dentistry or Medicine, most of the students accepted into these programs have the baccalaureate degree before admission. Therefore, students are encouraged to plan to complete all requirements for Bachelor of Science degree before enrolling in either of these colleges. A Bachelor of Science degree can be obtained before enrolling in the Doctor of Pharmacy (PharmD) program.

Requirements for the Bachelor of Science in Food Science

• Food Science and Technology Major • Pre-Professional Concentration

First Year  Hours Credit
1 English* 6
2 Mathematics 125* or 141* or 151* 3-4
3 Agriculture and Natural Resources 290  3
4 Arts and Humanities Electives* 6
5 Biology 130* or 140* 4
6 Chemistry 120* or 130* 8
7 Food Science and Technology 101  3
8 Agriculture and Natural Resources 290  3

Second Year  Hours Credit
1 Chemistry 350, 360-369 8
2 Microbiology 210* or higher 3
3 Physics 221* 4
4 Social Sciences Electives* 6
5 Food Science and Technology 340 3
6 Directed Science Requirements 12
7 Physics 221* 3
8 Chemistry 120* or 130* 8

Third Year  Hours Credit
1 Food Science and Technology 301 or University Honors 117 1
2 Food Science and Technology 410-419 and 420-429 9
3 Directed Science Requirements 9
4 Arts and Humanities Electives* 6
5 Statistics 201* or Quantitative Reasoning Elective* 3
6 Sciences Electives* 6

This curriculum meets the requirements for entrance to the College of Veterinary Medicine or UT medical, dental or pharmacy schools. After the first successful year in the professional school, the student will be awarded a Bachelor of Science in Food Science with a major in food science and technology. Should the student not gain admittance after the junior year, the student could complete the following requirements during the senior year for a major in food science and technology with a pre-professional concentration.

Fourth Year  Hours Credit
1 Food Science and Technology 401 or University Honors 458 1
2 Food Science and Technology Electives 9
3 Nutrition 100* 3
4 Communicating Orally Elective 1-3
5 Electives 6-9

Total 124

* Meets University General Education Requirement.
1 Select either English 101 and 102 or English 118 and 102. Students who obtain a grade of A or B in 118 may complete their freshman requirement with 102, 355, or with a 200-level course in the English Department. The 200-level course may, if so listed, also be used toward the Arts and Humanities requirement.
## SCIENCE CONCENTRATION

**Requirements for the Bachelor of Science in Food Science**

*Food Science and Technology Major* + *Science Concentration*

### First Year

<table>
<thead>
<tr>
<th>Credit</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Mathematics 125* or 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Credit</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>English*</td>
</tr>
<tr>
<td>3</td>
<td>Mathematics 125* or 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Credit</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Mathematics 125* or 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Credit</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Mathematics 125* or 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Total 124

* Meets University General Education Requirement.

**SCIENCE CONCENTRATION**

### Requirements for the Bachelor of Science in Food Science

- **Food Science and Technology Major** + **Science Concentration**
- **Electives**

### First Year

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>English*</td>
</tr>
<tr>
<td>3-4</td>
<td>Mathematics 125*, 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Biological Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>English*</td>
</tr>
<tr>
<td>3</td>
<td>Mathematics 125*, 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Third Year

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Mathematics 125*, 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Fourth Year

<table>
<thead>
<tr>
<th>Hours</th>
<th>Course and Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Mathematics 125*, 141* or 151*</td>
</tr>
<tr>
<td>3</td>
<td>Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Arts and Humanities Elective*</td>
</tr>
</tbody>
</table>

### Total 124

* Meets University General Education Requirement.

1. May select either English 101 and 102 or English 118 and 102. Students who obtain a grade of A or B in 118 may complete their freshman requirement with 102, 355, or with a 200-level course in the English Department. The 200-level course may, if so listed, also be used toward the Arts and Humanities (AH) requirement.


4. Choose from the University General Education lists. One of these courses must be an approved Communicating Through Writing (WC) course.

5. Lists of appropriate courses are available at [http://foodscience.utk.edu/academics/undergraduate/curriculum.html](http://foodscience.utk.edu/academics/undergraduate/curriculum.html) and should be selected in conference with advisor to match student's interests with concentrations needed in the food industry.
made for acceptance is required for all applicants. It must be submitted within one week of the rejection notice.

Applicants receiving a positive response from the appeals committee will be accepted into programs on a provisional basis through the first semester of their junior year. The progress of provisional students will be reviewed at the end of the fall semester. At that time, they will either be fully admitted or released from the program.

Core Courses

Students must have completed or be enrolled in all core courses by the end of the semester in which they apply for acceptance into upper-division courses. They must complete all core courses before entering upper-division courses. They will also need the prerequisites to the individual upper-division courses.

FORESTRY

Two courses in English composition (English 101 and 102 or equivalent); calculus (Mathematics 125 or equivalent); general chemistry (Chemistry 100 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); general economics (Economics 201 or equivalent); public speaking (Communication Studies 210 or 240 or equivalent); statistics (Statistics 201 or equivalent); ecology (Forestry 251 or Biology 250 or equivalent).

WILDLIFE AND FISHERIES SCIENCE

Two courses in English composition (English 101 and 102 or equivalent); calculus (Mathematics 125 or equivalent); two courses in general chemistry (Chemistry 120/130 or 100/110 or equivalent); two courses in general biology (Biology 130/140 or 101/102 or equivalent); general economics (Economics 201 or equivalent); public speaking (Communication Studies 210 or 240 or equivalent); statistics (Statistics 201 or equivalent); microcomputer applications (Agriculture and Natural Resources 290 or equivalent); general ecology (Biology 250 or equivalent).

FORESTRY MAJOR

The profession of forestry is the science, the art, and the practice of managing and using for human benefit the natural resources that occur on and in association with forest lands. Benefits are derived from the multiple resources of the forest—wood, water, wildlife, recreation, forage, and environmental amenities. Foresters are managers of these resources. Thus, our principal instructional objective is to provide the broad education needed to deal effectively with the complex of forest resources.

FOREST RESOURCES MANAGEMENT CONCENTRATION

The forest resources management concentration provides an opportunity to obtain an education related to the management of the broad spectrum of wildland resources. In addition to the core of required courses, there are about 18 elective credit hours for broad studies or specialized training in one or more areas of forestry. These areas and examples of related fields of study are forest biology including plant physiology and morphology, ecology, genetics, tree nutrition, forest soils; forest business management including economics, accounting, finance, marketing, management science; forest economics including economics, business administration, social science; forest inventory, including mathematics, statistics, computer science; wildland recreation including natural and social sciences; and wildlife management including ecology and botany.

The university has over 21,000 acres of forest land available for teaching, research, and demonstration. The Tennessee Valley Authority, Great Smoky Mountains National Park, and Cherokee National Forest provide additional land and facilities available to the teaching program. Contained within these areas is a wide variety of different species and forest types ranging from elements of the boreal forest to southern pines and hardwoods. Lumber, pulp, and paper, and other wood-using industries cooperate in conducting tours and demonstrating industrial processes.
**WILDLAND RECREATION CONCENTRATION**

The wildland recreation concentration is an interdisciplinary program that prepares students to work in natural resource based recreation settings on private and public lands, including local, state, and national parks, and other state and federal agencies and private or non-profit organizations providing outdoor recreational opportunities.

Students prepare for professional positions in the planning, development, interpretation, and management of private and public lands for recreational purposes. Students also learn the basic philosophy and principles associated with the use of leisure time and the relationship of natural resources to the constructive use of leisure time.

Elective credits may be used to obtain specializations in complementary areas such as education, cultural and natural history interpretation, forestry, wildlife fisheries, communication and public relations, agricultural extension education, ornamental horticulture and landscape design, business and public administration; and the natural sciences, including ecology, and geology, as well as recreation and leisure studies.

Ten weeks of professional internship experience (6 credits) are required during the final 45 hours of credit in the program. The internship is a highly structured field experience guided by specific learning objectives pre-approved by the instructor and the field supervisor. The student receives one credit per two weeks of full-time field experience. Preparations for the internship are made in advance of actual placement. Summer employment or volunteer work in a related field prior to the internship is highly encouraged.

---

**Requirements for the Bachelor of Science in Forestry**

**Forestry Major**  
**Forest Resources Management Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry 100</td>
<td>.3</td>
</tr>
<tr>
<td>English 101*</td>
<td>.3</td>
</tr>
<tr>
<td>Mathematics 125*</td>
<td>.3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>.8</td>
</tr>
<tr>
<td>Chemistry 100*</td>
<td>.4</td>
</tr>
<tr>
<td>&quot;Social Science Elective&quot;*</td>
<td>.3</td>
</tr>
<tr>
<td>Free Electives</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry 214, 215</td>
<td>.6</td>
</tr>
<tr>
<td>Forestry, Wildlife and Fisheries 212</td>
<td>.3</td>
</tr>
<tr>
<td>Economics 201*</td>
<td>.4</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>.3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 325 or Geography 411</td>
<td>.3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>.3</td>
</tr>
<tr>
<td>Environmental and Soil Science 210</td>
<td>.4</td>
</tr>
<tr>
<td>&quot;Cultures and Civilizations Elective&quot;*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 312*, 313, 317</td>
<td>.8</td>
</tr>
<tr>
<td>Forestry 305, 306, 314, 321, 322, 323, 326, 329</td>
<td>.19</td>
</tr>
<tr>
<td>&quot;Arts and Humanities Elective&quot;*</td>
<td>.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 412, 416</td>
<td>.6</td>
</tr>
<tr>
<td>Forestry 331, 332, 420, 422</td>
<td>.6</td>
</tr>
<tr>
<td>Wildlife and Fisheries Science 433, 443, 444, or 445</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Ethics Elective&quot;*</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Cultures and Civilization Elective&quot;*</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Arts and Humanities Elective&quot;*</td>
<td>.3</td>
</tr>
<tr>
<td>&quot;Communication Elective&quot;*</td>
<td>.3</td>
</tr>
<tr>
<td>Free Electives</td>
<td>2-5</td>
</tr>
</tbody>
</table>

Total 120

---

1. Choose from Philosophy 110*, Political Science 102*, Psychology 110* or 117*, Sociology 110*, 117*, or 120*.
2. Electives are chosen in conference with advisor.
3. General Education Electives. Choose two courses from the Cultures and Civilizations list and two courses from the Arts and Humanities list for a total 12 credit hours. Forestry, Wildlife and Fisheries 312 meets the Communicating through Writing (WC) requirement.
4. Choose from Philosophy 110* (AH, 130, 243* (AH, WC), 245* (AH), 290* (AH, WC), or 340* (WC). If the student selects an Ethics Elective that satisfies the Arts and Humanities General Education Requirement, then the student may select an additional Free Elective in lieu of the Arts and Humanities Elective listed in the Fourth Year.

---

**Minor in Forestry**

**Required Courses**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry 100</td>
</tr>
<tr>
<td>English 101*, 102*</td>
</tr>
<tr>
<td>Mathematics 125*</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
</tr>
<tr>
<td>Psychology 110*, Sociology 120*, Political Science 102*</td>
</tr>
<tr>
<td>Sociology 110*, or Anthropology 130*</td>
</tr>
<tr>
<td>&quot;Cultures and Civilizations&quot; or Arts and Humanities&quot; Elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry 214, 215</td>
</tr>
<tr>
<td>Economics 201*</td>
</tr>
<tr>
<td>Statistics 201*</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
</tr>
<tr>
<td>Select one from Art Media Arts 231, 236; Communication Studies 220, 270, 310, 320, 330, 420; English 295*; Journalism and Electronic Media 201*, 290, 412, 450*, 451*, 488</td>
</tr>
<tr>
<td>&quot;Cultures and Civilizations&quot; or Arts and Humanities&quot; Electives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 312*, 313, 317</td>
</tr>
<tr>
<td>Forestry 321, 423</td>
</tr>
<tr>
<td>Forestry 314; Political Science 440, 441; Plant Sciences 427; or Management 440</td>
</tr>
<tr>
<td>Recreation 310, 410, 415, 430, 470</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 212, 326; Geography 310, 410, 411, 413; Political Science 403; Agriculture and Natural Resources 290</td>
</tr>
<tr>
<td>Select one course from Sociology 345, 360, 370, 464, 465; Philosophy 245*; Geography 320, 323, 345</td>
</tr>
<tr>
<td>Select one from Plant Sciences 280, 350, 370, 421, 437</td>
</tr>
<tr>
<td>&quot;Cultures and Civilizations&quot; or Arts and Humanities&quot; Elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry 422,495</td>
</tr>
<tr>
<td>Forestry, Wildlife and Fisheries 412, 416</td>
</tr>
<tr>
<td>Select one from Forestry, Wildlife and Fisheries 410; Wildlife and Fisheries Science 443, 444, 445</td>
</tr>
<tr>
<td>Electives</td>
</tr>
</tbody>
</table>

Total 15

---

**WILDLIFE AND FISHERIES SCIENCE MAJOR**

Wildlife and fisheries management is the science and art of maintaining populations of wild animals at levels consistent with the best interests of wild species and of the public. Management goals may be aesthetic, economic, or ecological. Success depends upon wildlife and fisheries biologists providing assistance; scholarly application of scientific information and methods to these goals; ecological perspective; and execution of programs to maintain past successes, to prevent repetition of past failures, and to prepare for future needs.
### Requirements for the Bachelor of Science in Wildlife and Fisheries Science • Wildlife and Fisheries Science Major

#### Wildlife and Fisheries Science Management

<table>
<thead>
<tr>
<th>Concentration</th>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Forestry, Wildlife and Fisheries 250*</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>1 Biology 130*, 140* or 101*, 102*</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>2 Chemistry 120*, 130* or 100*, 110*</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>2 Cultures and Civilizations* or Arts and Humanities Elective*</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

#### Second Year

| Forestry, Wildlife and Fisheries 212 | 3 |
| Wildlife and Fisheries Science 201 | 1 |

#### Third Year

| Wildlife and Fisheries Science 305, 323, 340, 341, 350, 440, 442 | 16 |
| Wildlife and Fisheries 312*, 313, 317 | 8 |
| Ecology and Evolutionary Biology 470 or Environmental and Soil Science 324 | 3-4 |
| 2 Cultures and Civilizations* or Arts and Humanities Elective* | 3 |

#### Fourth Year

| Wildlife and Fisheries Science 443, 444, 445 | 9 |
| Forestry, Wildlife and Fisheries 416 | 3 |
| Ecology and Evolutionary Biology 330 or 433 | 3 |
| Ecology and Evolutionary Biology 474 | 4 |
| 3 Science Elective | 6 |
| 2 Social Science Elective* | 3 |

**Total 125-127**

* Meets University General Education Requirement
1. Chemistry 130 is a prerequisite/corequisite to Biology 140, therefore a student selects Chemistry 120-130 and Biology 130-140; otherwise the student must elect Chemistry 100-110 and Biology 101-102.
2. Must be a departmental approved internship.
3. 300-level and above from animal science, biosystems engineering technology; ecology and evolutionary biology; entomology and plant pathology; environmental and soil sciences; forestry; forestry, wildlife and fisheries; plant sciences; wildlife and fisheries science; or Geographical 410, 412, 413, 436.

### Requirements for the Bachelor of Science in Wildlife and Fisheries Science • Wildlife and Fisheries Science Major

#### Wildlife Health Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wildlife and Fisheries Science 101</td>
<td>1</td>
</tr>
<tr>
<td>Forestry, Wildlife and Fisheries 250</td>
<td>3</td>
</tr>
<tr>
<td>Biology 130*, 140*</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 120*, 130*</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 125*</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201* or Mathematics 115*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
</tbody>
</table>

#### Second Year

| Wildlife and Fisheries Science 201 | 1            |
| Animal Science 220               | 3            |
| Biology 240, 250                 | 8            |
| Microbiology 310, 319            | 5            |
| Chemistry 330, 369, 389          | 8            |
| Physics 221*, 222*               | 8            |

#### Third Year

| Wildlife and Fisheries Science 301 | 3            |
| Forestry, Wildlife and Fisheries 317 | 3            |
| Animal Science 380                 | 3            |

### Minor in Wildlife and Fisheries Science

#### Required Courses

| Forestry, Wildlife and Fisheries 250 | 3 |
| Wildlife and Fisheries 317 | 3 |
| Select three from Forestry, Wildlife and Fisheries 416; Wildlife and Fisheries Science 433, 443, 444, 445 | 9 |

**Total 15**

### DEPARTMENT OF PLANT SCIENCES

http://plantsciences.utk.edu/

G. Neil Rhodes, Head

**Professors**

- Albrecht, M.L. (Associate Dean), PhD — Ohio State
- Allen, F.L., PhD — Minnesota
- Denton, H.P., PhD — North Carolina State
- Hayes, R.M., PhD — Illinois
- Lockwood, D.W., PhD — Purdue
- Miller, R.D., PhD — Kentucky
- Mueller, T.C., PhD — Georgia
- Rhodes, G.N., PhD — North Carolina State
- Samples, T.J., PhD — Oklahoma State
- Sams, C.E. (Austin Distinguished Professor), PhD — Michigan State
- Stewart, C.N. (Racchell Chair), PhD — Virginia Tech
- West, D.R., PhD — Nebraska

**Associate Professors**

- Cheng, Z.M., PhD — Cornell
- Gwathmey, C.O., PhD — California (Riverside)
- Hamilton, S.L., EdD — Tennessee
- Klingeman, W.E., PhD — Georgia
- Mendez, G.L., MS — Tennessee
- Pantalone, V.R., PhD — North Carolina State
- Rogers, S.M., MLA — Georgia
- Stewart, C.E., MLA — Georgia

**Assistant Professors**

- Bailey, W.A., PhD — Virginia Tech
- Chen, F., PhD — California (Davis)
- Kopsell, D.A., PhD — Georgia
- McElroy, J.S., PhD — North Carolina State
- Smith, Cornell
- Sorojan, J.C., PhD — Michigan State
- Steckel, L.E., PhD — Illinois
- Thompson, M.A., PhD — Tennessee
Academic programs in the Department of Plant Sciences span the art, science and technology of plant use in society. Students receive preparation for careers in horticulture and agronomy within four concentrations – landscape design and construction; plant science, biotechnology and horticulture; public horticulture; and turfgrass science and management. With increasing emphasis placed on plants in urban areas, extensive training is offered in landscape horticulture (planning, implementation and management for landscapes, turf and gardens). Comprehensive programs are also offered in plant biotechnology and plant production.

Upon entering the department, each student is assigned a faculty advisor for guidance in selection of career specialties and elective courses. The curriculum builds upon the University General Education Requirement with critical courses in botany, soils, and business and adds a set of required departmental courses specific to each concentration. Students are able to customize their program by selecting electives. Students in all concentrations are trained to work knowledgeably in general plant culture. Students are encouraged to earn a minor in a supportive field to further enhance their academic training and professional competitiveness. While firmly grounding students in the knowledge and skills of the plant sciences and arts, our curricula emphasize critical thinking and creative activity. Our students also gain the theoretical education necessary for continuing on for advanced degrees in plant-related fields.

Students should declare a concentration early in their undergraduate program and strictly follow the curriculum described for the concentration. Students who transfer into plant sciences from other colleges or programs must meet the same requirements as those entering the department as freshmen.

Internship or undergraduate research participation is required for each concentration. Full-time summer internships are available at selected local, regional, and national companies or institutions. Part-time summer or semester internships and research experiences are available from the Department of Plant Sciences, other university departments and laboratories, and local commercial firms.

Our graduates find employment in a wide variety of professions. In working for others or within their own businesses, graduates of the landscape concentration design residential landscapes, select proper woody and herbaceous plant materials for specific sites, restore native landscapes, specify specialty components dealing with landscape construction (irrigation, lighting, water features), prepare materials lists and cost estimates for landscape installations, and manage landscape crews. Turf majors have career opportunities in the industries involved with lawn management, athletic fields, golf courses, sales, and park and grounds maintenance. The public horticulture concentration prepares students for careers in botanic gardens, zoos and national parks; professional writing, television and radio; urban forestry; teaching; and municipal and university horticulture. Graduates in plant science, biotechnology and horticulture find employment in education, consulting, sales, agricultural extension, and research and development.

### Core Courses

The core courses for the plant sciences concentrations which are required for entry into upper-division courses are as follows.

**LANDSCAPE DESIGN CONCENTRATION**

Two courses in English composition (English 101 and 102 or equivalent); Mathematics 111 or 123 or 151 or equivalent; Computer Sciences 100 or 120 or equivalent; human resource development (Chemistry 100 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Basic Landscape Plants (Plant Sciences 220 or equivalent); Fundamentals of Landscape Design (Plant Sciences 280 or equivalent).

**PLANT SCIENCE, BIOTECHNOLOGY AND HORTICULTURE CONCENTRATION**

Two courses in English composition (English 101 and 102 or equivalent); Mathematics 111 or 123 or 151 or equivalent; Computer Sciences 100 or 120 or equivalent; human resource development (Chemistry 100 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Computer Applications to Problem Solving (Agriculture and Natural Resources 290 or equivalent).

**PUBLIC HORTICULTURE CONCENTRATION**

Two courses in English composition (English 101 and 102 or equivalent); Mathematics 111 or 123 or 151 or equivalent; Computer Sciences 100 or 120 or equivalent; human resource development (Chemistry 100 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Computer Applications to Problem Solving (Agriculture and Natural Resources 290 or equivalent).

**TURFGRASS SCIENCE AND MANAGEMENT CONCENTRATION**

Two courses in English composition (English 101 and 102 or equivalent); Mathematics 111 or 123 or 151 or equivalent; Computer Sciences 100 or 120 or equivalent; human resource development (Chemistry 100 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Turfgrass Management (Plant Sciences 240 or equivalent); Computer Applications to Problem Solving (Agriculture and Natural Resources 290 or equivalent).

**PLANT SCIENCES, BIOTECHNOLOGY AND HORTICULTURE CONCENTRATION**

Two courses in English composition (English 101 and 102 or equivalent); Mathematics 111 or 123 or 151 or equivalent; Computer Sciences 100 or 120 or equivalent; human resource development (Chemistry 100 or 120 or equivalent); two courses in general botany (Biology 111 and 112 or equivalent); soil science (Environmental and Soil Sciences 210 or equivalent); Computer Applications to Problem Solving (Agriculture and Natural Resources 290 or equivalent).

### Technical Electives

**LANDSCAPE DESIGN AND CONSTRUCTION CONCENTRATION**

Architecture 111, 180, 211, 232, 421; Art 101, 103, 191, 295; Art Drawing 211, 212; Art Media Arts 231, 331; Art Painting 213, 214, 215, 216; Biochemistry and Cellular and Molecular Biology 306; Biology 250; Biosystems Engineering Technology 202, 212; Ecology and Evolutionary Biology 304, 330, 433; Communication Studies 230, 310; English 360; Entomology and Plant Pathology 201, 306, 313, 321, 410; Environmental and Soil Science 324, 334; Forestry 321; Forestry Wildlife and Fisheries 211, 250, 311; Geography 365, 366; Geology 201, 202, 203; Philosophy 243, 244, 245; Political Science 402, 403, 446; Spanish 211, 212.

**PLANT SCIENCES, BIOTECHNOLOGY AND HORTICULTURE CONCENTRATION**

Agricultural Economics 330, 342, 350, 412; Accounting 200; Biochemistry and Cellular and Molecular Biology 310, 330, 401, 402, 404; Biology 240; Biosystems Engineering Technology 236; Business Administration 212; Chemistry 250; Ecology and Evolutionary Biology 304, 410, 414, 433; English 360; Entomology and Plant Pathology 451; Environmental and Soil Sciences 355, 442; Finance 301; Management 300; Marketing 300; Microbiology 210; Physics 221.

**PUBLIC HORTICULTURE CONCENTRATION**

Accounting 415; Art 481; Agriculture and Extension Education 345; Communication Studies 440; Ecology and Evolutionary Biology 309, 330, 433; Education and Administration and Policy Studies 200; Educational Psychology 102, 101; English 360; Human Resource Development 362; Philosophy 245; Public Relations 270, 470; Recreation and Leisure Studies 201, 430.

**TURFGRASS SCIENCE AND MANAGEMENT CONCENTRATION**

Agricultural Economics 212; Biosystems Engineering Technology 202, 212, 452, 462; Entomology and Plant Pathology 321, 410; Environmental and Soil Science 324.

Courses marked with an * meet the University General Education Requirement.
PLANT SCIENCES MAJOR
LANDSCAPE DESIGN AND CONSTRUCTION CONCENTRATION

Landscape designers create aesthetic concepts and practical designs for improved outdoor living. Students study fundamental and advanced landscape design, landscape design graphics, computer-aided landscape design, surveying, art, socio-economic impact of plants, field botany, professional practices, contracting, basic woody plant identification, landscape construction and maintenance methods. The development of comprehensive design projects helps students prepare for careers in landscape design or advanced studies in landscape architecture. Graduates in design and construction are prepared for employment in several professions in ornamental horticulture. Careful selection of departmental courses and other electives in consultation with the assigned academic advisor will allow graduates to pursue suitable career paths.

Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Landscape Design and Construction Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 100* or 120*</td>
<td>4</td>
</tr>
<tr>
<td>Computer Science 100*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 113*, 123* or 151*</td>
<td>3</td>
</tr>
<tr>
<td>2. Social Sciences Elective*</td>
<td>3-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>2. Economics Elective*</td>
<td>3-4</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 210, 220, 280</td>
<td>9</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>9</td>
</tr>
<tr>
<td>Unrestricted Elective</td>
<td>2-4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 350, 380</td>
<td>6</td>
</tr>
<tr>
<td>Select from Plant Sciences 226, 230, 240, 330, 348, 360, or 370</td>
<td>5-6</td>
</tr>
<tr>
<td>Plant Sciences 290 or 291</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>6</td>
</tr>
<tr>
<td>Unrestricted Elective</td>
<td>3-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year – Summer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Sciences 492</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>2. Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 421, 460, 480, 485</td>
<td>13</td>
</tr>
<tr>
<td>Select from Plant Sciences 348, 410, 427, 429, 430, 434, 437, 441, 446, 450, 469, 470, or 493</td>
<td>5-6</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>4-5</td>
</tr>
</tbody>
</table>

**Total 124**

* Meets University General Education Requirement.
1. Choose from the University General Education lists. Selection should be made in conference with academic advisor.
2. Economics 201 satisfies the University General Education-Social Science requirement and the major requirement for economics. If the student transfers ECON LD for 3 credit hours, it will satisfy the major requirement for economics but will not satisfy the University General Education-Social Science requirement. In these cases, the student should take two courses from the Social Sciences list.

NOTE: Students must meet the University General Education Requirement for Communicating through Writing by selecting a course with a (WC) designation. This course may be in the major or from another discipline.

PLANT SCIENCE, BIOTECHNOLOGY AND HORTICULTURE CONCENTRATION

The plant science, biotechnology and horticulture concentration is designed for students desiring to pursue professions in biotechnology or commercial production of agronomic and horticultural crops. This concentration also prepares students for graduate studies in plant sciences. Careful selection of departmental courses and other electives in consultation with the assigned academic advisor will prepare graduates for the career of their choice. The concentration consists of two tracks of study – emphasis in production horticulture and emphasis in science and biotechnology.

Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Plant Science, Biotechnology and Horticulture Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 100* and 110*, or 120* and 130*</td>
<td>8</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 151*, 152*</td>
<td>6</td>
</tr>
<tr>
<td>Plant Sciences 115</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 212</td>
<td>3</td>
</tr>
<tr>
<td>1. Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Communication Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>1. Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 210*</td>
<td>3</td>
</tr>
<tr>
<td>2. Social Sciences Elective*</td>
<td>3-6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 321 or Forestry 414</td>
<td>4</td>
</tr>
<tr>
<td>1. Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>English 360* for Production Horticulture Track or Chemistry 350 for Science and Biotechnology Track</td>
<td>3</td>
</tr>
<tr>
<td>Select from Plant Sciences 235, 240, 241, 330, 370, 410, 430, 434, or 435</td>
<td>9</td>
</tr>
<tr>
<td>Plant Sciences 457, 458 or 457, 459; Entomology and Plant Pathology 313 or 321 or 410</td>
<td>6</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>0-2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Select from Plant Sciences 235, 240, 241, 370, 410, 430, 434, or 435 for Production Horticulture Track; or Plant Sciences 353 and 454 for Science and Biotechnology Track</td>
<td>6</td>
</tr>
<tr>
<td>Plant Sciences 470</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 492 or 493</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 331 and Technical Electives for Production Horticulture Track, or Plant Sciences 461 for Science and Biotechnology Track</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>10</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>3-4</td>
</tr>
</tbody>
</table>

**Total 124**

* Meets University General Education Requirement.
1. Choose from the University General Education lists. Selection should be made in conference with academic advisor.
2. Economics 201 (4) satisfies the University General Education-Social Science requirement and the major requirement for economics. If the student transfers ECON LD for 3 credit hours, it will satisfy the major requirement for economics but will not satisfy the University General Education-Social Science requirement. In these cases, the student should take two courses from the Social Sciences list.

NOTE: Students must meet the University General Education Requirement for Communicating through Writing by selecting a course with a (WC) designation. This course may be in the major or from another discipline.
PUBLIC HORTICULTURE CONCENTRATION

The public horticulture concentration is intended for students interested in professional careers that promote horticulture and emphasize people, their education and their enjoyment of plants. Such careers include director of a botanical garden or park; city or urban horticulturist; extension agent, teacher, educational director, or program coordinator; professional garden writer/editor or publication manager; horticulture therapist; public garden curator; and plant collections manager. Technical electives allow students to concentrate in specialties of their interest while encouraging the development of strong communication skills. Students are encouraged to earn a minor degree in a supportive field such as education, communications or journalism, or earn a Non-Profit Management Certificate.

Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Public Horticulture Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 100* or 120*</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 100* or 102**</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 113*, 123*, or 151*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Communications Studies 240*</td>
<td>3</td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 210</td>
<td>3</td>
</tr>
<tr>
<td>Select from Plant Sciences 220, 226, 280, 290, or 291</td>
<td>11</td>
</tr>
<tr>
<td>1Social Sciences Elective*</td>
<td>3</td>
</tr>
<tr>
<td>2Economics Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>0-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 230, 240, 328, 330, 348, 370, 410, 434, 436</td>
<td>22</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>4-5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year - Summer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Sciences 492</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Entomology and Plant Pathology 313 or 321</td>
<td>3</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 410</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 470</td>
<td>3</td>
</tr>
<tr>
<td>Select from Plant Sciences 427, 430, 437, 439, 446, or 469</td>
<td>10</td>
</tr>
<tr>
<td>Plant Sciences 448 or 494</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 421 or Unrestricted Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

| Total 124 |

* Meets University General Education Requirement.
1 Choose from the University General Education lists. Selection should be made in conference with academic advisor.
2 Economics 201 (4) satisfies the University General Education-Social Science requirement and the major requirement for economics. If the student transfers ECON LD for 3 credit hours, it will satisfy the major requirement for economics but will not satisfy the University General Education-Social Science requirement. In these cases, the student should take two courses from the Social Sciences list.

NOTE: Students must meet the University General Education Requirement for Communicating through Writing by selecting a course with a (WC) designation. This course may be in the major or from another discipline.

TURFGRASS SCIENCE AND MANAGEMENT CONCENTRATION

The turfgrass science and management concentration is designed for the student desiring to pursue professions that include growing and managing turfgrasses used for golf courses, parks, athletic fields, sports complexes, and residential and commercial lawns. This concentration also prepares students for graduate studies in turfgrass science. Students are encouraged to earn a minor degree in a supportive field such as agricultural economics or environmental and soil sciences. Careful selection of departmental courses and other electives in consultation with the assigned academic advisor will prepare graduates for the career of their choice.

Requirements for the Bachelor of Science in Plant Sciences • Plant Sciences Major • Turfgrass Science and Management Concentration

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 100* and 110*, or 120* and 130*</td>
<td>8</td>
</tr>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 123* and 125*, or 151* and 152*</td>
<td>6</td>
</tr>
<tr>
<td>1Social Sciences Elective*</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Biology 111*, 112*</td>
<td>8</td>
</tr>
<tr>
<td>Communications Studies 210* or 240*</td>
<td>3</td>
</tr>
<tr>
<td>2Economics Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>Plant Sciences 240, 241</td>
<td>4</td>
</tr>
<tr>
<td>Select from Plant Sciences 210, 220, 280, or 290</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>2-3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1Cultures and Civilizations Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Select from Plant Sciences 210, 220, 280, 290 or 291</td>
<td>3</td>
</tr>
<tr>
<td>Plant Sciences 330, 331, 341, 343, 348, 442, and 457-458</td>
<td>13</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>3</td>
</tr>
<tr>
<td>Unrestricted Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year - Summer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Plant Sciences 492</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1Arts and Humanities Elective*</td>
<td>3</td>
</tr>
<tr>
<td>Biology 250 or Biochemistry and Cellular Molecular Biology 321</td>
<td>4</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 313</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 334</td>
<td>3</td>
</tr>
<tr>
<td>Select from Plant Sciences 353, 360, 410, 421, 427, 429, 430, 434, 435, 436, 437, 446, 448*, 449, 451, 461, 469, or 494</td>
<td>6</td>
</tr>
<tr>
<td>Plant Sciences 441, 470</td>
<td>5</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>4-5</td>
</tr>
</tbody>
</table>

| Total 124 |

* Meets University General Education Requirement.
1 Choose from the University General Education lists. Selection should be made in conference with academic advisor.
2 Economics 201 (4) satisfies the University General Education-Social Science requirement and the major requirement for economics. If the student transfers ECON LD for 3 credit hours, it will satisfy the major requirement for economics but will not satisfy the University General Education-Social Science requirement. In these cases, the student should take two courses from the approved Social Sciences list.
To See and Understand.
To Envision and Create.

The mission of the College of Architecture and Design is the education of future design professionals. A professional education is characterized by integrity and responsibility, and informed by knowledge and orientation.

Our college is brought together to promote and sustain the built and natural environments through the development of design skills and the pursuit of knowledge.

We are committed to the development of individuals with creative imagination, intellectual curiosity, and technical knowledge.

We educate students in the design disciplines who can form independent judgment grounded in the broader contexts of intellectual traditions.

The students and staff of the College of Architecture and Design strive to make the college a community of inquiry, energy, and excellence, integrating research, creative activity, public service, teaching, and learning.

Professional Accreditation

The College of Architecture and Design includes three basic, professionally accredited programs of study at the undergraduate and graduate level.

Bachelor of Architecture
A professionally accredited five-year undergraduate first professional degree program of study.

Bachelor of Science in Interior Design
A professionally accredited four-year undergraduate program of study.

Master of Architecture
A professionally accredited first professional degree for students from any academic background. This three-year course of study is described in the Graduate Catalog.

Accreditation

Architecture
In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees – the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a six-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Master’s degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree. The University of Tennessee, Knoxville, offers both the five-year Bachelor of Architecture and a three-year Master of Architecture for students with an unrelated bachelor’s degree.

The four year pre-professional degree, where offered, or other architectural technology degrees are not accredited by NAAB. The pre-professional degree is useful for those wishing a foundation in the field of architecture, as preparation for either continued education in a professional degree program or for employment options in architecturally related areas.

Interior Design
Most states require that an individual intending to become a licensed interior designer hold a professionally accredited degree. The University of Tennessee, Knoxville, offers a four-year Bachelor of Science in Interior Design. It is professionally accredited by the Foundation for Interior Design Education and Research (FIDER), the sole agency authorized to accredit U.S. professional degree programs in interior design.

Admission

Due to the limited size of the design studios and college resources, admission to the College of Architecture and Design is highly selective, based on test scores, high school record, student application, and portfolio. In making its decisions, the college also requires a portfolio from applicants (see information below). Applicants will be informed of their status by April 15 of each year.

Required Portfolio
All applicants must submit a portfolio of personally produced graphic or visual work. The purpose of the portfolio is to demonstrate visual talent and abilities.

Aim for quality rather than quantity in selecting work. An ideal number would be eight to ten examples of personal work. All work shall be neatly assembled in an 8½ × 11 portfolio or organ-
in recent years. Transfer students should apply by February 1, and have at least a 2.30 grade point average to be considered. The fall. Transfer students are required to submit a portfolio and to transfer students to proceed to the second year course of study for the curriculum, entry in any semester other than fall may be difficult. Transfer Students

or architecture courses based on drafting are not recommended. take the national AP exam. Extensive drafting, mechanical drawing Advice to High School Students

College Admissions Committee. In addition, include a self-

The 8½ x 11 portfolio should be sent, with the application, to the Office of Admissions. It will be reviewed by members of the College Admissions Committee. In addition, include a self-addressed stamped mailer for the return of the portfolio. Otherwise, portfolios will not be held nor returned.

Advice to High School Students

High school students are encouraged to take physics, art, and calculus. Students enrolled in Advanced Placement courses should take the national AP exam. Extensive drafting, mechanical drawing or architecture courses based on drafting are not recommended.

Transfer Students

It should be noted that due to the strong sequential character of the curriculum, entry in any semester other than fall may be difficult. A course of summer study is usually offered which would allow transfer students to proceed to the second year course of study for the fall. Transfer students are required to submit a portfolio and to have at least a 2.30 grade point average to be considered. The average grade point average has been 3.50 for students accepted in recent years. Transfer students should apply by February 1, and should discuss their options with the Director of Student Services.

Academic Policies

Advising

Students must plan their schedule in consultation with the college’s Advising Center. In addition, entering architecture and interior design students will be assigned to an upper-class student who will serve as a peer advisor. The Director of Student Services is available to answer additional questions and to oversee questions related to admissions, advising, and career placement.

All academic policies of the College of Architecture and Design are summarized in the Student Handbook, published each year by the college and on the Web site.

Course Load

The average course load in any semester is 17 credit hours. The minimum which may be taken by full-time students is 12 hours. The maximum which may be taken without approval of the dean is 19 hours.

Satisfactory/No Credit Courses

Courses that are a part of the specific requirements of the college cannot be taken as Satisfactory/No Credit. Credit hours over and above the specific graduation requirements may be taken Satisfactory/No Credit. A student who desires to take a course Satisfactory/No Credit should indicate this at the start of registration. Courses evaluated as Satisfactory will count as hours toward graduation but will not be calculated in the student’s GPA.

SCHOOL OF ARCHITECTURE

Professors

Davis, M.K., MArch ........................................... Harvard
Kelso, R.M., PhD .................................................. Loughborough
Kinzy, S.A., PhD ............................................. State University of New York (Buffalo)
McRae, J.M. (Dean), MArch .................................. Rice
Rabun, J.S., PhD .............................................. York
Robinson, M.A. (Director), MArch ......................... Pennsylvania
Shell, W.S., MArch .......................................... Columbia

Associate Professors

Davis, T.K., MArch ............................................. Cornell
DeKay, M., MArch ............................................. Oregon
Debelius, C.A., MArch ........................................ Harvard
Dodds, G., PhD .................................................. Pennsylvania
Fox, D., MArch ................................................. Cranbrook Academy of Art
Kllingberger, B., Dipl-Ing .................................... RWTH (Aachen)
Martella, W.E., BArch ....................................... California (Berkeley)
Moir-McClean, T., MArch .................................... Michigan
Schimenti, M., MArch ........................................ Florida
Stach, E., Dipl-Ing ............................................. RWTH (Aachen)

Assistant Professors

Ambrozak, B., MArch ........................................ Princeton
Ambrozak, K., MArch ........................................ Princeton
Shelton, T., MPhil ................................................ Cambridge
Stuth, T., MArch ............................................. Wisconsin

Shell, W.S., MArch .......................................... Columbia

Architecture involves the study and transformation of the built environment, from the scale of furniture to the scale of the city. The goal of an architectural education is to develop a synthetic thought process of critical thinking and creative problem solving. Creative thinkers must address all aspects of the built environment, in its cultural, social, and ethical context.

As a professional discipline, architecture spans both the arts and the sciences. Students must have an understanding of the arts and humanities, as well as a technical understanding of structures and construction. Skills in communication, both visual and verbal, are essential. While knowledge and skills must be developed, the school strongly emphasizes a process of critical thinking and creative activity.

Progression

Students must maintain an overall 2.30 grade point average by the end of 32 hours in order to maintain “full status” in the program. Delinquent students will be put on “temporary status” for one semester. These students will have one semester to raise the overall GPA to 2.30. If the GPA is not brought up to a 2.30, the student will be dropped from the architecture program.

In order to graduate, students must receive a grade of C or better in all required professional courses from the School of Architecture.

Students may advance to second year design (271) with satisfactory completion of the first year program (including mathematics) with a grade point average of 2.30. Students may advance to third year design (371) with the completion of all first and second year courses. For 271 and all subsequent design courses, students must maintain a design grade point average of 2.30. Students must repeat the previous year design course(s) until the average is raised to 2.30.

Electives on the 300 and 400 level are open to all students who have the necessary prerequisites at any time.

Exceptions to academic policies may be made through petition, reviewed by the School’s Academic Standards Committee.

Special Programs in Architecture

The School of Architecture is committed to providing a variety of meaningful learning opportunities beyond the classroom itself.
Lectures, panel discussions, films, symposia, and exhibits are all important components of a lively academic environment. Within the regular course of study, students have an opportunity to explore diverse aspects of architecture related to urbanism, historic preservation, and community service. Since its founding, the school has always sponsored a foreign studies opportunity.

**Exhibits**

The Ewing Gallery in the Art and Architecture Building hosts numerous exhibits related to art and architecture. Adjacent to the Commons Space is an Exhibition Wall for more informal exhibits of students, faculty, and visiting artists and architects. In the Commons itself are more spontaneous exhibits of current student work.

**Field Trips**

Throughout the year, various field trips are organized by the school. The purpose of the field trips is to expose students to major cities with important architecture and to works of architecture that may not normally be open to the general public.

**Lectures, Films, and Videos**

The Robert B. Church Memorial Lecture Series is an annual endowed gift in memory of a former dean of the school. Over the years, the Church Lecture Series has allowed the school to bring prominent architects to Tennessee. The regular lecture series features architects, artists, theorists, planners, and historians who discuss their area of expertise. Films and videos also introduce students to a wide range of issues related to architecture, art, urbanism, and culture. Every spring, General Shale Corporation hosts a lecture as part of The Annual Architecture Spring Thing (TAAST), a traditional series of events organized by students.

**Special Topic Design Studios**

For many years, the school has provided opportunities for students to participate in off-campus design studios located in urban areas of the state. These studios combine creative work with community service to make an exceptional learning experience for advanced students.

During the summer, students may elect to participate in different programs sponsored by the University of Tennessee College of Architecture and Design. Furthermore, students may also participate in summer programs sponsored by other accredited architecture schools. Students will receive appropriate college credit, which may lead to advance standing within the program.

**Opportunities for Foreign Study**

Students in their fourth year of study may elect to spend one semester studying abroad in a program organized either by the University of Tennessee, Knoxville, or by other accredited architecture programs. Since 1988, the school has had a very successful exchange agreement with the University of Krakow in Poland.

In cooperation with Danish International Studies, a program is regularly offered in Copenhagen which attracts architecture students from around the world. The University of Tennessee, Knoxville, is involved in a recently established international studies at the Bauhaus University in Weimar. The university also has an exchange agreement with the Royal Melbourne Institute of Architecture in Melbourne, Australia, with Chongqing Institute of Architecture and Engineering in Sichuan Province, China, and with the University of Frankfurt in Germany.

During the summer, many different summer programs abroad sponsored by other architecture schools are available to UT Knoxville students for transfer credit. Students are encouraged to seek new educational experiences.

**The Profession's Participation in the School**

As the only accredited architecture program in the state, the School of Architecture and Design offers a close relationship with the architectural community of the city, state, and region. Professionals regularly come to the school to attend and respond to student presentations, to conduct workshops, to participate in School events, and to interview graduating students. Every spring, the architecture community of Knoxville attends an exhibit of graduating students' work, where students have the opportunity to discuss their designs with practicing architects.

Architecture, a broad field of study with many diverse ways for individuals to become involved in the profession. The profession itself is diversifying and changing rapidly due to changing financial structures, increasing specialization, expanding liability, and evolving electronic technology. Students are strongly urged to visit and work in different architectural offices in order to acquire a better sense of the profession and career commitment.

**BACHELOR OF ARCHITECTURE**

The curriculum for the Bachelor of Architecture degree includes a combination of required and elective courses offering the student both a solid professional program of study and a sound general education. While the majority of courses are designated as required, students may use the available architecture and general electives to broaden their education and to expand their knowledge in areas of personal interest.

All students studying for a Bachelor of Architecture degree will complete the following requirements in their course of study. For any additional specialized requirements, the student should refer to the Student Handbook of the School of Architecture and the student's faculty advisor.

### Requirements for the Bachelor of Architecture

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 101, 102</td>
<td>.5</td>
</tr>
<tr>
<td>Architecture 121, 122</td>
<td>.4</td>
</tr>
<tr>
<td>Architecture 171, 172</td>
<td>.7</td>
</tr>
<tr>
<td>Architecture 211*</td>
<td>.3</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>.6</td>
</tr>
<tr>
<td>Mathematics 125*</td>
<td>.3</td>
</tr>
<tr>
<td>Electives</td>
<td>.6</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 212*, 213*</td>
<td>.6</td>
</tr>
<tr>
<td>Architecture 231</td>
<td>.3</td>
</tr>
<tr>
<td>Architecture 232</td>
<td>.3</td>
</tr>
<tr>
<td>Architecture 271, 272</td>
<td>.12</td>
</tr>
<tr>
<td>Physics 161*</td>
<td>.3</td>
</tr>
<tr>
<td>Electives</td>
<td>.9</td>
</tr>
</tbody>
</table>

#### Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 312</td>
<td>.3</td>
</tr>
<tr>
<td>Architecture 331*, 332</td>
<td>.8</td>
</tr>
<tr>
<td>Architecture 341, 342</td>
<td>.8</td>
</tr>
<tr>
<td>Architecture 371, 372</td>
<td>.12</td>
</tr>
<tr>
<td>Electives</td>
<td>.3</td>
</tr>
</tbody>
</table>

#### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 431</td>
<td>.3</td>
</tr>
<tr>
<td>Architecture 471, 472</td>
<td>.12</td>
</tr>
<tr>
<td>Electives</td>
<td>.18</td>
</tr>
</tbody>
</table>

#### Fifth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 462</td>
<td>.4</td>
</tr>
<tr>
<td>Architecture 480</td>
<td>.3</td>
</tr>
<tr>
<td>Architecture 481</td>
<td>.3</td>
</tr>
<tr>
<td>Design Course Option</td>
<td>.6</td>
</tr>
<tr>
<td>Electives</td>
<td>.15</td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.

<table>
<thead>
<tr>
<th>Description</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Students are not allowed to enroll simultaneously in two of these design courses.</td>
<td></td>
</tr>
<tr>
<td>2 Students are exempt from Mathematics 125 with a score of 25 or higher on the calculus readiness test. Students exempt from Mathematics 125 must take a higher-level Quantitative Reasoning elective to meet the University General Education Requirement.</td>
<td></td>
</tr>
<tr>
<td>3 Elective distribution -- Two courses from the Social Sciences (SS) list. Two courses from the Cultures and Civilizations (CC) list (which includes intermediate-level foreign languages). Twelve hours of architecture electives. Fifteen hours of non-architecture electives, which must include one course from the Natural Sciences (NS) list with a laboratory and one course from the Communicating Orally (OC) list. Twelve hours of free electives.</td>
<td></td>
</tr>
<tr>
<td>4 One course from the following Design Studio Options -- Architecture 482, 483, 485, 486, or 489. Architecture 472 may be taken at any time in the last three semesters.</td>
<td></td>
</tr>
</tbody>
</table>

Total 168
INTERIOR DESIGN PROGRAM

Professors
DeLong, A., PhD ........................................ Pennsylvania State
Rabun, J., PhD ........................................ Tennessee

Associate Professor
Robinson, M.B., MS ...................................... Massachusetts

Interior design involves the study and transformation of the environment at the human scale. Interior designers understand how the design of furnishings, function, and space can improve the quality of life. As licensed professionals, interior designers analyze complex design challenges involving interior construction and technical considerations related to issues such as lighting, acoustics and mechanical systems. Their designs must meet code issues involving fire, electricity, structure, occupancy and materials. Interior design is broader than interior decorating, which focuses primarily on furniture and finishes.

In designing the micro-environment for specific functions or programs, interior designers are knowledgeable about how users experience space. Interior designers understand how each detail of a design affects the overall concept.

The goal of an education in interior design is to develop a synthetic thought process of critical thinking and creative problem solving, while building technical knowledge and an understanding of the human environment. Creative thinkers, in architecture and interior design, must address all aspects of the built environment in its cultural, social, and ethical context.

The interior design program is professionally accredited by the Council for Interior Design Accreditation (CIDA). All graduates, with sufficient internship experience after graduation, are eligible to take the National Council for Interior Design Qualification (NCIDQ) exam.

Progression and Retention

Upon admission to the University of Tennessee, Knoxville, and the college, students may begin the interior design major. Progression into third year occurs after completion of Interior Design 272.

For progression into third year, students must meet the following criteria.

- Cumulative grade point average of 2.30 or greater.
- Cumulative grade point average in the major of 3.00 or greater in the following interior design courses – 141, 171, 172, 200, 221, 261, 271, 272.
- Degree of I must be removed before registration for next semester.
- Optional Portfolio Review.
- Successful interview following completion of Interior Design 272.

For retention, students must meet the following criteria.

- Before enrolling in any interior design course, a grade of C or better must be made in each prerequisite required interior design course.
- Cumulative grade point average of 2.30 or greater.
- Grade of I must be removed before registration for next interior design course.

For graduation from the interior design program, students must meet the following criteria.

- Grade of C or better in all interior design courses.

Special Programs in Interior Design

Required Summer Internship

All interior design students are required to have a professionally based summer internship. The faculty will help students find appropriate placement, as well as monitor the student’s progress in the internship.

Professional Community’s Involvement

As the oldest accredited interior design program in the state, the interior design program tries to maintain a close relationship with the interior design community of the city, state, and region. Professionals regularly come to the school to attend and respond to student presentations, to conduct workshops, to participate in school events, and to interview graduating students.

Field Trips

All interior design students regularly participate in a variety of field trips to important works of design as well as to interior design conventions and product shows.

Opportunities for Foreign Study

Students in their fourth year of study may elect to spend one semester studying abroad in a program organized either by the University of Tennessee or by other accredited interior design or architecture programs. In cooperation with the Department of Architecture at Krakow Polytechnic University and the Interior Design Program at the University of Tennessee, a study abroad program will be available in the fall and spring, along with a two-week charette in the summer. The Danish International Studies (DIS) is regularly offered and attracts interior design and architecture students from around the world.

BACHELOR OF SCIENCE IN INTERIOR DESIGN

The interior design curriculum is a rigorous course of study which combines technical courses, design studio courses, humanities, and a wide choice of electives. Through coursework and field study experiences, students develop specialized problem solving skills and knowledge for the analysis, planning and design of interior architectural environments. They apply the use of lighting, color, mechanical systems, and furnishings as they design spaces for both residential and commercial settings.

Beyond the professional core, students are encouraged to pursue interests related to horticulture, theater design, historic preservation, business, or other personal interests.

Requirements for the Bachelor of Science in Interior Design

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 121, 122, 171</td>
<td>7</td>
</tr>
<tr>
<td>English 101*, 102*</td>
<td>6</td>
</tr>
<tr>
<td>Interior Design 141, 171, 172</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 123*</td>
<td>3</td>
</tr>
<tr>
<td>1 Natural Science*</td>
<td>4</td>
</tr>
<tr>
<td>2 Social Sciences*</td>
<td>3</td>
</tr>
<tr>
<td>Second Year</td>
<td></td>
</tr>
<tr>
<td>Architecture 231</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172*, 173*</td>
<td>6</td>
</tr>
<tr>
<td>Interior Design 200, 221, 261, 271, 272</td>
<td>18</td>
</tr>
<tr>
<td>Physics 161*</td>
<td>3</td>
</tr>
<tr>
<td>Third Year</td>
<td></td>
</tr>
<tr>
<td>3 Communicating Orally*</td>
<td>3</td>
</tr>
<tr>
<td>4 Cultures and Civilizations*</td>
<td>3</td>
</tr>
<tr>
<td>Interior Design 311, 312, 331, 360, 371, 372, 460*</td>
<td>26</td>
</tr>
<tr>
<td>Materials Science Engineering 220</td>
<td>3</td>
</tr>
<tr>
<td>Summer</td>
<td></td>
</tr>
<tr>
<td>Interior Design 420</td>
<td>3</td>
</tr>
<tr>
<td>Fourth Year</td>
<td></td>
</tr>
<tr>
<td>5 Communicating through Writing*</td>
<td>3</td>
</tr>
<tr>
<td>4 Cultures and Civilizations*</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Interior Design 471, 472, 480</td>
<td>15</td>
</tr>
<tr>
<td>2 Social Sciences*</td>
<td>3</td>
</tr>
<tr>
<td>Total 127</td>
<td></td>
</tr>
</tbody>
</table>

* Meets University General Education Requirement.
1 See Natural Sciences list – University General Education Requirement. Select one course with a lab.
2 See Social Sciences list – University General Education Requirement. Select two courses from the list.
3 See Communicating Orally list – University General Education Requirement. Select one course from the list.
4 See Cultures and Civilizations list – University General Education Requirement. Select two non-U.S. History courses on the list or two courses in a foreign language at the intermediate level.
5 See Communicating through Writing list – University General Education Requirement. Select one course from the list.

First Year Courses

1 See Natural Sciences list – University General Education Requirement. Select one course with a lab.
2 See Social Sciences list – University General Education Requirement. Select two courses from the list.
3 See Communicating Orally list – University General Education Requirement. Select one course from the list.
4 See Cultures and Civilizations list – University General Education Requirement. Select two non-U.S. History courses on the list or two courses in a foreign language at the intermediate level.
5 See Communicating through Writing list – University General Education Requirement. Select one course from the list.
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, women's studies and Latin American studies are represented among the 26 departments and schools and 13 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 in and of itself, 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 thirteen 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 students for advanced study but do not lead to a degree from this college.

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. Three programs leading to this degree are open to the student.

Basic Program

The program appropriate for most Bachelor of Arts students is developed around the basic skills and distribution requirements of the basic program. 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.

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.

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 Bachelor of Science degree contains basic skills and distribution requirements similar to the basic program for the Bachelor of Arts 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+1 curricula in the health sciences (medicine, dentistry, pharmacy, veterinary medicine, or nuclear medicine 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 Bachelor of Science degree with a major concentration in the college.

Bachelor of Science in Chemistry
See Department of Chemistry.

Bachelor of Fine Arts
See School of Art.

Bachelor of Music
See School of Music.

Requirements for Degrees
To earn a Bachelor of Arts or Bachelor of Science degree, these requirements must be completed.
• All university degree requirements as described in the section, Academic Policies and Procedures – General Requirements for a Bachelor’s Degree.
• A minimum of 120 credit hours.
• At least 42 credit hours in courses numbered 300 or above.
• Appropriate work to satisfy basic skill and distribution requirements, counting no course in more than one area. (This is not a requirement in the College Scholars Program.)
• Completion of at least one major (24-40 credits at 200 level or above for Bachelor of Science majors and 24-37 credits at 200 level or above for Bachelor of Arts majors); up to 6 hours in the major may be used, where listed, to satisfy basic skills or divisional distribution requirements. Courses used for the major may not be used to satisfy upper level distribution requirements.

For instance, if a student wishes to concentrate in computer science, they may take additional classes in mathematics to fulfill the basic skills requirement. However, courses used in one area cannot be used in another area.

Bachelor of Science in Chemistry
See Department of Chemistry.

Bachelor of Fine Arts
See School of Art.

Bachelor of Music
See School of Music.

Basic Skills and Distribution Requirements
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
All students who earn a degree in the College of Arts and Sciences must have demonstrated skill in the use of the English language, the ability to acquire another language, and the ability to use the tools of quantitative analysis or formal logic. The specific requirements are as follows.

English Composition
Skills necessary to write persuasive, logical and coherent essays in English; to read critically texts from a variety of media; to evaluate and cite sources in research; and to be aware of how to write for different audiences and purposes.

Students may meet this requirement in one of two ways.
• By completing 6 hours in English writing courses – either English 101 and 102; or English 118 and English 102; or English 131 and 132. Students who obtain a grade of A or B in 118 may complete their freshman requirement with 102, or with a sophomore literature course in the English Department, or English 355. The sophomore literature course may, if so listed, also be used toward the humanities distribution requirement.

Placement Information
Eligibility for English 118 will be determined by ACT or SAT scores and a placement exam. Selected students will be placed in English 103 based on ACT or SAT scores and may not drop this course without departmental approval. Details are available from the English Department.
A student must complete the English composition requirement prior to enrolling in English courses numbered 200 or higher.

Communicating through Writing

To fulfill the University General Education Requirement, all students must complete the first year composition sequence described above, and, upon completion of English 101 and 102 or their equivalent, take one other course designated as (WC) in the Undergraduate Catalog. The WC course may or may not be within the student’s major. WC courses may also satisfy college distribution requirements.

Communicating Orally

The ability to communicate one’s ideas orally is as important as the ability to express them in writing. All students must fulfill the University General Education Requirement by completing one course with an (OC) designation. The OC course may or may not be within the student’s major. OC courses may also satisfy college distribution requirements.

Foreign Language

Skills necessary to learn the basic structures and vocabulary of a foreign language; to read, write, understand, and, for modern languages, speak a foreign language; to understand how to learn another language; to better understand one’s own native language; and to complement the study of other cultures or civilizations.

Students may meet this requirement in one of three ways:

- Completion of the intermediate-level sequence of a foreign language. Any one of the following sequences will satisfy the requirement – Asian Languages 231-232 or 251-252; Asian Studies 221-222, 241-242, or 261-262; French 211-212 or 217-218; German 201-202; Classics (Greek) 261 and 264; Classics (Latin) 251 and 252; Italian 211-212; Portuguese 211-212; Russian 201-202; Spanish 211-212 or 217-218.
- Demonstration of competence on a departmental placement examination or by AP or CLEP credit.
- Students whose native language is not English may satisfy the requirement with English 131 and 132 and any two courses from List A: Literature under the Humanities Distribution Requirement.

Placement Information

All students who wish to enroll in a French, German, Latin, or Spanish course, who have completed at least two years of this language in high school and who have not yet taken a college course in the language, must take a placement examination before enrolling. Placement in the appropriate course will be determined by the score on the examination. Examinations will be given during summer orientation and at designated times during the fall, spring, and summer. Students who place into 200-level courses will receive 6 hours of elementary language credit, provided that they do not subsequently enroll and receive credit for any 100-level course in the same language. If they do, elementary placement credit is forfeited and removed from the student’s transcript. Students who place into 300-level courses will receive 6 hours of intermediate language credit. Under no circumstances may any student earn more than 6 hours of language placement examination credit. Students who feel they have been inappropriately placed should consult the appropriate language section.

Mathematics and Quantitative Reasoning

Objectives: skills in mathematics, quantitative reasoning, and computing required for estimation and calculation, understanding logical processes, critical analysis, problem solving and decision making.

Students may meet this requirement by completion of two of the following courses, or one of the following courses and Computer Science 100 or 102.

- Statistics 201, 207.

Distribution Requirements

All of these requirements are designed to enhance the skills of thinking critically and analytically, and of effective communication and writing through study and use of different kinds of human knowledge. The distribution requirements are in two parts. Part A: Divisional Distribution Requirements, which require students to take courses in the various divisions of the college, and Part B: Upper-Level Distribution Requirements.

Part A: Divisional Distribution Requirements

Natural Science

A two-course laboratory sequence and an additional course that will introduce students to the increasingly important role of science and technology in all aspects of modern life. This requirement will introduce students to the basic discoveries, knowledge and logical organization of scientific disciplines and to development and testing of hypotheses. Laboratory courses will develop skills in experimental tests of hypotheses; lectures will introduce students to the role of scientific methodology and problem-solving in society.

Students may meet this requirement by completion of a two-course sequence from list A and an additional course from List A or List B.

List A

- Astronomy 161-162, 217-218; Biology 101-102, 111-112; Chemistry 100-110, 120-130, 128-138; Geography 131-132; two from Geology 101, 102, 103; Geology 107-108 (students who earn an A in 101 or a B or better in 107 may take 108); Physics 135-136, 137-138, 221-222.
- List B

Anthropology 110, 304; Astronomy 151; 152; Biochemistry and Cellular and Molecular Biology 230, 306 (same as Anthropology 304); Biology 130, 157; Chemistry 150, 160; Computer Science 140, 160; Ecology and Evolutionary Biology 309, 330, 410; Geology 201, 202, 203, 205; Mathematics 231; Microbiology 210; Physics 101, 102.

Social Science

Courses that will introduce students to the idea of individuals in societies, to perspectives and methods used by social scientists, and to the uses of these perspectives and methods in thinking about current social, economic and political issues and problems.

Bachelor of Arts students may meet this requirement by completion of four courses from at least two departments listed below. To meet the University General Education Requirement, two of the courses selected must be from List A. The other courses can be chosen from List A or List B. Bachelor of Science students must complete two courses from different departments. To meet the university’s general education requirement, both courses must be selected from List A.

List A

- Africana Studies 201, 202; Anthropology 130; Economics 201, 207; Geography 101, 102; Political Science 102; Psychology 110, 117; Sociology 110, 117, 120, 127.

List B

- Africana Studies 310; Anthropology 120, 362; Audiology and Speech Pathology 320; Communication Studies 201, 220, 260, 330; Ecology and Evolutionary Biology 304; Educational Psychology 210; Geography 320, 340; Global Studies 250; Linguistics 200; Musicology 290, 310; Political Science 101, 107; Psychology 220, 360; Religious Studies 232, 301; Sociology 232, 250, 260, 344, 370; Women’s Studies 220.
Humanities
Courses that will provide skills to appreciate and interpret literary, philosophical, or religious texts, and to participate as an appreciative observer or artist in a discipline within the visual, spatial, musical, theatrical, or written arts.

To meet the University General Education Requirement, students must choose two courses identified by an asterisk (*) from the list of courses below.

Bachelor of Arts students must complete three courses. At least two of the three courses must be chosen from those indicated by asterisks (*). In addition, one course must be selected from List A, one from List B, and one from List A, B, or C. Bachelor of Science students must complete two courses. Both courses must be chosen from those indicated by asterisks (*). One course must be selected from List A or B.

Writing-emphasis courses require at least 2,000 words, normally comprising one sustained essay or report 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 learn course materials through writing; develop critical thinking skills; demonstrate the ability to sustain an argument; and strengthen existing writing skills.

List A – Literature

List B – Philosophical and Religious Thought

List C – Study or Practice of the Arts

Non-U.S. History
A two-course sequence to enhance appreciation of the diversity of the world’s societies, their cultures, and histories. This requirement will develop understanding of how the past shapes individuals and communities in practical decisions and in understanding of self and world; will contribute to skills in explaining change and continuity of human society and the interpretation of people, events and trends in context of the ideas, values, social and political conditions that affect them.

Students may meet this requirement by completion of one of the following sequences. All courses are writing-emphasis courses.

Part B: Upper Level Distribution Requirements
Courses that use skills and knowledge acquired in the basic skills and divisional distribution areas to understand and analyze a highly interdependent world system and to make informed comparisons among contemporary cultures. These courses develop understanding of United States society, of national and international diversity, and of critical issues of the modern world.

Bachelor of Arts students may meet this requirement by completion of two courses from one list and one course from the other list. Bachelor of Science students must complete one course from each list. All courses are writing-emphasis courses.

List A – United States Studies
African Studies 315, 331, 333, 343, 352, 429, 445, 446, 480, 484; American Studies 310, 312, 334, 343, 355, 423, 469; Anthropology 305, 310, 312, 315, 320, 321, 322, 360, 363; Art History 470, 472, 473, 483; Cinema Studies 312, 334, 469; Communication Studies 450, 466, 469, 476; Ecology and Evolutionary Biology 305; Economics 331, 333, 361, 362, 371, 413, 435, 472; English 331, 332, 333, 334; Geography 361, 363, 365, 366, 423, 441, 443; Geology 381; History 350, 351, 354, 355, 445, 446, 453, 483; Legal Studies 330, 340, 455, 469; Philosophy 390; Political Science 311, 312, 330, 374; Psychology 434; Religious Studies 351, 352, 355; Sociology 310, 340, 343, 455; Women's Studies 310, 332, 340, 434, 453, 466, 469, 476, 484.

List B – Foreign Studies
This list is subdivided by geographic area and topic. If Western Civilization (History 241-242) or Medieval Civilization (Medieval Studies 201-202) is used to satisfy the non-United States history divisional requirement, courses from the European concentration may not be used to satisfy this requirement.

In addition to the courses listed here, this requirement may be satisfied by literature courses taught in Chinese, French, German, Greek, Hebrew, Italian, Japanese, Latin, Portuguese, Russian, Sanskrit, or Spanish. Literature courses in English translation will not meet this requirement.

Africa
African Studies 371, 372, 373, 379, 381, 421, 452, 461, 462, 463; Anthropology 324, 373; Art History 461, 462, 463; Geography 379; History 371, 372, 381; Political Science 452; Religious Studies 373.

Asia
Africana Studies 319, 321, 413; Cinema Studies 315; History 389, 390, 391, 392; Japanese 321, 413; Philosophy 374, 376, 379; Political Science 454; Religious Studies 374, 376, 379, 383, 474.

Europe
Anthropology 436, 462; Art History 425, 431, 441, 442, 451, 452, 453, 454, 475, 476; Cinema Studies 323, 325, 420, 422; Classics 381, 382, 383, 436; English 301, 302, 321, 401, 422; French 420, 431, 432; Geography 371; German 323, 350, 363; History 319, 320, 323, 425, 432, 471, 472, 490; Italian 414, 422; Judaic Studies 322, 350, 425, 431; Linguistics 321; Medieval Studies 322, 403, 405, 431, 441, 452, 451; Philosophy 320, 322, 324, 326; Political Science 361, 459; Russian 325, 371, 372; Women's Studies 383, 422, 432.

Latin America
Africana Studies 319; Anthropology 319, 316, 319, 323; Cinema Studies 326, 434, 465; Geography 373; History 360, 361, 460, 461, 462, 463, 465, 475; Latin American Studies 313, 314, 319, 326, 331, 360, 361, 372, 373, 401, 430, 432, 456, 460, 461, 462, 463, 475; Political Science 456; Portuguese 326, 430, 432; Spanish 331, 401, 434, 465, 489.

Middle East

Critical Issues in Foreign Studies
African Studies 442; Cinema Studies 482, Economics 322; Geography 345, 351; Global Studies 482; History 374, 375, 395, 484; Judaic Studies 395, 484; Mathematics 400; Modern Foreign Languages and Literatures 482; Political Science 350, 365; Sociology 360, 442, 446, 465; Women's Studies 360.
Majors
Requirements for specific majors vary by program and are discussed under each department or program. A major consists of at least 24-40 credit hours in courses numbered 200 or above as specified by the department or program. Courses taken to satisfy the university’s OC and WC requirements may, when appropriate, be used in the major. An additional 6 credits taken in the major may also be used to satisfy basic skills or divisional distribution requirements. A minimum grade of C must be earned in every course counted as part of the major. This grade requirement does not apply to prerequisites and corequisites unless the department has specific progression requirements.

Students transferring from other institutions must complete at least 9 credit hours at the University of Tennessee, Knoxville, in each major awarded on this campus. Students may elect as many courses as desired in any department or program. In lieu of a major, students may develop an individualized program (described below). Majors available in the basic program for a Bachelor of Arts or Bachelor of Science include: anthropology, art, art history, audiology, biological sciences, chemistry, classics, computer science, economics, English, French, geography, geology, German, history, interdisciplinary programs, Italian, mathematics, music, philosophy, physics, political science, psychology, religious studies, Russian, sociology, Spanish, speech pathology, statistics, and theatre.

Optional Multiple Majors
After the general requirements of basic 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 establishment 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.

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 minor 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.

Business Administration Minor for Non-Business Students
For details, see the College of Business Administration section of this catalog and contact the Undergraduate Programs Office (College of Business Administration), 112 Aconda Court.

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 at 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 additional courses in the major field; a related minor; an area in the arts; an off-campus semester. Only the student’s imagination and initiative and the willingness to conceive and develop a meaningful academic program limit the choices of supplementary elective courses.

Program for Prospective K-12 Teachers
Students planning careers in K-12 teaching must complete an Arts and Sciences major in a department, in one of the interdisciplinary programs, or, if eligible, in the College Scholars Program. Prospective secondary and middle school teachers must fulfill the requirements of appropriate content majors; prospective elementary teachers may choose any major in the College of Arts and Sciences.

To be licensed for teaching, students must also gain formal admission to the Teacher Education Program in the College of Education, Health, and Human Sciences. The process involves successful completion of a series of requirements including presentation of satisfactory scores on certain tests, completing professional courses in the College of Education, Health, and Human Sciences, maintenance of a 2.70 or higher GPA, and completing a fifth year program emphasizing practical application. For details, see the College of Education, Health, and Human Sciences section of this catalog and contact the Advising Center, Claxton Complex 332.

COLLEGE SCHOLARS PROGRAM
A limited number of freshmen and sophomores, entering transfer students with fewer than 42 credit hours, and resident students with fewer than 62 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 (mentor) 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 the 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, but will be required to meet the University General Education Requirement.

Further information and applications may be obtained from the College Scholars Office, 1116-B McClung Tower.

INDIVIDUALIZED PROGRAM
Existing Arts and Sciences majors will satisfy the needs of most students entering the university. Some, however, come with particular strengths in their preparation or with special interests which do not coincide with traditional departmental or interdepartmental majors. 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. Individualization takes place in the area of concentration. The quantitative aspect of the area of concentration is the same as for most majors in the basic program (i.e., a minimum of 24 hours in courses numbered above 200), and at least two-thirds of the courses must be selected from disciplines within the College of Arts and Sciences. 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. Students must submit their proposals for review by the committee prior to the completion of 75 hours of coursework. For further information contact Arts and Sciences Advising Services.

**CLINICAL LABORATORY SCIENCE MAJOR**

Students who complete the clinical laboratory science curriculum receive the Bachelor of Science degree with a major in clinical laboratory science from the College of Arts and Sciences. The curriculum requires a minimum of 90 hours of credit which includes the Basic Skills and Distribution requirements of the college and the University General Education Requirement 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 or the National Credentialing Agency to earn certification as clinical laboratory scientists or medical technologists. Admission to the clinical laboratory science program at UTMCK receive the Bachelor of Science with a major in pre-professional programs with a concentration in nuclear medicine technology from the College of Arts and Sciences.

Admission to the nuclear medicine 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.

**Requirements for the Bachelor of Science**

**Clinical Laboratory Science Major**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101* - 102*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>1 Biology 130</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Chemistry 120* - 130*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>2 Foreign Language - Intermediate Level*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>3 Mathematics*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communicating Orally (OC) course*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Chemistry 110</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 230</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Biology 240</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Microbiology 310-319</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Humanities* (one course from List A or B)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Non-US History*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 310, 319</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 310</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Microbiology 420, 429</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Microbiology 430</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>5 Social Sciences*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Humanities* (one course from List A, B, or C)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-Level Distribution (one course from List A and one course from List B)</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>6 Elective</td>
<td></td>
<td>0-3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Laboratory Science course of study at UT Medical Center in Knoxville (12-month program)</td>
<td></td>
<td>36</td>
</tr>
</tbody>
</table>

Total 120 (minimum)

* Meets University General Education Requirement.
1 Students who have previously completed Biology 101 and 102 for their lab science requirement may substitute these two courses for Biology 130.
2 This plan assumes a student has had enough language background in high school to begin the intermediate language sequence at UTK.
3 Math 115-125, Math 123-125, Math 151-152, or Math 141-142 are required for pre-clinical laboratory science students. Math placement depends on high school courses and grades, ACT scores, and BA/BBS requirements.
4 Students who have completed Chemistry 350-360, 369 may substitute it for Biochemistry 310 and Chemistry 110.
5 BS students must complete a minimum of 2 courses from the University General Education Requirement – Social Sciences. The courses must be from two departments.
6 Classics 273 is a highly recommended elective. One year of U.S. history must have been completed in high school or college prior to graduation from the clinical laboratory science program.

**PRE-PROFESSIONAL PROGRAMS MAJOR**

**NUCLEAR MEDICINE TECHNOLOGY CONCENTRATION**

The nuclear medicine technology curriculum requires a minimum of 90 hours credit, including the college’s Basic Skills and Distribution requirements and the University General Education Requirement, 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 Bachelor of Science with a major in pre-professional programs with a concentration in nuclear medicine technology from the College of Arts and Sciences.

Admission to the nuclear medicine 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.

**Requirements for the Bachelor of Science**

**Pre-Professional Programs Major – Nuclear Medicine Technology Concentration**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101* - 102*, or equivalent</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120* - 130*</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>1 Mathematics*</td>
<td></td>
<td>6-8</td>
</tr>
<tr>
<td>2 Biology 130</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Biology 140</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Communication Studies 210*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 350-360, 369</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>3 Foreign Language - Intermediate Level*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Non-U.S. History*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Humanities* (one course from List A or B)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>4 Social Sciences*</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Computer Science 100 or 102</td>
<td></td>
<td>3-4</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 230</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology 240</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Physics 221-222</td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Humanities* (one course from List A, B, or C)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>Upper-Level Distribution (one course from List A and one course from List B)</td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of Nuclear Medicine Technology program at the University of Tennessee Medical Center, Knoxville UTMCK (12 month program) or completion of major program and Bachelor of Arts or Bachelor of Science requirements.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fall Semester**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>410 Physics for Nuclear Medicine I</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>411 Nuclear Instrumentation</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>412 Radiopharmacy</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>420 Clinical Nuclear Medicine I</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>450 Clinical Practicum I</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
**Pre-Dental Concentration**

The college offers 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 at UT Health Science Center, Memphis. The Doctor of Dental Surgery (DDS) degree is conferred by the College of Dentistry upon completion of four years of professional study at Memphis after completing either of the two programs options. Bulletins describing the pre-dental program options in detail may be obtained from Arts and Sciences Advising Services.

The three-year program leading to a Bachelor of Science degree with a major in pre-professional programs from the University of Tennessee, Knoxville, is based upon the program outlined below. In the three-year program, the student must complete at least 90 prescribed credit hours while enrolled in the College of Arts and Sciences, and the Bachelor of Science degree is granted upon satisfactory completion of the first year of study in Memphis. The requirement for a major is waived for those taking their fourth year at the University of Tennessee Health Science Center, Memphis, before enrolling in the College of Dentistry. Admission to the College of Dentistry is at the discretion of that college; admission to and successful completion of the program below does not assure admission to the College of Dentistry. Although the Bachelor of Arts/Bachelor of Science is not required for admission to the College of Dentistry, most 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 degree before enrolling in the College of Dentistry.

**Requirements for the Bachelor of Science**

- **Pre-Professional Programs Major • Pre-Dental Concentration**

  **First Year**
  
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*-102*</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>1 Pre-dentistry students who have previously completed Biology 101 and 102 may substitute these two courses for Biology 130.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. All students must complete the mathematics and Quantitative Reasoning basic skills requirement as outlined in the Arts and Sciences Curriculum Guide. Math 130 or any calculus course is a pre-requisite to Physics.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Students who have previously completed Biology 101 and 102 may substitute these two courses for Biology 130.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UT, Knoxville.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Bachelor of Science students must complete a minimum of 6 credits from at least two departments for the social science requirement. The two courses must satisfy the University General Education Requirement in social sciences.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 BS students must complete one course from List A and one from List B.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Recommended electives include Biology 240; Microbiology 310-319; BCM 230, 330-331, 421; EEB 350; Anthropology 480, 485. Courses such as economics, philosophy, psychology, social science, and other arts and sciences courses are also recommended to provide the applicant with a well-rounded education.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 350-360, 369</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Physics 221-222</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>3 Foreign Language Intermediate Level*</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>4 Humanities*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Non-US History*</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Communicating Orally (OC) course*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Communicating through Writing (WC) course*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total 90 minimum</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fourth Year**

Completion of one year at the University of Tennessee Health Science Center in Memphis.

**Total 120**

- **Meets University General Education Requirement.**
- **Mathematics placement depends on high school courses and grades, ACT scores, the Mathematics placement exam, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.**
- **This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK.**
- **BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. The two courses must satisfy the University General Education Requirement in Arts and Humanities.**
- **BS students must complete a minimum of two courses from two departments. The two courses must satisfy the University General Education Requirement in social sciences.**
- **BS Students must complete one course from List A and one from List B.**
- **Recommended electives include Biology 240; Microbiology 310-319; BCM 230, 330-331, 421; EEB 350; Anthropology 480, 485. Courses such as economics, philosophy, psychology, social science, and other arts and sciences courses are also recommended to provide the applicant with a well-rounded education.**

**Pre-Medical Concentration**

The college offers a three-year program leading to the 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 medicine at UT Health Science Center, Memphis. The Doctor of Medicine (MD) degree is conferred by the College of Medicine upon completion of four years of professional study at Memphis after completing either of the two programs options. Bulletins describing the pre-medical program options in detail may be obtained from Arts and Sciences Advising Services.

The three-year program leading to a Bachelor of Science degree with a major in pre-professional programs from the University of Tennessee, Knoxville, is based upon the program outlined below. In the three-year program, the student must complete at least 90 prescribed credit hours while enrolled in the College of Arts and Sciences, and the Bachelor of Science degree is granted upon satisfactory completion of the first year of study in Memphis. The requirement for a major is waived for those taking their fourth year at the University of Tennessee Health Science Center, Memphis, before enrolling in the College of Medicine. Admission to the College of Medicine is at the discretion of that college; admission to and successful completion of the program below does not assure admission to the College of Medicine. Although the Bachelor of Arts/Bachelor of Science is not 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.

**Requirements for the Bachelor of Science**

- **Pre-Professional Programs Major • Pre-Medical Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*-102*</td>
<td>6</td>
</tr>
<tr>
<td>Biology 130</td>
<td>4</td>
</tr>
<tr>
<td>Biology 140</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 121*</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics*</td>
<td>6-8</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

| English 101*-102* | 6 |
| Physics 221-222 | 8 |
| Mathematics 125*, 141*, or 152* | 3-4 |
| Statistics 201* | 3 |
| Communication Studies 210* or 240* | 3 |
| Humanities* | 3 |
| Social Sciences* | 6 |
| Non-U.S. History* | 6 |
| Upper Level Distribution | 6 |
| Electives | 0-10 |

Total 120

**Fourth Year**

Completion of one year at the University of Tennessee Health Science Center in Memphis.

Total 120

* Meets University General Education Requirement.

1 Pre-medical students who have previously completed Biology 101 and 102 may substitute this sequence for Biology 130.

2 Mathematics placement depends on high school courses and grades, ACT scores, the Mathematics placement exam, and BA/BS requirements. Math 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

3 This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK.

4 Math 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

5 BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. The two courses must satisfy the University General Education Requirement in Arts and Humanities.

6 BS students must complete a minimum of two courses from two departments. The two courses must satisfy the University General Education Requirement in Social Sciences.

7 BS students must complete one course from List A and one from List B. Mathematics placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

**PRE-PHARMACY CONCENTRATION**

The college offers three program options for preparing students for the study of pharmacy at UT Health Science Center, Memphis. The Department of Pharmacy (PharmD) degree is conferred by the College of Pharmacy upon completion of four years of professional study at Memphis after completing any of the three programs options. Bulletins describing the pre-pharmacy program options in detail may be obtained from Arts and Sciences Advising Services.

The three-year program leading to a Bachelor of Science degree with a major in pre-professional programs from the University of Tennessee, Knoxville, is based upon the program outlined below. In the three-year program, the student must complete at least 90 prescribed credit hours while enrolled in the College of Arts and Sciences, and the Bachelor of Science degree is granted upon satisfactory completion of the first year of study in Memphis. The requirement for a major is waived for those taking their fourth year at the University of Tennessee Health Science Center, Memphis. Students must complete the last 30 hours of credit in residence at the University of Tennessee, Knoxville, before enrolling in the College of Pharmacy. Admission to the College of Pharmacy is at the discretion of that college; admission to and successful completion of the program below does not assure admission to the College of Pharmacy.

**Requirements for the Bachelor of Science**

- **Pre-Professional Programs Major • Pre-Pharmacy Concentration**

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101*-102*</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 121*-130*</td>
<td>8</td>
</tr>
<tr>
<td>Biology 130*</td>
<td>4</td>
</tr>
<tr>
<td>Biology 140*</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 125*, 141*, or 152*</td>
<td>3-4</td>
</tr>
<tr>
<td>Statistics 201*</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language - Intermediate Level*</td>
<td>6</td>
</tr>
</tbody>
</table>

**Second Year**

| English 101*-102* | 8 |
| Physics 221 | 4 |
| Chemistry 350-360 and 369 | 8 |
| Mathematics 125*, 141*, or 152* | 3-4 |
| Statistics 201* | 3 |
| Humanities* | 3 |
| Social Sciences* | 6 |
| Non-U.S. History* | 6 |
| Upper Level Distribution | 6 |
| Electives | 0-10 |

Total 90 minimum

**Fourth Year**

Completion of one year at the University of Tennessee Health Science Center in Memphis.

Total 120

* Meets University General Education Requirement.

1 Pre-pharmacy students who have previously completed Biology 101 and 102 may substitute this sequence for Biology 130.

2 Mathematics placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

3 This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK.

4 BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. The two courses must satisfy the University General Education Requirement in Arts and Humanities.

5 BS students must complete a minimum of two courses from two departments. The two courses must satisfy the University General Education Requirement in Social Sciences.

6 BS students must complete one course from List A and one from List B. Mathematics placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite to physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

7 BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. The two courses must satisfy the University General Education Requirement in Arts and Humanities.

**PRE-VETERINARY MEDICINE CONCENTRATION**

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 while 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 the University of Tennessee, Knoxville, before enrolling in the College of Veterinary Medicine. A departmental major is not required. Upon suc-
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.

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.

Requirements for the Bachelor of Science
• Pre-Professional Programs Major • Pre-Veterinary Medicine Concentration

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101* - 102*</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120* - 130*</td>
<td>8</td>
</tr>
<tr>
<td>Biology 130*</td>
<td>4</td>
</tr>
<tr>
<td>Biology 140*</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics*</td>
<td>6-8</td>
</tr>
<tr>
<td>3Foreign Language – Intermediate Level Sequence*</td>
<td>6</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 350-360, 369</td>
<td>8</td>
</tr>
<tr>
<td>Physics 221-222</td>
<td>8</td>
</tr>
<tr>
<td>Biology 240*</td>
<td>4</td>
</tr>
<tr>
<td>Non-U.S. History</td>
<td>6</td>
</tr>
<tr>
<td>4Social Science*</td>
<td>3</td>
</tr>
<tr>
<td>Communicating Orally (OC) course *</td>
<td>0-3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 401 and 402</td>
<td>8</td>
</tr>
<tr>
<td>4Social Science*</td>
<td>3</td>
</tr>
<tr>
<td>Humanities*</td>
<td>6</td>
</tr>
<tr>
<td>6Upper Level Distribution</td>
<td>6</td>
</tr>
<tr>
<td>7Biology Elective</td>
<td>4</td>
</tr>
<tr>
<td>8Communicating through Writing (WC) course*</td>
<td>0-3</td>
</tr>
</tbody>
</table>

Total 93 minimum

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of one year at the University of Tennessee College of Veterinary Medicine.</td>
<td></td>
</tr>
</tbody>
</table>

Total 120 minimum

* Meets University General Education Requirement

1 Students who have previously completed Biology 101 and 102 may substitute these two courses for Biology 130.

2 Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 or any calculus course is a prerequisite for physics. At least two courses must satisfy the University General Education Requirement in Quantitative Reasoning.

3 This plan assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK.

4 Students must complete a minimum of two courses from two departments. Both courses must satisfy the University General Education Requirement in Social Science.

5 BS students must complete a minimum of two courses from the three lists under the humanities requirement; not more than one course may be taken from List C. Both courses must satisfy the University General Education Requirement in Arts and Humanities.

6 BS students must complete one course from List A and one from List B.

7 Upper-division biology courses are preferred.

8 If a course taken for the humanities requirement also appears on the Communicating through Writing (WC) University General Education list, no additional course is required here.

DEPARTMENT OF ANTHROPOLOGY
http://web.utk.edu/~anthrop/
Andrew Kramer, Head

Directors

Associate Professors
Anderson, D.G., PhD ................................. Tennessee
Marks, M., PhD ................................. Michigan

Assistant Professors
Cabana, G.S., PhD ................................. Michigan
Harper, J.L., PhD ................................. Michigan State
Health, B.J., PhD ................................. Pennsylvania
Hepner, T.M., PhD ................................. Michigan State

Research Director
Driekel, B.N., PhD ................................. Kentucky

Research Associate Director
Sherwood, S., PhD ................................. Tennessee

Research Associate Professor
Chapman, J. (Director, F.H. McClung Museum), PhD ................................. North Carolina

Research Assistant Professor and Curator
Frankenberg, S., PhD ................................. Northwestern

Research Assistant Professors
Ahman, T.M., PhD ................................. Syracuse
DeCorse, E.K., PhD ................................. Penn State
Hammerstedt, S.W., PhD ................................. North Carolina
Herrmann, N.P., PhD ................................. Tennessee
Hollenbach, K.R., PhD ................................. North Carolina
Sicher, J.A., PhD ................................. Pennsylvania
Vass, A.A., PhD ................................. Tennessee

Lecturers
Devlin, J.L., PhD ................................. Pennsylvania
Pendry, D.A., PhD ................................. Texas
Qirk, H.N., PhD ................................. Tennessee

Adjunct Professors
Bogard, J.S., PhD ................................. Texas
Harrison, F.V., PhD ................................. Stanford

Adjunct Associate Professors
Dessel, J.P., PhD ................................. Wisconsin (Milwaukee)

Post-Doctoral Research Associates
Spradley, M.K., PhD ................................. Louisiana
Weinard, D.C., PhD ................................. Tennessee

Anthropology (literally the study of humans) is a broad and diverse field concerned with all aspects of the human condition – past, present and future. An undergraduate majoring in anthropology at the University of Tennessee, Knoxville, learns of this breadth and diversity by taking courses in cultural, biological and archaeological anthropology. The major is designed so that all students are trained in these primary subfields, but the curriculum allows the student to concentrate in those aspects of anthropology that she/he finds most interesting. The undergraduate who earns a Bachelor of Arts with a major in anthropology from UT Knoxville is prepared to enter careers in a variety of fields such as health, education, government, law, social work, and human services. If the student is interested in a career as a professional anthropologist, graduate training is a necessity. The excellence of the faculty and the relevance of available courses in the department afford future anthropologists the undergraduate background necessary to pursue advanced degrees.

Progression Requirements

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 3.00 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 completing a formal application for progression in the Anthropology Department and 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.

ANTHROPOLOGY MAJOR

The anthropology major consists of 30 hours including 450 or 357 and 27 additional hours of upper-division coursework in anthropology. This course work shall be distributed as follows.

Archaeological method and theory
One course from 361, 362, 440, 464.

Archaeological area
One course from 360, 363, 462, 463.

Cultural area
One course from 310, 311, 312, 313, 315, 316, 319, 320, 322, 323, 324.

Cultural method and theory
One course from 410, 411, 412, 413, 414, 415, 416, 431.

Biological anthropology
Two courses from 480, 485, 490, 494, 495, 496.

Remaining hours
From any upper-division anthropology courses.

Students with senior standing are encouraged to substitute appropriate 500-level courses (with permission of the instructor of the course and approval of the department head) for any portion of the above.

Continuation in the anthropology major requires maintenance of a 2.50 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.

HONORS CONCENTRATION

The Department of Anthropology offers honors seminars for juniors and seniors, leading to an honors concentration. The honors concentration consists of 357 and 457 plus 24 additional hours of upper-division coursework in anthropology distributed as specified above for the major.

Minor in Anthropology

Anthropology 110, 120, 130 are prerequisite to a minor in anthropology consisting of 15 hours of upper-division anthropology courses (chosen in consultation with an anthropology advisor).

SCHOOL OF ART

http://art.utk.edu
Paul Lee, Director
Suzanne Wright, Associate Director

Professors
Brakke, M., MFA ............................................. Yale
Goldenstein, M.B., MFA .................................. Nebraska
Habel, D., PhD ............................................... Michigan
Lee, B., MFA ..................................................... Yale
Lee, P., MFA .................................................. Cranbrook
Leland, W.E., MFA ........................................ Pennsylvania
Lyons, B., MFA ............................................... Arizona State
Magden, N., PhD .............................................. Case Western Reserve
Riesing, T.J., MFA ........................................... Nebraska
Staples, C., MFA ............................................. Michigan State
Wilson, D., MFA ............................................. Wisconsin
Yates, S.A., MFA ............................................. North Carolina (Greensboro)

Associate Professors
Broden, S., MFA ............................................ New York State College of Ceramics at Alfred
Dewey, W., MFA ............................................ Indiana
Hiles, T.W., PhD ............................................... Penn State
Neff, A.L., PhD ................................................ Pennsylvania
Shmerler, D., MFA ......................................... Virginia Commonwealth
Wright, S., PhD ............................................... Stanford

Assistant Professors
Boylan, A.L., PhD ............................................ Rutgers
Brown, J., MFA ............................................... Rhode Island School of Design
Lough, W., MFA ............................................... Temple
Lowe, S., MGD ................................................... North Carolina State
Martin, F., MFA ............................................... Cranbrook
Sprecher, J.B., MFA ........................................ Iowa
Tinajero-Baker, P., MFA .................................... Colorado

The following core courses must be completed before students can progress into the program as majors and before further course work may be taken.

- Art 101
- Art 103
- Art History 162, 172, 173, or 183 (choose one)

Those applying will be admitted into the program in rank order of cumulative average as space allows. The overall record will be evaluated for quality and seriousness of purpose. Excessive absences, withdrawals, incompletes or repeated courses may result in denial of progression. Progression into the School of Art does not guarantee progression into a chosen concentration. Progression into a concentration will follow successful completion of a concentration Portfolio Review.

BACHELOR OF FINE ARTS • STUDIO ART MAJOR

The Bachelor of Fine Arts with a major in studio art is a professionally-oriented degree especially intended for those students planning careers in studio craft or in graduate study in the visual arts. All students seeking studio degrees (Bachelor of Arts and Bachelor of Fine Arts) must present and pass the appropriate Portfolio Review for their area of study in order to be admitted into advanced courses. Contact specific program area faculty for review of schedules and details. It should not be assumed that a high grade point average in the major itself assures passing Portfolio Review. The Portfolio Review is recommended in the sophomore year and is intended to provide students with an overall assessment of their potential for success in the intended area of study early enough to allow a student to make a program change should that be advisable. Before choosing a concentration, students should contact their intended area to see what options are offered in the event they do not pass Portfolio Review. All studio courses require 3 hours per week attendance for each credit hour earned. Completing the Bachelor of Fine Arts program may take more than eight semesters. Students are urged to seek departmental advisement each semester to ensure proper scheduling. Students seeking the Bachelor of Fine Arts should also consider pursuing a minor in art history.

Transfer students are advised that a minimum of 21 hours in studio courses, and 6 upper-division hours in art history, must be earned at the University of Tennessee, Knoxville. Transfer students must have a minimum overall GPA of 3.00 in art and art history courses and may be required to present a portfolio. Those students who have not taken any art courses must take the sequence of courses required of freshmen (Progression Requirements). Students should be cautioned that art courses taken at another institution may not apply toward their concentration. Art Design 252, Art Drawing 212, and Art Painting 214 must be taken at the University of Tennessee, Knoxville. Courses not accepted for application toward a concentration may be counted toward studio electives. No grade below C in art courses may be applied to the Bachelor of Fine Arts major. A minimum of 42 credit hours, 300 level or above, must be earned prior to graduation.
Major in Studio Art and Additional Courses in Art Education

The School of Art recommends the Bachelor of Fine Arts for those students pursuing licensure to teach art in schools K-12. These students must also contact the College of Education, Health, and Human Sciences for further requirements. Twelve-thirteen credit hours of art education courses may be used as studio electives for those pursuing the BFA and licensure to teach.

CERAMICS CONCENTRATION

Requirements for the Bachelor of Fine Arts • Studio Art Major • Ceramics Concentration

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>.6</td>
</tr>
<tr>
<td>Art 295</td>
<td>.3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>.9</td>
</tr>
<tr>
<td>Art History Electives</td>
<td>.6</td>
</tr>
<tr>
<td>Art Sculpture 240</td>
<td>.1</td>
</tr>
<tr>
<td>One course from each of the following 5 areas: Art Drawing, Art Media Arts, Art Painting/Watercolor, Art Printmaking, and Art Sculpture</td>
<td>.15</td>
</tr>
</tbody>
</table>

Concentration

Ceramics 221 and 222 | .6 |
Art Ceramics Portfolio Review 320 (Satisfactory/No Credit Grading) | .0 |
Ceramics 321, 322 (prerequisite for all 400-level ceramics courses) | .8 |
Ceramics 421, 422 | .12 |
Approved Concentration Electives: Art Ceramics 424, 429; Art Drawing 212; Art Sculpture 241, 242, 243, 245, 246; Art Printing 262, 263; Art Painting 213, 214, 215 | .9 |

1Studio Electives

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design or theatre.

General Curriculum (consult University General Education Requirement for appropriate choices within each category)

English 101*, 102* or their equivalent | .6 |
Quantitative Reasoning (2 courses)* | .6 |
Social Sciences (2 courses)* | .6 |
Cultures and Civilizations (2 courses)* | .6 |
Communicating through Writing* | .0-3 |
Communicating Orally* | .0-3 |

Total 120-126

* Meets University General Education Requirement.
1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

DRAWING CONCENTRATION

Requirements for the Bachelor of Fine Arts • Studio Art Major • Drawing Concentration

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>.6</td>
</tr>
<tr>
<td>Art 295</td>
<td>.3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 162* or 183*</td>
<td>.9</td>
</tr>
<tr>
<td>Art History Electives</td>
<td>.6</td>
</tr>
<tr>
<td>One course from each of the following 6 areas – Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Watercolor, Art Printmaking, and Art Sculpture</td>
<td>.18</td>
</tr>
</tbody>
</table>

Concentration

Art Drawing 212 (may be repeated) | .3 |
Art Drawing 312 (Portfolio Review) (Satisfactory/No Credit Grading) | .0 |
Art Drawing 311 (for two semesters) | .8 |
Art Drawing 411 (for two semesters) | .12 |

Approved Concentration Electives:

9 hours from the following – Art Drawing 219/419 (maximum 6 hours); Art Painting 213, 214, 215, 216; Art Media Arts 231; Art Printmaking 262, 263 | .9 |

1Studio Electives

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design, theatre.

General Curriculum (consult University General Education Requirement for appropriate choices within each category)

English 101*, 102* or their equivalent | .6 |
Quantitative Reasoning (2 courses)* | .6 |
Natural Sciences (2 courses; at least one with laboratory)* | .7 |
Social Sciences (2 courses)* | .6 |
Cultures and Civilizations (2 courses)* | .6 |
Communicating through Writing* | .0-3 |
Communicating Orally* | .0-3 |

Total 120-126

* Meets University General Education Requirement.
1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

MEDIA ARTS CONCENTRATION

Requirements for the Bachelor of Fine Arts • Studio Art Major • Media Arts Concentration

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
<td>.6</td>
</tr>
<tr>
<td>Art 295</td>
<td>.3</td>
</tr>
<tr>
<td>Art History 172* and 173* and 183* or 182*</td>
<td>.9</td>
</tr>
<tr>
<td>Art History Electives</td>
<td>.3</td>
</tr>
<tr>
<td>Art Media Arts 231, 235, 236</td>
<td>.9</td>
</tr>
<tr>
<td>One course from each of the following 5 areas – Art Ceramics, Art Drawing, Art Painting/Watercolor, Art Printmaking, Art Sculpture</td>
<td>.15</td>
</tr>
</tbody>
</table>

Concentration

Art Media Arts 330 (Portfolio Review) (Prerequisite to 300- and 400-level courses) (Satisfactory/No Credit Grading) | .0 |
Art Media Arts 433 | .3 |
Art Media Arts 435 and/or 436 | .3 |
Art Media Arts photography courses (300 and 400 level) | .8 |
Art Media Arts 450 | .4 |
300- and 400-level electives in Media Arts | .9 |

1Studio Electives

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design, theatre.

General Curriculum (consult University General Education Requirement for appropriate choices within each category)

English 101*, 102* or their equivalent | .6 |
Quantitative Reasoning (2 courses)* | .6 |
Social Sciences (2 courses)* | .7 |
Cultures and Civilizations (2 courses)* | .6 |
Communicating through Writing* | .0-3 |
Communicating Orally* | .0-3 |

Total 120-126

* Meets University General Education Requirement.
1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

Students may be accepted into advanced media concentrations in ceramics, drawing, painting, media arts, printmaking, sculpture, and watercolor after passing the appropriate portfolio course.
PAINTING CONCENTRATION

Requirements for the Bachelor of Fine Arts • Studio Art Major • Painting Concentration

Core
Art 101, 103 ........................................................................... 6
Art 295 ........................................................................... 3
Art History 172* and 173* and 162* or 183* ......................... 9
Art History Electives .............................................................. 6

Concentration
Painting 214 (may be repeated) ................................................ 3
Art Painting 314 (Portfolio Review) (Satisfactory/No Credit Grading) ...................................................... 0
Painting 313 (for two semesters) ............................................. 8
Painting 413 (for two semesters) ............................................. 12
Approved Concentration Electives:
9 hours from the following – Art Drawing 121/219, 219/419 (maximum 6 hours);
Art Painting 215, 216; Art Media Arts 231; Art Drawing 212 ........... 9

1Studio Electives
Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design or theatre. ........ 15

General Curriculum (consult University General Education Requirement for appropriate choices within each category)
English 101*, 102* or their equivalent .................................. 6
Quantitative Reasoning (2 courses)* ........................................ 6
Natural Sciences (2 courses; at least one with laboratory)* ...... 7
Social Sciences (2 courses)* .................................................. 6
Cultures and Civilizations (2 courses)* .................................. 6
Communicating through Writing* ........................................... 0-3
Communicating Orally* ......................................................... 0-3

Total 120-126

* Meets University General Education Requirement.
1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

PRINTMAKING CONCENTRATION

Requirements for the Bachelor of Fine Arts • Studio Art Major • Printmaking Concentration

Core
Art 101, 103 ........................................................................... 6
Art 295 ........................................................................... 3
Art History 172* and 173* and 162* or 183* ......................... 9
Art History Electives .............................................................. 6

Concentration
Printmaking 300-level course ................................................ 3
Art Printmaking 360 (Portfolio Review) (Satisfactory/No Credit Grading) ...................................................... 0
Printmaking 300- and 400-level courses .............................. 20

1Studio Electives
Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design or theatre. ........ 24

General Curriculum (consult University General Education Requirement for appropriate choices within each category)
English 101*, 102* or their equivalent .................................. 6
Quantitative Reasoning (2 courses)* ........................................ 6
Natural Sciences (2 courses; at least one with laboratory)* ...... 7
Social Sciences (2 courses)* .................................................. 6
Cultures and Civilizations (2 courses)* .................................. 6
Communicating through Writing* ........................................... 0-3
Communicating Orally* ......................................................... 0-3

Total 120-126

* Meets University General Education Requirement.
1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

SCULPTURE CONCENTRATION

Requirements for the Bachelor of Fine Arts • Studio Art Major • Sculpture Concentration

Core
Art 101, 103 ........................................................................... 6
Art 295 ........................................................................... 3
Art History 172* and 173* and 162* or 183* ......................... 9
Art History Electives .............................................................. 6

Concentration
Art Sculpture 200-level course .............................................. 3
Art Sculpture 340 (Portfolio Review) (Satisfactory/No Credit Grading) (Prerequisite to 300- and 400-level courses) .... 0
Art Sculpture 300- and 400-level courses .............................. 20

1Studio Electives
Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design or theatre. ........ 24

General Curriculum (consult University General Education Requirement for appropriate choices within each category)
English 101*, 102* or their equivalent .................................. 6
Quantitative Reasoning (2 courses)* ........................................ 6
Natural Sciences (2 courses; at least one with laboratory)* ...... 7
Social Sciences (2 courses)* .................................................. 6
Cultures and Civilizations (2 courses)* .................................. 6
Communicating through Writing* ........................................... 0-3
Communicating Orally* ......................................................... 0-3

Total 120-126

* Meets University General Education Requirement.
1 Students electing an additional major in art education and licensure to teach in schools K-12 may apply 13 hours in undergraduate art education courses.

WATERCOLOR CONCENTRATION

Requirements for the Bachelor of Fine Arts • Studio Art Major • Watercolor Concentration

Core
Art 101, 103 ........................................................................... 6
Art 295 ........................................................................... 3
Art History 172* and 173* and 162* or 183* ......................... 9
Art History Electives .............................................................. 6

Concentration
(one course from each of the following 6 areas – Art Ceramics, Art Drawing, Art Media Arts, Art Painting/Watercolor, Art Printmaking, and Art Sculpture)
(one course can be repeated)

1Studio Electives
Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from architecture, art education, computer science, journalism and electronic media, interior design or theatre. ........ 15

General Curriculum (consult University General Education Requirement for appropriate choices within each category)
English 101*, 102* or their equivalent .................................. 6
Quantitative Reasoning (2 courses)* ........................................ 6
Natural Sciences (2 courses; at least one with laboratory)* ...... 7
Social Sciences (2 courses)* .................................................. 6
Cultures and Civilizations (2 courses)* .................................. 6
Communicating through Writing* ........................................... 0-3
Communicating Orally* ......................................................... 0-3

Total 120-126
### BACHELOR OF FINE ARTS • GRAPHIC DESIGN MAJOR

The graphic design major is specifically designed to provide the basic visual education for students who wish to pursue careers in graphic design-related fields such as advertising, art direction, three-dimensional design, publication designs, or electronic media.

Transfer students are advised that a minimum of 21 hours in studio courses must be earned at the University of Tennessee, Knoxville, as well as Art Design 252. Transfer students who expect to enroll in 300 (junior level) courses must present a portfolio of 10-15 works, the majority of which must be in graphic design.

No grade below C in art courses may be applied to the Bachelor of Fine Arts degree. A minimum of 42 credit hours, 300 level or above, must be earned prior to graduation.

A minimum of 120 hours are required. Students are advised that courses in graphic design must be taken in sequence, and that successful completion of Portfolio Review (350) is prerequisite to all upper-division courses.

Students must complete 351 and 356 with a grade of C or better by the end of the second fall semester following successful completion of Portfolio Review (350). If 351 and 356 are not successfully completed in this time, the student must resubmit a portfolio to regain entrance into the junior program. Resubmission of the portfolio must occur during the scheduled spring Portfolio Review.

### Requirements for the Bachelor of Fine Arts • Graphic Design Major

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103, 295</td>
<td>9</td>
</tr>
<tr>
<td>Art History 172*, 173*</td>
<td>6</td>
</tr>
<tr>
<td>Art Drawing 211</td>
<td>3</td>
</tr>
<tr>
<td>1Art 150</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Graphic Design

| Art Graphic Design 251, 252, 351, 352, 356, 451, 452, 455 | 24 |
| Art Graphic Design 350 (Portfolio Review) | 0 |
| Art Graphic Design 444 (maximum 6 hours) and/or 456 | 8 |

#### Required and Professional

| Art Graphic Design 405 | 3 |
| Art Graphic Design 400 | 3 |
| Art Graphic Design 450 | 3 |
| Art Graphic Design 254, 256, 259, 354, 396, 405, 453, 454, 459 (choose one) | 3 |

#### Required Studio

| Art Media Arts 231 | 3 |
| Art Painting 213 or 215 | 3 |
| Art Drawing 212 | 3 |
| Choose from: Art Ceramics, Art Drawing, Art Media Arts, Art Painting, Art Printmaking, Art Sculpture | 9 |

**Art History**
Electives (must be upper division) 3

---

### ART HISTORY MAJOR

**Requirements for the Bachelor of Arts • Art History Major**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History 172, 173, and 162 or 183 with a grade of C or better</td>
<td>9</td>
</tr>
<tr>
<td>Studio courses (grade of C or better)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Major**

Art History courses numbered 300 and above 18

One course in four of the following areas.

- **Medieval/Early Renaissance**
  - Art History 425, 431, 441, 451
- **Renaissance/Baroque**
  - Art History 442, 452, 453, 454
- **American**
  - Art History 471, 472, 473, 483
- **19th/20th Century**
  - Art History 403, 474, 475, 476; Art Media Arts 433
- **Non-Western**
  - Art History 411, 415, 416, 419, 461, 462, 463, 464
  - Six Art History elective hours or from courses in the Departments of Classics, Religious Studies, or School of Architecture in consultation with departmental advisor.

Art 481 3
Art History 376 3

**Total 36**

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 should be considered.

### Minor in Art History

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History 172, 173, and 162 or 183 (or their Honors equivalents) with a grade of C or better</td>
<td>9</td>
</tr>
</tbody>
</table>

**Minor**

Art History courses numbered 200 and above 15

**Total 24**

### STUDIO ART MAJOR

**Requirements for the Bachelor of Arts • Studio Art Major**

<table>
<thead>
<tr>
<th>Prerequisites</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103, 295</td>
<td>9</td>
</tr>
<tr>
<td>Art History 162, 172, 173, 183 (any 2) and 3 additional hours (all with a grade of C or better)</td>
<td>9</td>
</tr>
</tbody>
</table>

**Major**

Studio courses numbered 200 and above, including a minimum of 15 hours in 300-400 level courses 24

**Total 42**
Minor in Studio Art

Prerequisites Hours
Art 101, 103, 295 ........................................ 9
Art History 172, 173, 162, 183 (any 2, one of which must be 172 or 173, both with a grade of C or better) ........................................ 6

Minor
Studio courses which include a minimum of 8 additional upper-division hours ........................................ 15

Total 30

DEPARTMENT OF AUDIOLOGY AND SPEECH PATHOLOGY

http://web.utk.edu/~aspweb/

Ilsa Schwarz, Head

Professor
Schwarz, I., PhD ........................................ Oregon

Associate Professors
Erickson, M., PhD ........................................ Southern California
Filipson, P., PhD ........................................ Wisconsin
Harkrider, A., PhD ........................................ Texas
Hedrick, M., PhD ........................................ Texas
Karow, C., PhD ........................................ Texas
Swanson, L., PhD ........................................ Purdue
Theilin, J., PhD ........................................ Iowa

Assistant Professors
Ha, S., PhD ........................................ Illinois
Horton-Ikard, R., PhD ........................................ Wisconsin
Johnstone, P., PhD ........................................ Wisconsin
Plyler, P., PhD ........................................ Tennessee
Saltuklaroglu, T., PhD ........................................ East Carolina
Von Hapsburg, D., PhD ........................................ Texas

Instructor
Singletary, T., MS ........................................ Colorado State

Clinical Faculty
Michael, A., PhD ........................................ Vanderbilt

Clinical Director
Singletary, T., MS ........................................ Colorado State

The Department of Audiology and Speech Pathology offers course 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 or Doctor of Audiology is required for professional certificates and employment positions. Information about the audiology and speech pathology programs may be obtained from the departmental office, South Stadium Hall, and students are strongly encouraged to consult with the undergraduate advisor in the department as early as possible in their programs. Suggested elective courses for students not majoring in audiology or speech pathology include 300, 302, 303, 305, 306, 320, and 473.

Applicants for enrollment in clinical practice must submit an application to the departmental Clinical Director. Requirements for enrollment in practicum courses (434 for speech pathology or 445 for audiology) include a cumulative GPA of 2.70 (or 3.00 in the last 30 hours of enrollments), a minimum of C in all courses taken within the department, successful completion of 433, and a minimum GPA of 2.75 within the major.

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 the University of Tennessee, Knoxville. Requests for exceptions to this rule may be submitted to the departmental Admissions Committee.

Additional requirements for professional certification in audiology and speech pathology include at least 6 semester hours in behavioral and/or social sciences which pertain to the understanding of normal/abnormal behavior and at least one course in each of the following areas: biological sciences, physical sciences, and humanities. Students majoring in both audiology and speech pathology are strongly encouraged to consult with the departmental undergraduate advisor before selecting elective courses.

AUDIOLOGY MAJOR

Admission to the major requires a minimum cumulative GPA of 3.00 after completion of at least 60 credit hours. Admission to the major does not guarantee admission to the graduate program.

The audiology major consists of 31 hours in audiology and speech pathology courses including 300, 302, 303, 305, 306, 320, 433, 435, 461, 473, and 494.

SPEECH PATHOLOGY MAJOR

Admission to the major requires a minimum cumulative GPA of 3.00 after completion of at least 60 credit hours. Admission to the major does not guarantee admission to the graduate program.

The speech pathology major consists of 37 hours including audiology and speech pathology 300, 302, 303, 305, 306, 320, 433, 435, 461, 473, 475, and 494; and one course from the following – Anthropology 411; English 371, 372, 471, 472, 474, 476, 477; French 425, 429; German 435, or Spanish 430.

DEPARTMENT OF BIOCHEMISTRY AND CELLULAR AND MOLECULAR BIOLOGY

http://web.bio.utk.edu/bcmb/

Bruce D. McKee, Head

Professors
Roberts, R., PhD ........................................ Nebraska
Howell, E., PhD ........................................ Lehigh
Joy, D. (Distinguished Scientist), DPhil ........................................ Oxford (UK)
Koontz, J., PhD ........................................ Kentucky
McKee, B., PhD ........................................ Michigan State
Millhorm, D., PhD ........................................ Ohio State
Mullin, B., PhD ........................................ North Carolina State
Peterson, C., PhD ........................................ Louisiana State
Roberts, D., PhD ........................................ California (Davis)
Serpersu, E., PhD ........................................ Hackette
Smith, J., PhD ........................................ London (UK)

Associate Professors
Bruce, B., PhD ........................................ California (Berkeley)
Dealwis, C., PhD ........................................ London
Hihn, J., PhD ........................................ Illinois
Park, J., PhD ........................................ Texas
Prosser, R., PhD ........................................ Illinois
von Annim, A., PhD ........................................ East Anglia (UK)

Assistant Professors
Alexandre, G., PhD ........................................ Claude Bernard Lyon (France)
Fernandez, E., PhD ........................................ Loyola
Gao, H., PhD ........................................ Harvard
Jain, N., PhD ........................................ Brandeis
Biochemistry, cell biology, and molecular biology study the function of cells and organisms at the molecular level. The concentration includes the study of the structure and function of proteins, lipids, carbohydrates, DNA and RNA, as well as how these and other molecules control cellular and organismal function. The curriculum prepares students for a variety of careers in biological research, biotechnology, the health professions or education.

Students wishing to emphasize study in this area elect to major in biological sciences with a concentration in biochemistry and cellular and molecular biology. See the description of the major and concentration under Division of Biology for requirements.

DIVISION OF BIOLOGY
http://web.bio.utk.edu/division/

John Koontz, Interim Director

Coordinator
Brewton, R., PhD  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .Tennessee

Lecturer
Guffey, S., PhD  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .Tennessee

The Division of Biology consists of the following departments: Biochemistry and Cellular and Molecular Biology (BCMB), Ecology and Evolutionary Biology (EEB), and Microbiology. Each offers a separate concentration within a common Bachelor of Science major, biological sciences, followed by the concentration name. (Honors options are described after each concentration.)

BIological SCIENCES MAJoR

The biological sciences major offers concentrations in: biochemistry and cellular and molecular biology; ecology and evolutionary biology; microbiology; and plant biology. An honors option is available in all four concentrations.

Prerequisites to all Concentrations
Chemistry 120-130; Physics 221-222; Mathematics 141-142 or 151-152; Biology 111-112 or 130, Biology 140-240-250.

Progression Requirements
Students may declare a biological sciences major after completing the prerequisites Chemistry 120-130, and Biology 111-112 or 130 courses with at least a 2.50 GPA in those courses. A cumulative 2.50 GPA is required to declare and to continue in the major.

Students wishing to declare a major in biological sciences will be assigned a faculty advisor in one of the biological sciences departments in consultation with the student. Declaration of a biological sciences major should occur as soon as the student decides on this course of study, but not later than three semesters before the expected graduation date in order to ensure that requirements can be met in a timely manner.

BIOCHEMISTRY AND CELLULAR AND MOLECULAR BIOLOGY CONCENTRATION

The concentration consists of 32 hours including Chemistry 350-360-369, Biochemistry and Cellular and Molecular Biology 401-402, and

- At least 16 additional credit hours selected from biochemistry and cellular and molecular biology courses numbered 300 or above (except Biochemistry and Cellular and Molecular Biology 310, 457) or from the following courses in other departments: Microbiology 310-319, 410, 411, 420-429, 430, 440; Ecology and Evolutionary Biology 350, 360, 460.

- At least two of the 16 credit hours must be selected from the following laboratory courses: Biochemistry and Cellular and Molecular Biology 403, 404, 416, 419, 452, and Biology 401.

- At least three of the 16 credit hours must be selected from the following physiology courses: Biochemistry and Cellular and Molecular Biology 321, 440, and Microbiology 310. No more than 9 of the 16 credit hours may be in non-biochemistry and cellular and molecular biology courses.

Honors Option
An honors option is offered to students with a cumulative GPA in biological sciences prerequisite courses of 3.50 or above and who have completed Biology 130-140-240-250. The honors option also requires a substantive research project carried out under the supervision of a biochemistry and cellular and molecular biology faculty member and a thesis describing the results of that project. The thesis must be approved by the faculty supervisor.

ECOLOGY AND EVOLUTIONARY BIOLOGY CONCENTRATION

The concentration consists of 33 hours.

- Chemistry 350.

While not required, Chemistry 360-369 is recommended for students that plan to pursue medical professions and the following disciplines within ecology and evolutionary biology: physiological ecology, chemical ecology, environmental toxicology and molecular evolution and systematics. Chemistry 360-369 can be applied to the ecology and evolutionary biology upper-division requirements and are listed under the physiology/chemical ecology category below.

- Quantitative Requirement – Statistics 201 or Statistics 251 and one course from the following (note prerequisites in parentheses).

  Mathematics 231 (Prereq: Mathematics 141-142); Mathematics 251 (Prereq: Mathematics 141-142); Mathematics 405 (Prereq: Mathematics 141-142 or 151-152); Statistics 320 (Prereq: Statistics 201); Statistics 330 (Prereq: Statistics 201). Mathematics 141-142 or 151-152 can be used to satisfy ecology and evolutionary biology requirements. However, Mathematics 141-142 is recommended for students with a strong interest in quantitative ecology and is prerequisite to several courses that satisfy the ecology and evolutionary biology quantitative requirement.

- Upper-Division courses – A total of 24 additional hours is required at the 300 level or above to include at least 15 hours from ecology and evolutionary biology, and at least one course from each of the following categories. Evolution – Ecology and Evolutionary Biology 410, 460, 465*, 495*.

Ecology – Ecology and Evolutionary Biology 433*, 446*, 470*, 484; Microbiology 470.
Physiology/Chemical Ecology – Biochemistry and Cellular and Molecular Biology 310, 321, 415, 416*, 419*, 440; Chemistry 360, 369*; Microbiology 310, 319*.

*Courses with lab or field component.

The remaining hours for the ecology and evolutionary biology concentration can include any of the remaining ecology and evolutionary biology courses on the above lists, other upper-division ecology and evolutionary biology courses, or appropriate upper-division courses offered by the following
departments: Anthropology; Earth and Planetary Sciences; Forestry, Wildlife and Fisheries; Geography; Microbiology; Plant Sciences. A list of approved appropriate courses may be obtained from the office of either the Division of Biology or Ecology and Evolutionary Biology or from the Department of Ecology and Evolutionary Biology's Web page. Other courses, related to the student's determined interests, may be approved by petition to the department and the division. Courses applied to the major must include at least 4 hours at the 400-level and one laboratory or field course.

Honors Option
Requirements for the honors option are
• Completion of requirements for the biological sciences major – ecology and evolutionary biology concentration.
• A GPA of 3.50 in all the 300-level and above courses from the concentration and an overall GPA of 3.20.
• A minimum of 4 hours of Ecology and Evolutionary Biology 400, Undergraduate Research, during the junior and senior years.
• Ecology and Evolutionary Biology 407, Senior Thesis.
• Ecology and Evolutionary Biology 490, Undergraduate Seminar.

MICROBIOLOGY CONCENTRATION
The concentration consists of 34 hours including Chemistry 350-360-369, Biochemistry and Cellular and Molecular Biology 401, Microbiology 310-319, 320-329, and 12 additional hours of 400-level microbiology courses.

Honors Option
An honors option is offered to selected students who have completed the required 300-level microbiology courses with a minimum grade point average of 3.50 in microbiology courses and 3.20 for all courses. In addition to these 300-level courses, an honors option requires successful completion of 15 additional hours of 400-level microbiology courses, including 401 and 402.

PLANT BIOLOGY CONCENTRATION
The plant biology concentration consists of 29-34 hours including
• Chemistry 350-360-369 or 350, 310-319 or 310-319 and Biochemistry and Cellular and Molecular Biology 310.
• Biochemistry and Cellular and Molecular Biology 321; Ecology and Evolutionary Biology 330, 400 (1-4 hours), 410, 490 (1-2 hours); plus 9 additional hours of other upper-division courses offered by life science departments (except Biochemistry and Cellular and Molecular Biology 306, Ecology and Evolutionary Biology 304, 308).

A list of approved courses from other life science departments: Anthropology; Earth and Planetary Sciences; Forestry, Wildlife and Fisheries; Geography; Microbiology; Plant Sciences. A list of approved appropriate courses may be obtained from the office of either the Division of Biology or Ecology and Evolutionary Biology or from the Department of Ecology and Evolutionary Biology's Web page. Other courses, related to the student's determined interests, may be approved by petition to the department and the division. Courses applied to the major must include at least 4 hours at the 400-level and one laboratory or field course.

Honors Option
Requirements for the honors option are
• A GPA of 3.50 in all the 300-level and above courses from the concentration and an overall GPA of 3.20.
• A minimum of 4 hours of Ecology and Evolutionary Biology 400 (undergraduate research) during the junior and senior year.
• A senior thesis that is acceptable to the student's committee.

Students interested in pursuing an honors option should contact the Division of Biology office for details.

Minor in Biological Sciences
A minor in the biological sciences consists of 16 hours. Prerequisites are Biology 111-112 or 130, 140; and Chemistry 120-130. Requirements are Biology 240 and 250; and at least 8 hours chosen from 300- and 400-level courses in biochemistry, cellular and molecular biology; ecology and evolutionary biology; and microbiology. In meeting the upper-division minimum requirement not more than 6 hours may be credited from any one biological science department, and not more than 3 hours of undergraduate research may be credited.

DEPARTMENT OF CHEMISTRY
http://www.chem.utk.edu
Craig E. Barnes, Head

Professors
Adcock, J.L., PhD .............................................................. Texas
Bader, D.C., PhD .............................................................. Ohio State
Barnes, C.E., PhD .............................................................. Stanford
Bartmess, J.E., PhD .............................................................. Northwestern
Compton, R.N., PhD .............................................................. Tennessee
Cook, K.D., PhD .............................................................. Wisconsin
Dadman, M.D., PhD .............................................................. Massachusetts
Feigert, C.S., PhD .............................................................. Colorado
Guiocron, G.A. (Distinguished Scientist, Science Alliance Center of Excellence), PhD .............................................................. Université de Paris (France)
Hinde, R.J., PhD .............................................................. Chicago
Kabalka G.W. (Robert H. Cole Professor, Alumni Distinguished Service Professor), PhD .............................................................. Purdue
Kovac, J.D., PhD .............................................................. Yale
Larose, J.Z., PhD .............................................................. Wesleyan
Mays, J.W. (Distinguished Scientist, Science Alliance Center of Excellence), PhD .............................................................. Akron
Pagni, R.M., PhD .............................................................. Wisconsin
Schweitzer, G.K. (Alumni Distinguished Service Professor), PhD .............................................................. Illinois
Sepaniak, M.J., PhD .............................................................. Iowa State
Turner, J.F., Ph.D. (Alumni Distinguished Service Professor), PhD .............................................................. London (UK)
Woods, III, C. (Associate to the Chancellor), PhD .............................................................. North Carolina State
Xue, Z., PhD .............................................................. UCLA

Associate Professors
Musfeldt, J.L., PhD .............................................................. Florida
Schell, F.M., Ph.D .............................................................. Indiana
Turner, J.C., Ph.D. .............................................................. Oxford (UK)

Assistant Professors
Best, M.D., Ph.D .............................................................. Texas
Foister, S., Ph.D .............................................................. California Institute of Technology
Lee, Y., Ph.D .............................................................. Texas
Vogt, F., Ph.D .............................................................. Karlsruhe (Germany)
Zhao, B., Ph.D .............................................................. Akron

The Department of Chemistry presents to the next generation of chemists and chemically literate citizens an integrated program of teaching and research that will prepare them to respond responsibly to current and future national needs. To satisfy our diverse clientele, the educational program is continually improved and includes research, classroom, and laboratory activities. In addition, we endeavor to maintain local responsibilities in support of the university's mission for public service.

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.

Placement in General Chemistry Sequences
The sequences which meet all of the requirements of a year of general chemistry and which serve as prerequisite for upper-division courses are 120-130 and 128-138; chemistry majors are strongly urged to take the latter sequence. Courses 100 and 110 emphasize organic and biochemistry, and may not be used as prerequisite for other chemistry courses. Chemistry 150 and 160 are designed to increase the chemistry literacy and consumer knowledge of students and may not be used as prerequisites for any other chemistry course.

It is possible to move from one sequence to another if permission for substitution is obtained in advance. 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
1. Credit may be received for only one of the courses 100, 120, 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 promote 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.

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.

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 2.50 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.

BACHELOR OF SCIENCE IN CHEMISTRY
• CHEMISTRY MAJOR

The Bachelor of Science in Chemistry 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 Bachelor of Science in Chemistry program should, at the earliest opportunity, ask the Arts and Sciences Advising Center for assignment of a faculty advisor in the Department of Chemistry. For further information, contact the Head of Department of Chemistry, 552 Buehler Hall.

Requirements for the Bachelor of Science in Chemistry
• Chemistry Major

Although not reflected in the showcase, students are required to meet the University General Education Requirement as stated in this catalog. Consult the College of Arts and Sciences Advising Services for updated information.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 120-130 or (preferably) 128-138</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 141-142</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
<td>6-10</td>
</tr>
<tr>
<td>Foreign Language (intermediate level sequence)</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 240</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Chemistry 230</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Chemistry 350-360</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 369</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Mathematics 241 and either 231 or 251</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Mathematics 135-136 or 137-138</td>
<td>8-10</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 310-320</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 319-329</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 473-483</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 479-489</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>1Distribution</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 430</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 439</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry 406</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Chemistry 400</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biochemistry and Cellular and Molecular Biology 401</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>4Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2Distribution</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
<td>9</td>
</tr>
</tbody>
</table>

Total 126-132

1 Preferably chosen from German, French, Russian or Japanese; the College of Arts and Sciences requires that a student demonstrate intermediate-level competence in whatever foreign language is chosen.
2 The distribution requirements of the College of Arts and Sciences are satisfied by taking non-U.S. history (6 hours), social science (6 hours), humanities (6 hours), and upper level distribution (3 hours in U.S. studies and 3 hours in foreign studies). The number of credit hours shown in each year of the curriculum are merely intended as guidelines.
3 It is recommended that a portion of these elective hours be applied to advanced courses in biochemistry and cellular and molecular biology, mathematics, physics, or chemical, metallurgical, and polymer engineering.
4 To be chosen from Chemistry 400, 401, 408, 420, 450, and 490.

BACHELOR OF SCIENCE • CHEMISTRY MAJOR

The Bachelor of Science degree is available to students who desire a more flexible program. Prerequisites to the major are Chemistry 120-130 or 128-138 and Mathematics 141-142 or 151-152. Corequisites to the major are Physics 221-222, 135-136, or 137-138.

The major consists of Chemistry 240, 310, 319, 350-360, 369, 471-481 or 473-483, 479 and 10 hours of additional work in chemistry numbered above 200 that includes at least one laboratory course or lecture/laboratory course; up to 4 hours of Biochemistry and Cellular and Molecular Biology 401-402 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 141-142, Physics 135-136 or 137-138, and Chemistry 473-483; although not required, certain additional courses are strongly suggested for students planning to become chemists: Mathematics 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 should consult the head of the department at the earliest opportunity. Unlike the Bachelor of Science in Chemistry, the regular Bachelor of Science degree is not approved by the Committee on Professional Training of the American Chemical Society.

HONORS CONCENTRATION

Candidates for the honors concentration in chemistry must fulfill all of the requirements for either the Bachelor of Science in Chemistry or the regular Bachelor of Science degree and must also satisfy the following stipulations: they must complete with grades of C or better Mathematics 141-142, Physics 135-136 or 137-138, and Chemistry 473-483, 400, and 408; and they must have an overall university GPA of at least 3.00 with a GPA in chemistry courses of at least 3.30.
Minor in Chemistry
A minor in chemistry consists of 15 hours of chemistry courses numbered above 200 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).

DEPARTMENT OF CLASSICS
http://web.utk.edu/~classics/
David W. Tandy, Head

Professors
Craig, C.P. (Lindsay Young Professor), PhD .................. North Carolina
Martin, S.D. (Senior Vice Provost), PhD ................... Michigan
Tandy, D.W. (Distinguished Professor of Humanities), PhD ...... Yale

Associate Professor
Sutherland, E.H., PhD ......................................... California (Berkeley)

Assistant Professors
Graninger, C.D., PhD ......................................... Cornell
Lafferty, M.K., PhD .......................................... Toronto (Canada)
Sklenar, R.J., PhD ........................................ Michigan
Van de Moortel, A., PhD .................................. Bryn Mawr

Research Professors
Gesell, G.C., PhD ........................................ North Carolina
Langdon, M.K., PhD ...................................... Pennsylvania

Lecturers
Barter, S. M ........................................................ Urbino (Italy)
Downey, S.J., PhD ......................................... Toronto (Canada)

Adjunct Faculty
Dessel, J.P., PhD ............................................... Arizona
Dzon, M., PhD ............................................... Toronto (Canada)
Fitzgerald, J.L., PhD ....................................... Chicago
Heffernan, T.J., PhD ....................................... Cambridge
Jones, D.W., PhD ............................................... Chicago
Kulikowski, M., PhD ..................................... Toronto (Canada)
Shepadson, C., PhD ....................................... Duke
Stiebert, J., PhD .......................................... Glasgow (UK)

The department's programs are designed to allow students to understand the foundations of the western cultural tradition. This is done through a focus on the classical languages and literatures, archaeology, art, mythology and religion, political and social history. Through these studies, students develop skills in critical thinking, reading, writing and speaking. They also develop a sense of the ways in which both shared traditions and personal creativity influence one's choices, and of the opportunities for good citizenship in a complex world.

CLASSICS MAJOR

CLASSICAL CIVILIZATION CONCENTRATION
The concentration in classical civilization consists of 27 hours. The required core of the major is Classics 201 plus any 9 hours from Classics 221-222, 232, 253. The remaining 15 hours may be from Classics 261-264, 251-252, any Classics course numbered 300 or above, History 366, or Philosophy 320. Students are encouraged to satisfy the foreign language requirement with Greek or Latin.

HONORS CLASSICAL CIVILIZATION CONCENTRATION
The honors classical civilization concentration consists of 29 hours. The required core of the concentration is Classics 201 plus 9 hours from the following – Classics 221-222, 232, 253. Fifteen hours must include Classics 251-252 or 261-264 with the remaining 9 hours from any Classics course numbered 300 or above, History 366, or Philosophy 320. The student must pass Classics 201 with a B+ or better and the final course in the intermediate Latin or Greek sequence (252 or 264) with a B+ or better. To graduate with honors, the student must maintain a GPA of at least 3.50 in classics courses and a minimum cumulative GPA of 3.00. The student must also present an honors thesis, for which 2 hours of independent study credit may be earned.

GREEK CONCENTRATION
The concentration in Greek consists of 27 hours including 18 hours of Greek language courses numbered above 200 plus 9 hours to be from any courses in the Classics Department (other than Classics 121-122, 201, or 273).

HONORS GREEK CONCENTRATION
The honors Greek concentration consists of 29 hours. Eighteen hours of Greek language courses numbered above 200 are required, plus 9 hours from the following – any courses in the Classics Department (other than 121-122, 201, 273). The student must maintain a minimum GPA of 3.50 in Greek language courses and a minimum cumulative GPA of 3.00. In addition, of the 9 hours described above, six must be in courses numbered 300 or higher. The student must also present an honors thesis, for which 2 hours of independent study credit may be earned.

LATIN CONCENTRATION
The concentration in Latin consists of 27 hours including 18 hours of Latin language courses numbered above 200 plus 9 hours to be from any courses in the Classics Department (other than 111-112, 150, 201, or 273).

HONORS LATIN CONCENTRATION
The honors Latin concentration consists of 29 hours. Eighteen hours of Latin language courses numbered above 200 are required, plus 9 from the following – any courses in the Classics Department (other than 111-112, 150, 201, 273). The student must maintain a minimum GPA of 3.50 in Latin language courses and a minimum cumulative GPA of 3.00. In addition, of the 9 hours described above, six must be in courses numbered 300 or higher. The student must also present an honors thesis, for which 2 hours of independent study credit may be earned.

MINOR IN CHEMISTRY
A minor in chemistry consists of 15 hours of chemistry courses numbered above 200 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).

Minor in Classical Civilization
A minor in classical civilization consists of 18 hours including Classics 201 plus any 6 hours from Classics 221-222, 232, 253. The remaining 9 hours may be from Classics 261-264, 251-252, any Classics course numbered 300 or above, History 366, or Philosophy 320.

Minor in Greek
The Greek minor consists of 18 hours including 12 hours of Greek language courses numbered above 200, and 6 hours chosen from Classics 221-222, 436, 442.

Minor in Latin
The Latin minor consists of 18 hours including 12 hours of Latin language courses numbered above 200, and 6 hours from Classics 221-222, 436, 442.
COLLEGE SCHOLARS PROGRAM
Christopher P. Craig, Classics, Director

COLLEGE SCHOLARS MAJOR
College scholars is a major with selective admission. For details contact the director. All college 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 496 is the appropriate course to use to receive credit for this work.

DEPARTMENT OF COMPUTER SCIENCE
http://www.cs.utk.edu/
Michael W. Berry, Interim Head

Professors
Berry, M.W., PhD ........................... Illinois
Dongarra, J.J., PhD .......................... New Mexico
Gregor, J., PhD ............................... Aalborg (Denmark)
Langston, M.A., PhD ........................ Texas A&M
Plank, J.S., PhD ............................... Princeton
Pooe, J.H., PhD ............................... Georgia Tech
Thomasen, M.G., PhD ........................ Duke
Vander Zanden, B.T., PhD .................. Cornell
Ward, R.C., PhD .............................. Virginia

Associate Professors
Banks, D.C., PhD ............................ North Carolina
Beck, M., PhD ................................. Cornell
MacLennan, B.J., PhD ........................ Purdue
Parker, L.E., PhD ............................. Massachusetts Institute of Technology
Vose, M.D., PhD ............................. Texas

Assistant Professors
Huang, J., PhD ............................... Ohio State
Straight, D.W., PhD .......................... Texas

Lecturer
Mayo, J.W., MS ............................... Tennessee

The computer has achieved a position of great importance in modern life. It is a vital tool in business, science, communications, and health care. The Department of Computer Science offers education in the principles of computer science and training in the technology of computers. The program’s emphasis is divided among hardware, software, and theory, giving students a wide view of the discipline and enabling them to discover their areas of interest. Graduates of the program are prepared to help others make effective use of computers in their daily lives.

Progression Standards
Undergraduates are required to apply to the Department of Computer Science for progression into the computer science major. Progression is based on demonstrated academic ability. The overall record will be evaluated for quality and seriousness of purpose.

The requirements are subject to change. Current requirements can be determined by consulting an advisor in the Undergraduate Programs Office or by contacting the Computer Science Department. Students are expected to take the last of Computer Science 140, 160, and Mathematics 141 at the University of Tennessee, Knoxville, with a GPA of 3.00 or better in these three courses and a grade of C or better in each course. Transfer students’ course work will be evaluated individually.

• GPA of 2.50 or better in all computer science courses taken at the University of Tennessee, Knoxville, that apply to the major.
• Not been disciplined for academic dishonesty in a computer science course or for abuse of university computing privileges.
• No excessive absences, withdrawals, or incompletes.

Students who meet the criteria must fill out an application available in the Computer Science Department. A student who does not meet progression requirements will not be allowed to take any upper-division computer science course that can be applied to the major.

Students in other colleges or majors at the University of Tennessee, Knoxville, must apply for progression to the major at the earliest possible date but ideally prior to 75 hours. As a minimum, all students must be admitted to the computer science major for at least the last 30 hours of work.

Transfers from other institutions are generally handled the same as transfers from other University of Tennessee, Knoxville, 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 University of Tennessee, Knoxville, 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 process can be obtained by calling the Computer Science Department, 974-5067, the Undergraduate Programs Office, 974-5096, or by contacting an advisor in that office.

COMPUTER SCIENCE MAJOR
Majors in computer science should prepare their programs in consultation with an advisor in the Computer Science Department. A student is not permitted to declare a computer science major until the department’s progression requirements have been met.

The major in computer science consists of 39 hours. Prerequisites to the major include Computer Science 102, 140, 160, and Mathematics 141, 142, 241, 251, with a grade of C or better in each course; and a two-semester laboratory science (Physics 135-136 or biology or chemistry). The major consists of:

• Computer Science 302, 311, 360, 365, 380.
• One of the following – Computer Science 340, 370, Mathematics 371.
• Mathematics 300.
• Either English 355 or English 360.
• Either an additional 15 hours of upper division computer science or an additional 12 hours of upper-division computer science and either mathematics 231 or 323.

Minor in Computer Science
The prerequisites to an undergraduate minor are Computer Science 140, 160, and Mathematics 141 with a GPA of 3.00 or better in the three courses. The minor consists of 15 hours of upper-division computer science courses. Mathematics 371 may be substituted for three of those hours. A grade of C or better is required in all computer science courses applied to the minor, and a GPA not less than 2.50 must be maintained in these courses.
DEPARTMENT OF EARTH AND PLANETARY SCIENCES
http://geoweb.gg.utk.edu/
Claudia I. Mora, Head

Professors
Broadhead, T.W., PhD .............................................. Iowa
Dunne, W.M. (Associate Dean), PhD ................................. Bristol (UK)
Hatcher, R.T. (UT Knoxville/ORNL Distinguished Scientist),
PhD ................................................................. Tennessee
Labotka, T.C., PhD .................................................. California Institute of Technology
Mckay, L.D., PhD ..................................................... Waterloo
McKinney, M.L., PhD ................................................. Yale
McSween, H.Y. (Distinguished Professor of Science), PhD .... Harvard
Misra, K.C., PhD ................................................... Western Ontario (Canada)
Mora, C.I. (Carden Professor), PhD ............................... Wisconsin
Taylor, L.A. (Distinguished Professor of Science), PhD ....... Lehigh

Associate Professors
Baker, G.S., PhD ......................................................... Kansas
Clark, G.M., PhD ....................................................... Penn State
Fedo, C.M., PhD ....................................................... Virginia Tech
Kah, L.C., PhD ......................................................... Harvard
Perfett, E., PhD ......................................................... Cornell

Assistant Professor
Moersch, J.E., PhD .................................................. Cornell

Lecturers
Deane, W., MS .......................................................... Tennessee
Sumrall, C.D., PhD ................................................. Texas

The Department of Earth and Planetary Sciences emphasizes study of the Earth and of planetary systems at all scales of observation. Earth and Planetary Sciences strives to interpret the physical, chemical and biological processes operating over 4.6 billion years of Earth history, as well as those processes involved in the formation of terrestrial planetary bodies within our solar system.

GEOLOGY MAJOR
Progression to the Major
To progress into the major, students must take two courses from Geology 101-102-103, as well as Chemistry 120-130. Chemistry 130 may be taken concurrently with 300-level geology courses.

Corequisite Requirements
Corequisite requirements include Mathematics 141-142, and three courses from Biology 130-140 and Physics 135-136.

Major Requirements
Upper-division requirements include Geology 310-320-330-340-370-380 (24 hours), a minimum of 5 hours of an approved field camp, and 9 elective hours at the 400-level or above. Students are encouraged to participate in undergraduate research (Geology 493). A maximum of 3 hours of Geology 493 may count toward the major.

HONORS CONCENTRATION
Students with five completed upper-division geology courses and a cumulative GPA of at least 3.00 are encouraged to pursue an honors concentration, which includes completion of 3 hours of Geology 491, 492, or 493 beyond the normal major requirements, approval of a written thesis, and oral presentation of thesis results. A GPA of at least 3.00 must be maintained throughout matriculation. Interested students should consult their academic advisor for details.

Minor in Geology
A minor in geology consists of two courses from Geology 101-102-103, and an additional 16 hours at the 200-level or above. A maximum of 6 hours at the 200-level and 3 hours of Geology 493 may be counted toward the minor.

DEPARTMENT OF ECOLOGY AND EVOLUTIONARY BIOLOGY
http://eeb.bio.utk.edu/
Christine R.B. Boake, Head
Randall Small, Associate Head

Professors
Boake, C.R.B., PhD ............................................... Cornell
Burghardt, G.M., PhD ............................................. Chicago
Echternacht, A.C., PhD ............................................ Kansas
Etner, D.A., PhD .................................................... Minnesota
Gavrilits, S., PhD .................................................... Moscow State
Greenberg, N.B., PhD .............................................. Rutgers
Groves, R.C., Jr., PhD .............................................. Cornell
Harris, III, W.R., PhD ............................................. Tennessee
Hallam, T.G., PhD ................................................... Missouri
Hughes, K., PhD .................................................... Utah
McCracken, G.R., PhD ............................................. Cornell
Niechert, S.E. (Distinguished Service Professor), PhD .... Wisconsin
Sayler, G.S., PhD .................................................... Idaho
Schilling, E., PhD .................................................... Indiana
Schultz, E., PhD ..................................................... Indiana
Simberloff, D. (Gore Hunger Chair of Excellence), PhD .... Harvard

Associate Professors
Drake, J.A., PhD .................................................... Purdue
Small, R., PhD ......................................................... Iowa State
Smith, D., PhD ......................................................... Tennessee
Weltzin, J., PhD ...................................................... Arizona
Wofford, B.E. (Curator of Herbarium), PhD .................... Tennessee

Assistant Professors
Field, T., PhD ......................................................... Harvard
Fitzpatrick, B.M., PhD ............................................. Davis
Fordyce, J.A., PhD ................................................... Davis
Gilchrist, M.A., PhD ................................................. Duke
Sanders, N.J., PhD .................................................. Stanford
Schweitzer, J.N., PhD .............................................. Arizona
Williams, J., PhD .................................................... Georgia

Research Professors
Cooper, L.W., PhD ................................................ Alaska
Greene, J.M., PhD .................................................. Alaska

Research Assistant Professors
Bailey, J.N., PhD .................................................... Arizona
Glassen, A.T., PhD ................................................ Northern Arizona

Ecology and evolutionary biology deals with the interactions of organisms with one another and with their physical environment, and with the processes through which these interactions have developed and continue to change through time. The curriculum will provide students with an understanding of ecological interactions and evolutionary processes that are fundamental to the operation of the natural world. The scope of this program ranges from the molecular level, to individual organisms, to populations, communities, and ecosystems. The program offers career opportunities in academia, industry, governmental and non-governmental agencies that are concerned with the importance and integrity of natural systems, and in education at all levels.

Students wishing to emphasize study in this area elect to major in biological sciences with a concentration in ecology and evolutionary biology. See the description of the major and concentration under Division of Biology for requirements.

DEPARTMENT OF ECONOMICS
See faculty listing in the College of Business Administration.
The program in economics combines a broad liberal education with the rigorous study of important topics such as markets, employment, economic growth, business organization, wealth, inflation, health, environment, taxes, and the international economy.

Courses offered in the Department of Economics, housed in the College of Business Administration, provide an opportunity for a major or minor in economics in the College of Arts and Sciences.
In addition, certification to teach economics in secondary schools is available. Students with such interest should consult the College of Education, Health, and Human Sciences as early in their program as possible to determine the appropriate requirements.

ECONOMICS MAJOR

Prerequisites to the major are Economics 201 and Statistics 201, or their equivalent Honors courses (Economics 207 and/or Statistics 207).

The major consists of 27 upper-division hours in economics, and must include 311, 313, 499 and at least 9 hours in addition to 499 at the 400-level. Majors should satisfy the mathematics and quantitative reasoning requirement either with Mathematics 125 or 141, and Statistics 201 (207). Students planning to pursue graduate study in economics should elect Mathematics 141, and are encouraged to take Mathematics 142 and 251 and Economics 381 and 482 as well.

HONORS CONCENTRATION

The honors concentration consists of 27 upper-division hours. Admission is limited to students with an overall GPA of 3.20 who have earned a B or better in Economics 311, 313, and two other upper-division economics courses. Students in the honors concentration are required to have Economics 498 and 9 hours of other honors courses. Within the major, course requirements are Economics 311, 313, 498, and 18 additional upper-division hours in economics, with at least 9 hours in addition to 498 at the 400-level. Students will develop an undergraduate thesis topic with the guidance of their faculty advisor and complete the thesis while registered for Economics 498.

Minor in Economics

A minor consists of Economics 201 (or 207) and 12 additional hours at the upper-division level. Upper-division economics courses must include 311, 313, and 3 or more hours at the 400-level.

DEPARTMENT OF ENGLISH
http://web.utk.edu/~english/
John Zomchick, Head

Professors
Atwill, J.M., PhD ........................................... Purdue
Cox, D.R. (Executive Associate Dean), PhD ................................ Missouri
Dumas, B.K., PhD ........................................... Arkansas
Dunn, A.R., PhD ........................................... Washington
Ensor, A.R., PhD ........................................... Indiana
Garner, Jr., S.B. (Interim Associate Dean and Young Professor), PhD ............. Princeton
Goslee, D.F. (PhD) ........................................... Yale
Goslee, N.M. (Alumni Distinguished Young Professor), PhD ......................... Yale
Heffernan, T.J.A. (Curry Professor), PhD ................................................ Cambridge (UK)
Kaliet, M. (John C. Hodges Teaching Professor), PhD ................................ Rutgers
Keene, M.L., PhD .......................................... Texas
Leki, I., PhD ................................................ Illinois
Luzza, M.A., PhD .......................................... Yale
Lofaro, M.A., PhD ......................................... Maryland
Luprecht, M.A., PhD ...................................... Florida
Maland, C., PhD ........................................... Michigan
Papke, M.E. (Special Assistant to the Chancellor and Associate Dean of the Graduate School), PhD ......................... McGill (Canada)
Smith, A.E., PhD ............................................ Houston
Stillman, R.E., PhD ......................................... Pennsylvania
Wier, A., MFA ............................................. BowingGreen
Zomchick, J.P., PhD ........................................ Columbia

Associate Professors
Anderson, M.G., PhD ....................................... Vanderbilt
Elias, A.J., PhD ............................................. Penn State
Hirschlfeld, H.A., PhD ..................................... Duke
Hirst, R., PhD ............................................. Pennsylvania Polytechnic
Howes, L.L., PhD ........................................... Columbia
Jennings, L.D., PhD ....................................... North Carolina
Knight, M., MFA ........................................... Virginia
Reiff, M.J., PhD ........................................... Kansas

Assistant Professors
Billone, A.C., PhD ........................................... Princeton
Coleman, D.D., PhD ......................................... Stanford
Dzon, M.C., PhD ............................................. Toronto (Canada)
Fishman, J.M., PhD ........................................... Stanford
Haddox, T.F., PhD ........................................... Vanderbilt
Hirschfeld, H.A., PhD ..................................... Duke
Jennings, L.D., PhD ....................................... North Carolina
Schoenbach, L.M., PhD .................................... Virginia
Seshagiri, U., PhD .......................................... Illinois

Lecturers
Aajj, M.P., PhD ............................................. Alabama
Barrow, R., PhD ........................................... Iowa
Burton, J.C., PhD ......................................... State University of New York (Stony Brook)
Capps, S.E., PhD ........................................... Tennessee
Deaton, E.K., MA .......................................... Tennessee
Goddard, K.C., MA ......................................... Tennessee
Hardwig, M.R., PhD ....................................... Tennessee
Hardwig, W.J., PhD ......................................... Florida
Harris, S.C., PhD ........................................... Tennessee
Havens, K.L., PhD ........................................... Tennessee
Hewlton, J.K., PhD ......................................... Toronto (Canada)
Knox, L., MA ................................................ Indiana
Larsen, W.B., PhD .......................................... Tennessee
Mabee, F.P., PhD ........................................... Southern California
McCue, K., MA ............................................. Tennessee
McKeeves, M.R., MA ...................................... Tennessee
McKinstry, D.K., PhD ...................................... Tennessee
Melton-Sumner, S.E., PhD .................................. Tennessee
Meredith, E.G., MA ......................................... Tennessee
Newburn, H.F., PhD ....................................... Illinois (Carbondale)
Palmer, H.M., MA .......................................... Tennessee
Pearson, F.M., MA .......................................... Tennessee
Peavler, J.L., MA .......................................... Tennessee
Pelletier, E.Y., PhD ......................................... Toronto (Canada)
Preston, N.H., PhD .......................................... Tennessee
Rentfro, M.M., PhD .......................................... Tennessee
Rougeau-Vanderford, R.N., PhD ......................... Louisiana State
Senasi, D.M., PhD .......................................... Alabama
Sheffield, C.L., MA ......................................... Radford
Spinko, R.L., PhD ........................................... North Carolina
Stafford, A.A., PhD ......................................... Pittsburgh
Wilhelm, R., PhD .......................................... Tennessee
Yost, R., M.A. ............................................... Tennessee

Writing Center Director
Benson, K.F., EdD ........................................... Tennessee

The English major provides students with the ability to analyze and interpret literary and other kinds of texts; to place those texts within historical, theoretical, and aesthetic contexts; to evaluate arguments according to their logical and rhetorical features; and to develop the skills of written and oral communication. While developing these abilities, students are also urged to discover their own critical and artistic voices by gaining proficiency in organizing complex material, addressing multiple audiences, and understanding the medium of language. In the spirit of liberal education, the English major attempts to satisfy society’s increasing need for a citizenry skilled in critical thought and communication. Students planning to teach English in public schools should consult the College of Education, Health, and Human Sciences.

ENGLISH MAJOR

The English major consists of ten courses at the 300-400 level in one of the following concentrations.

Prerequisites and Corequisites

One two-semester sequence chosen from the following groups: English 201-202 (British Literature); 221-222 (Literature of the Western World); 231-232-233 (American Literature); 251-252-253 (Introduction to Literary Genres).

CREATIVE WRITING CONCENTRATION

The concentration requires a two-course sequence in creative writing; three other writing courses; four courses in literature, two of which must be before 1900, and at least one of those courses in the nineteenth-century American literature.
before 1800; one course in language, theory, cultural, ethnic, or gender studies; one or more courses from any of the department’s offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

LITERATURE CONCENTRATION

The concentration consists of English 376 (Colloquium in Literature), to be taken, if possible, near the beginning of the student’s major program; four courses in literature before 1800, including at least two courses before 1800; one course in American literature; one course in twentieth-century literature; one course in language, theory, cultural, ethnic, or gender studies; two or more courses from any of the department’s offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

RHETORIC AND WRITING CONCENTRATION

The concentration requires a three-course package in rhetoric and writing; one other course in rhetoric or writing; four courses in literature, two of which must be before 1900, and at least one of those before 1800; one course in language, theory, cultural, ethnic, or gender studies; one or more courses from any of the department’s offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

TECHNICAL COMMUNICATIONS CONCENTRATION

The concentration consists of a three-course package in technical communications; one other course in rhetoric or writing; four courses in literature, two of which must be before 1900, and at least one of those before 1800; one course in language, theory, cultural, ethnic, or gender studies; one or more courses from any of the department’s offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

INDIVIDUALIZED PROGRAM CONCENTRATION

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 PROGRAM

For students who qualify, the English Department offers specially designed courses at all levels. The first-year and second-year honors courses are enriched versions of regular sections in composition, and in American and British literatures. To be given honors in English on the transcript, a student must have achieved a 3.00 or better GPA, a 3.50 or better grade point in English courses, and grades of A or B in English 398 and 498.

Minor in English

An English minor consists of at least 15 semester hours of English courses at the 300-400 level. An English minor with technical communication emphasis consists of at least 15 semester hours of English courses chosen from the following: at least three courses in technical communication (chosen from 360, 460, 462, 466, or any special topics course being offered in technical communication); one course in expository writing, argumentative writing, language, rhetoric, or another technical communication course (chosen from 355, 360, 371, 372, 455, 460, 462, 466, 470, 471, 472, 484, 485, 495, 496); and one other 300- or 400-level English course.

DEPARTMENT OF GEOGRAPHY

http://web.utk.edu/~utkgeog/

Carol Harden, Interim Head

Professors

Aiken, C.S., PhD ........................................... Georgia
Bell, T.L., PhD ........................................... Iowa
Forest, R.A., PhD ........................................ Rutgers
Harden, C.P., PhD ........................................ Colorado
Horn, S.P., PhD .......................................... California (Berkeley)
Pulisipher, L.M., PhD .................................. Southern Illinois
Raitston, B.A., PhD ..................................... Northwestern
Rehder, J.B., PhD ....................................... Louisiana State
Shaw, S.L., PhD .......................................... Ohio State

Associate Professors

Grissino-Mayer, H., PhD ................................ Arizona
Orvis, K., PhD .......................................... California (Berkeley)

Assistant Professors

Drever, A., PhD .......................................... California (Los Angeles)
Kalafsky, R., PhD ...................................... New York (Buffalo)
Tran, L.T., PhD .......................................... Hawaii

Adjunct Faculty

Gripshover, M.M., PhD ............................... Tennessee
Liu, C., PhD .............................................. Tennessee
Tankersley, R.D., PhD ................................ Tennessee
Zanetta, M.C., PhD .................................... Ohio State

The Department of Geography provides a comprehensive program that reflects the discipline’s three main areas—human geography, physical geography, and spatial analysis. The department’s courses allow students to explore the linkages between human activities and natural systems. Students taking geography courses should develop factual knowledge, critical thinking, and analytic skills. Training in geography allows students to know where things are located, why they are located where they are, how and why places differ, how human activity shapes and is shaped by the natural environment, and how to analyze human-environment interactions.

GEOGRAPHY MAJOR

Geography 131 and 132, and 101 or 102 are prerequisites to the major, which consists of 27 hours as follows. Geography 310 and 499; either 320, 421, or 423; either 340 or 351; one course from among 410, 411, 412, 413 or 415; one course from among 361, 363, 365, 371, 373, 375, or 379; and 9 additional credits, at least 6 of which must be taken at the 400 level. No more than 3 hours of Geography 490 may be counted toward the major.

Students who enter the major with more than 60 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. Students who enter the major with more than 60 hours of credit, and who have met the social science divisional requirements in departments other than geography, may petition the department to substitute certain upper-division human geography courses for 101 or 102.

HONORS CONCENTRATION

Students who have an overall GPA of 3.20 may elect to participate in an enrichment program that involves the successful completion of Geography 497 and 498 (Honors: Senior Thesis) under the direction of a faculty mentor. An approved written copy of the thesis must be submitted to the Department of Geography. Interested students should consult their advisor for details about participation.
Minor in Geography
The minor in geography consists of 15 hours of geography courses at the 200 level or above. Geography 490, 491, 492, 493 may not be counted toward the minor without departmental permission.

DEPARTMENT OF HISTORY
http://web.utk.edu/~history/
Thomas E. Burman, Interim Head

Professors
Ash, S.V., PhD ........................................... Tennessee
Bohstedt, J., PhD ........................................... Harvard
Brummett, P., PhD ........................................... Chicago
Crabtree, L. (Chancellor), PhD ..................................... Minnesota
Diacon, T.A. (Vice Provost of Academic Operations), PhD ................................... Wisconsin
Feller, D., PhD ........................................... Wisconsin
Norrell, R.J. (Bermadote Schmitt Professor), PhD ......................................... Virginia

Associate Professors
Appier, J., PhD ...................................... California (Riverside)
Bast, R.J., PhD ........................................... Arizona
Burman, T.E., PhD ...................................... Toronto (Canada)
Dessel, J.P., PhD ........................................... Arizona
Fleming, C.G., PhD ........................................... Duke
Freeberg, E., PhD ........................................... Emory
Glover, L., PhD ........................................... Kentucky
Higgs, C.A., PhD ........................................... Yale
Kulikowski, M., PhD ...................................... Toronto (Canada)
Liu, L., PhD .............................................. California (San Diego)
Piehler, G.K., PhD ........................................... Rutgers

Assistant Professors
DeWeerdt, H., PhD ........................................... Harvard
Liu, L., PhD .............................................. California (San Diego)
McIntosh, J.L., PhD ........................................... Johns Hopkins
Phillips, D., PhD ........................................... Harvard
Sacco, I., PhD .............................................. Southern California
Tompkins, D., PhD ........................................... Columbia
White, G., PhD ............................................. Temple

The department’s program is designed to provide students with a knowledge of their cultural traditions and of their world, past and present, and thus to prepare them for the responsibilities of citizenship in today’s complex society. Students take history courses to develop their skills in thinking, reading, writing and speaking; to understand the links between past, present and future; and to assist them in their search for personal identity.

The department welcomes non-majors in its courses. Few history courses have formal prerequisites.

HISTORY MAJOR
Majors in history should prepare their programs in consultation with a departmental faculty advisor. A student may not declare a history major until he/she has completed both semesters, with a grade of C or better in each course, of a survey chosen from 221-222, 227-228, 241-242, 247-248, 261-262 or any two one-semester courses from any of these sequences. AP (with a score of 4 or 5) or transfer credit is acceptable to fulfill this requirement. History 241-242 (or honors equivalents) or 261-262 are prerequisites to a major which consists of 30 hours, including

- 6 hours of History 221-222 (or the honors equivalent).
- 24 upper-division hours, including one course in European history; one course in United States history; two courses in the history of Latin America, Asia, or Africa, at least one of which must be in Asia or Africa; and one additional course dealing predominantly with a period prior to 1750.

HONORS CONCENTRATION
The Department of History offers honors sections of the western civilization and United States history survey courses. Some entering freshmen are invited to participate; other interested students may apply. These survey courses are open to non-majors. A grade of C+ or less in any part of the freshman-sophomore honors sequence will render the student ineligible for further honors work in history.

The honors concentration requires successful completion of 307 and a senior thesis (407-408) with a grade of B or above. The honors concentration consists of 33 hours, including 30 hours as outlined in the Bachelor of Arts major above, plus 307. All juniors who are declared history majors with an overall GPA of at least 3.00 are invited to join the Junior-Senior Honors Program. Students interested in honors work at any level should consult the department’s honors coordinator.

Minor in History
History 241-242 or 261-262 (or honors equivalents) are prerequisites to a minor which consists of 15 hours of courses numbered 200 or above, including at least 6 hours in United States history and 9 upper-division hours.

INTERDISCIPLINARY PROGRAMS

Don Richard Cox, Associate Dean, College of Arts and Sciences, Director

In keeping with the philosophy that integration of knowledge is as important as proficiency in a given field, the College of Arts and Sciences has combined the resources of several departments to offer a series of interdisciplinary majors and minors. These programs are Africana studies, American studies, Asian studies, cinema studies, comparative literature, environmental studies, global studies, Judaic studies, Latin American studies, legal studies, linguistics, medieval studies, and women’s studies. See the following individual program descriptions for the concentration and/or minor requirements.

INTERDISCIPLINARY PROGRAMS MAJOR

- AFRICANA STUDIES CONCENTRATION
  Wornie Reed, Sociology, Chair
  Africana Studies 201, 202 or 235, 236 are required in the concentration which consists of 24 hours from the Africana studies curriculum. At least 15 hours must represent upper-division credits. Majors are required to take Africana Studies 432, preferably in their senior year. A maximum of 6 hours in Africana Studies 492 and 493 combined can be applied toward the Africana studies concentration.

Minor in Africana Studies
Africana Studies 201, 202 or 235, 236 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 Africana Studies 492 and 493 combined can be applied to the minor.

INTERDISCIPLINARY PROGRAMS MAJOR

- AMERICAN STUDIES CONCENTRATION
  Michael Fitzgerald, Political Science, Chair
  English 231 and either 232 or 233 are prerequisites to a concentration in American studies which consists of 27 upper-division hours including American Studies 310; at least two approved American history courses; and 6 hours of approved courses chosen from anthropology, economics, political science, or sociology. Courses in the concentration will be chosen in consultation with an American studies advisor, from a list approved by the program, in such a way that at least three 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 to 6 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.
Minor in American Studies

The American studies minor consists of at least 15 hours of coursework chosen from the program’s list of electives, including American Studies 310 and 12 additional hours from at least two different disciplines.

INTERDISCIPLINARY PROGRAMS MAJOR
• ASIAN STUDIES CONCENTRATION
Yang Zhong, Political Science, Chair

Prerequisites to the concentration are Asian Studies 101-102. Corequisite to the concentration is competence in a major Asian language of the chosen geographical-cultural area. Competence is defined as the successful completion of the 200-level sequence of that language, or by demonstration of equivalent mastery.

The Asian studies concentration consists of 26 credit hours from the upper-division courses of Asian 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.

Minor in Asian Studies

The Asian studies minor consists of Asian Studies 101-102 and 15 credit hours at the 200 level and above. Twelve credit hours must be taken from courses within one of the four geographical-cultural areas. Six credit hours must come from Subdivision A and 6 from Subdivision B. Three hours must be taken from courses in another geographical-cultural area.

CINEMA STUDIES
Christine Holmlund, Modern Foreign Languages and Literatures, Chair

Minor in Cinema Studies

The cinema studies minor consists of 15 hours, including Cinema Studies 281; 3 hours chosen from Cinema Studies 235, 236, or Journalism and Electronic Media 336; and 9 additional hours from any courses in cinema studies, courses cross-listed with cinema studies, or from the following approved courses – Journalism and Electronic Media 275, 336, 436. It is strongly recommended that Cinema Studies 281 be taken before any other courses in the minor.

For further information about the minor, consult the chairperson of the cinema studies program. Courses related to cinema studies and not listed above may be applied to the minor with the approval of the chair of the program.

INTERDISCIPLINARY PROGRAMS MAJOR
• COMPARATIVE LITERATURE CONCENTRATION
Carolyn R. Hodges, Modern Foreign Languages and Literatures, Chair

Students concentrating in comparative literature are strongly encouraged to acquire a working knowledge of a second foreign language, especially if they hope to pursue comparative literature on the graduate level.

A concentration in comparative literature consists of 27 hours, including Comparative Literature 202 and 401-402, and 9 hours of literature in a foreign language in courses numbered 300 or above. The remaining 9 hours should include literature courses, either in English or in a foreign language, numbered 300 or above, from at least two of the following departments – Classics, English, Modern Foreign Languages and Literatures, and Religious Studies. Certain courses in philosophy, theatre, and interdisciplinary programs may be substituted with the approval of the chairperson of the comparative literature program.

Minor in Comparative Literature

A minor in comparative literature consists of 18 hours including Comparative Literature 202 and either Comparative Literature 401 or 402, 6 hours of literature in a foreign language in courses numbered 300 or above, and 6 hours of literature courses numbered 300 or above in a different department. These 6 hours may be either in English or in a foreign language and should be chosen from the following departments – English, Modern Foreign Languages and Literatures, and Religious Studies. Certain courses in philosophy, theatre, and interdisciplinary programs may be substituted with the approval of the chairperson of the comparative literature program. Minors in comparative literature are strongly encouraged to continue study of a foreign language beyond the minimum requirement.

INTERDISCIPLINARY PROGRAMS MAJOR
• ENVIRONMENTAL STUDIES CONCENTRATION
Michael McKinney, Earth and Planetary Sciences, Chair

The concentration in environmental studies provides sound scientific, socio-economic, and philosophical background for understanding the earth’s environment with an opportunity to minor in one of the many environmentally related curricula offered by the various colleges within the university.

Prerequisites to the concentration are Biology 130-140 or 111-112; Chemistry 120-130; Geology 101; Geography 131; Mathematics 123-125 or 141-142 or 151-152; Economics 201; and Biology 250.

The concentration consists of a core and a specialty.

Core
(a) 15 hours from Geography 345; Sociology 360 or 464 or 465 (one only); Philosophy 245; Economics 362 or Agricultural Economics 470 (one only); Agriculture and Natural Resources 333; Journalism and Electronic Media 451; Geology 490.
(b) 3 hours from Geology 455 or Ecology and Evolutionary Biology 464.
(c) 3 hours from Geography 334, 433, 434, 436; Environmental and Soil Sciences 462.

Specialty
Twelve hours at the 300 level or above in one of the following departments – Biochemistry, Cellular and Molecular Biology; Biosystems Engineering and Soil Science; Chemistry; Earth and Planetary Sciences; Ecology and Evolutionary Biology; Economics; Forestry, Wildlife and Fisheries; Geography; Plant Sciences; Political Science; or Sociology.

INTERDISCIPLINARY PROGRAMS MAJOR
• GLOBAL STUDIES CONCENTRATION
Jon Shenefr, Sociology, Chair

The global studies concentration focuses on understanding connections between different parts of the world. Globalization, or the trans-national exchange of investments, commodities, people, politics, technologies, and cultures, is both a characteristic of the contemporary world and the culmination of large-scale, long-term social change. Although globalization, at times, seems dominated by new economic and political formations more powerful than the traditional nation-state, it has also mobilized new expressions of local and transnational discontent and resistance.

The University of Tennessee, Knoxville, global studies curriculum helps students understand the implications of global change, allowing the university community to confront what is occurring in our immediate locale by examining what is going on elsewhere. Bringing together faculty and students from diverse
perspectives creates an interdisciplinary understanding of the
disruption and integration resulting from changing configurations
of nations, global processes, and identities.

Global Studies 250 is a prerequisite to the concentration
which requires 29-30 credit hours in the form of ten courses. No
course may be counted toward more than one of the following
categories. No more than 3 credit hours may be taken under the
300 level. Courses are to be distributed as follows.

A. Seven core courses from the following list. A student may
choose to concentrate in either global society and culture
or global politics and economy. The requirements for
either track will be five courses in the primary track and
two courses in the secondary track. Three hours of inde-
pendent study or off-campus study can be used to substi-
tute for a core course.

Track I – Global Society and Culture
Anthropology 315; History 421; Comparative Literature
202; English 331, 454; Geography 345; Musicology 290;
Philosophy 393; Religious Studies 302, 333; Women’s
Studies 360.

Track II – Global Politics and Economy
Agricultural Economics 420; Forestry, Wildlife, and Fish-
eries 420; Geography 351; History 374; Philosophy 393;
Political Science 350, 365, 463, 470, 471, 474; Retail and
Consumer Sciences 421; Sociology 442, 446; Women’s
Studies 360.

B. Any two courses from the following approved list of
regional studies courses.
Anthropology 313, 316, 319; Asian Studies 471; Geo-
graphy 373; Political Science 452, 456; Religious Studies
332, 373; Spanish 331, 401, 465.

C. One upper-division course from the following list.
Anthropology 410, 431; Geography 320, 340, 415; Philos-
ophy 360; Political Science 401; Religious Studies 300;
Sociology 331; any upper-division modern foreign lan-
guage course taught in the language of study.

Note: Any courses taken to fulfill a core requirement cannot be used
to fulfill a regional studies or methods/foreign language requirement.

Minor in Global Studies
Global Studies 250 is a prerequisite to the minor in global studies
which requires 17-18 credit hours distributed in the following manner.

Six courses, including two courses from Track I (global soci-
ety and culture) and two courses from Track II (global politics and
eco-nomy). The remaining two courses may be taken from any of
the above lists.

INTERDISCIPLINARY PROGRAMS MAJOR
• JUDAIC STUDIES CONCENTRATION
Gilya Gerda Schmidt, Religious Studies, Chair

The concentration in Judaic studies offers a course of study
that treats Judaism as a historically evolving and culturally spe-
cific enterprise. The concentration explores Jewish culture, reli-
gion and heritage through literature, philosophy and history.

A multi-disciplinary combination of courses permits critical
reflection about topics and issues in a world civilization and
cross-cultural context.

The concentration consists of at least 27 hours at the 300
level or above, distributed as follows.

• Religious Studies 381, History 383.
• 12 hours from Religious Studies 311, 312, 320, 385, 386,
  405; History 370, 384.
• 9 hours selected from Art History 425, 431, 475; German
  350; History 369, 395, 484; Philosophy 322.

Students should contact the program advisor early in planning
a Judaic studies concentration.

Minor in Judaic Studies
The Judaic studies minor consists of Religious Studies 381,
History 383, and 9 hours selected from the Judaic studies con-
centration.

INTERDISCIPLINARY PROGRAMS MAJOR
• CHINESE, JAPANESE, OR PORTUGUESE
CONCENTRATION
Gregory B. Kaplan, Modern Foreign Languages and Literatures, Chair

For a complete list of requirements, see Department of Mod-
ern Foreign Languages and Literatures.

INTERDISCIPLINARY PROGRAMS MAJOR
• LATIN AMERICAN STUDIES
CONCENTRATION
Michael Handelsman, Modern Foreign Languages and Literatures, Chair

The concentration consists of two optional tracks – general
studies or Brazilian studies.

The general studies track requires 27 upper-division hours
taken from courses offered by at least three different academic
departments. Three hours are to be selected from either Spanish
331, 333, 334 or Portuguese 315, 326. The remaining hours are
to be chosen from Anthropology 313, 316, 319; History 360, 361,
460, 461, 462, 475; Geography 373; Political Science 456; Por-
tuguese 430, 432; Spanish 401, 402, 465, 479.

The Brazilian studies track requires 27 upper-division hours
offered by at least three different academic departments. Of these
hours, a minimum of 6 hours must be taken as part of UT
Knoxville’s summer study program in Fortaleza, Brazil (Portuguese
491 or 493). Nine hours must come from University of Tennessee,
Knoxville, courses that focus on Brazil (History 460; Portuguese
315, 326, 430, 432). The remaining 12 hours are to be selected
from courses listed above as part of the general studies track.

Minor in Latin American Studies
The minor consists of 18 hours taken from courses offered by
at least three different academic departments. Three of the hours
are to be selected from either Spanish 331, 333, 334, or Por-
tuguese 315, 326. The remaining 15 hours are to be selected
from the courses listed in either track of the concentration.

INTERDISCIPLINARY PROGRAMS MAJOR
• LEGAL STUDIES CONCENTRATION
David Reidy, Philosophy, Chair

The legal studies concentration places the study of law with-
in the context of a liberal arts education. This concentration offers
a course of study that treats law as a historically evolving and cul-
 turally specific enterprise. The concentration seeks to attract stu-
dents interested in exploring the ways in which law and legal
components of society; promote an interest in studying
how law shapes, and is shaped by the larger social,
behavioral, political, historical, and cultural context; pres-
et an interdisciplinary program that speaks to the need to
address problems about law that will face us in the next
Students should contact program advisors early in planning a legal studies concentration. Other law-related courses consistent with the purposes and objectives of the major may be approved through consultation with the Chair of the Legal Studies Committee.

The concentration consists of 27 hours, including either Political Science 330 or Sociology 455 and 24 hours of upper-division courses distributed among five categories.

**Analysis**
- 3 hours from English 496, Political Science 401, Sociology 331.

**Processes**
- 6 hours from Business Law 301; Political Science 341, 430, 435, 442, 445, Sociology 451.

**Perspectives**
- 3 hours from English 490, Political Science 330, Philosophy 392, Sociology 455 (Note: Students who select Sociology 455 as their core course may not use it toward the Perspectives category. The same rule applies to Political Science 330.).

**Historical and Global Dynamics**
- 3 hours from Classics 362, Philosophy 393, Political Science 470.

**Issues**
- 6 hours from Journalism and Electronic Media 400, Political Science 431, Communication Studies 469, Women's Studies 340.

The remaining 3 hours are to be chosen from one of the five categories.

**INTERDISCIPLINARY PROGRAMS MAJOR**

**• LINGUISTICS CONCENTRATION**

Ilona Leki, English, Chair

This concentration offers a broad exposure to the various fields of linguistics (including historical, descriptive, theoretical, and applied linguistics) along with an opportunity to study areas where linguistics overlaps with other disciplines such as psycholinguistics, socio-linguistics, 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 understanding the teaching of English as a Second Language for the student interested in language-related employment at the Bachelor of Arts 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**
- Completion of a third year of Indo-European foreign language study.
- A two-semester sequence of a non-Indo-European language to be selected from Asian Languages 131-132 (Chinese); Asian Languages 151-152 (Japanese); Asian Studies 121-122 (Modern Arabic); Asian Studies 141-142 (Modern Hebrew); Educational Interpreting 223, 226 (American Sign Language); Religious Studies 309-310 (Classical Hebrew); or other non-Indo-European languages offered in a two-course sequence and approved by the Linguistics Committee.

**Concentration (30 hours)**
- 21 hours composed of
  - 9 hours of the following, selected in consultation with a linguistics advisor from Anthropology 411; Audiology and Speech Pathology 302, 320; Communication Studies 300, 320; Foreign Language/ESL Education 455; French 421, 422; Linguistics 321, 400, 429, 431, 435, 436, 472, 474, 476, 477, 485, 490, 491, 492, 493; Philosophy 472; Psychology 400, 424; Spanish 421, 422; Communication Studies 300, 320; Theatre 326.

**Minor in Linguistics**

A minor in Linguistics shall consist of 18 credit hours composed of
- Either English 471 or 3 hours selected in consultation with a linguistics advisor from Anthropology 411; Audiology and Speech Pathology 302, 320; Foreign Language/ESL Education 455; French 421, 422; Linguistics 321, 400, 429, 431, 435, 436, 472, 474, 476, 477, 485, 490, 491, 492, 493; Philosophy 472; Psychology 400, 424; Spanish 421, 422; Communication Studies 300, 320; Theatre 326.
- 15 additional hours – Audiology and Speech Pathology 305; English 371 or 372; Linguistics 423 and 425 or 426; plus 3 hours selected in consultation with a linguistics advisor.

**INTERDISCIPLINARY PROGRAMS MAJOR**

**• MEDIEVAL STUDIES CONCENTRATION**

Robert Bast, History, Chair

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.

The concentration 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.

**Category 1 – History, Philosophy, and Political Science**
- History 312, 313, 330, 334, 369, 474; Philosophy 322; Political Science 475.

**Category 2 – Language and Literature**
- Classics 435; English 371, 401, 402; French 410; Italian 401, 402.

**Category 3 – The Arts**
- Architecture 415; Art History 425, 431, 441, 451; Musicology 210.

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).

**Minor in Medieval Studies**

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.
INTERDISCIPLINARY PROGRAMS MAJOR
• WOMEN'S STUDIES CONCENTRATION

Cheryl Brown Travis, Psychology, Chair

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 roles they are playing in society, women's studies can enhance a student's career preparation and opportunities.

The 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 3 hours of Independent Study (493), and at least one course from each of the three major areas – Women's Heritage (383, 432, 453, 466, 483), Contemporary Issues (320, 340, 360, 375, 410, 425, 434, 476), and Literature and the Arts (330, 332, 422, 433, 469).

Because its content varies, 400 may be included in any of these areas. Students are encouraged to take at least 9 hours in one of these areas.

Minor in Women's Studies

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.

DEPARTMENT OF MATHEMATICS

http://www.math.utk.edu/

Michael Frazier, Head

Professors
Alexiades, V., PhD ......................................... Delaware
Anderson, D.F., PhD ........................................ Chicago
Daverman, R.J., PhD ......................................... Wisconsin
Dobbs, E., PhD .............................................. Cornell
Dydk, J., PhD .............................................. Warsaw (Poland)
Feng, X., PhD .................................................. Purdue
Frazier, M., PhD ............................................ UCLA
Gavrielits, S., PhD ........................................ Moscow State
Gross, L., PhD .............................................. Cornell
Hinton, D.B., PhD .......................................... Tennessee
Karakashian, O, PhD ....................................... Harvard
Lenhart, S., PhD ........................................... Kentucky
Mulay, S., PhD ............................................. Purdue
Plaut, C.P., PhD ........................................... Maryland
Rajput, B.S., PhD .......................................... Illinois
Richter, S., PhD ............................................ Michigan
Rosinski, J., PhD ........................................... Wrocław (Poland)
Schafer, P.W., PhD ........................................ Maryland
Simpson, H., PhD ....................................... California Institute of Technology
Son, R.P., PhD ............................................. Oregon State
Stephenson, K.R., PhD .................................. Wisconsin
Sundberg, C., PhD ......................................... Wisconsin
Thistlethwaite, M., PhD ................................ Manchester (UK)
Wade, W.R., PhD ......................................... California (Riverside)
Wagner, G.G, PhD ......................................... Duke
Xiong, J., PhD ............................................. North Carolina

Associate Professors
Chen, X., PhD .............................................. Rutgers
Collins, C., PhD ........................................... Minnesota
Freire, A., PhD ............................................. Princeton
Schulze, T., PhD ........................................... Northwestern
Todorova, G.H., PhD ..................................... Moscow State
Tzermias, P., PhD ......................................... California (Berkeley)

Assistant Professors
Brodsky, N., PhD ........................................ Saskatchewan (Canada)
Conant, J., PhD ........................................... Rutgers
Denzler, J., PhD ............................................ ETH (Zurich)
Finotti, L., PhD ........................................... Texas
Wang, C., PhD .............................................. Temple

Lecturers
Baiamonte, M., MS ........................................ Texas A&M
Bone, K., MS .............................................. Tennessee
Campbell, T., MM ......................................... Tennessee
Cook, T., MS ............................................... Kentucky
Fowler, J., MA ............................................ Tennessee
Guest, R., MS .............................................. Tennessee
Hagan, R., MS ............................................. Tennessee
Howard, J., MS ............................................ Tennessee
Kilian, H., MS ............................................. Tennessee
Linwood, D., PhD ......................................... Courant Institute
Long, J., PhD .............................................. Michigan
McClard, M., MA .......................................... Murray State
Mount, J., PhD ............................................. Illinois
Peery, M., MM ............................................. Tennessee
Pringle, K., PhD ........................................... Oregon
Reagan, R.D., MM ....................................... Tennessee
Remus, C., MS ............................................ Tennessee
Seit, C., MS ................................................ Tennessee
Smith, K., MM ............................................ Tennessee
Stein, D., MS .............................................. Tennessee
Sukane, K., MS ........................................... Mississippi
Szczepanski, A., PhD ................................... California (San Diego)

COLLEGE OF ARTS AND SCIENCES

INTERDISCIPLINARY PROGRAMS MAJOR
• WOMEN'S STUDIES CONCENTRATION

Cheryl Brown Travis, Psychology, Chair

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 roles they are playing in society, women's studies can enhance a student's career preparation and opportunities.

The 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 3 hours of Independent Study (493), and at least one course from each of the three major areas – Women's Heritage (383, 432, 453, 466, 483), Contemporary Issues (320, 340, 360, 375, 410, 425, 434, 476), and Literature and the Arts (330, 332, 422, 433, 469).

Because its content varies, 400 may be included in any of these areas. Students are encouraged to take at least 9 hours in one of these areas.

Minor in Women's Studies

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.

DEPARTMENT OF MATHEMATICS

http://www.math.utk.edu/

Michael Frazier, Head

Professors
Alexiades, V., PhD ......................................... Delaware
Anderson, D.F., PhD ........................................ Chicago
Daverman, R.J., PhD ......................................... Wisconsin
Dobbs, E., PhD .............................................. Cornell
Dydk, J., PhD .............................................. Warsaw (Poland)
Feng, X., PhD .................................................. Purdue
Frazier, M., PhD ............................................ UCLA
Gavrielits, S., PhD ........................................ Moscow State
Gross, L., PhD .............................................. Cornell
Hinton, D.B., PhD .......................................... Tennessee
Karakashian, O, PhD ....................................... Harvard
Lenhart, S., PhD ........................................... Kentucky
Mulay, S., PhD ............................................. Purdue
Plaut, C.P., PhD ........................................... Maryland
Rajput, B.S., PhD .......................................... Illinois
Richter, S., PhD ............................................ Michigan
Rosinski, J., PhD ........................................... Wrocław (Poland)
Schafer, P.W., PhD ........................................ Maryland
Simpson, H., PhD ....................................... California Institute of Technology
Son, R.P., PhD ............................................. Oregon State
Stephenson, K.R., PhD .................................. Wisconsin
Sundberg, C., PhD ......................................... Wisconsin
Thistlethwaite, M., PhD ................................ Manchester (UK)
Wade, W.R., PhD ......................................... California (Riverside)
Wagner, G.G, PhD ......................................... Duke
Xiong, J., PhD ............................................. North Carolina

Associate Professors
Chen, X., PhD .............................................. Rutgers
Collins, C., PhD ........................................... Minnesota
Freire, A., PhD ............................................. Princeton
Schulze, T., PhD ........................................... Northwestern
Todorova, G.H., PhD ..................................... Moscow State
Tzermias, P., PhD ......................................... California (Berkeley)

Assistant Professors
Brodsky, N., PhD ........................................ Saskatchewan (Canada)
Conant, J., PhD ........................................... Rutgers
Denzler, J., PhD ............................................ ETH (Zurich)
Finotti, L., PhD ........................................... Texas
Wang, C., PhD .............................................. Temple

Lecturers
Baiamonte, M., MS ........................................ Texas A&M
Bone, K., MS .............................................. Tennessee
Campbell, T., MM ......................................... Tennessee
Cook, T., MS ............................................... Kentucky
Fowler, J., MA ............................................ Tennessee
Guest, R., MS .............................................. Tennessee
Hagan, R., MS ............................................. Tennessee
Howard, J., MS ............................................ Tennessee
Kilian, H., MS ............................................. Tennessee
Linwood, D., PhD ......................................... Courant Institute
Long, J., PhD .............................................. Michigan
McClard, M., MA .......................................... Murray State
Mount, J., PhD ............................................. Illinois
Peery, M., MM ............................................. Tennessee
Pringle, K., PhD ........................................... Oregon
Reagan, R.D., MM ....................................... Tennessee
Remus, C., MS ............................................ Tennessee
Seit, C., MS ................................................ Tennessee
Smith, K., MM ............................................ Tennessee
Stein, D., MS .............................................. Tennessee
Sukane, K., MS ........................................... Mississippi
Szczepanski, A., PhD ................................... California (San Diego)

All entering freshmen and all other students who have not completed a college level mathematics course, except students who have received AP calculus credit, must take UT Knoxville’s Mathematics Placement Exam before enrolling in a mathematics course. Placement in the appropriate course will be determined by the score on the exam. Ordinarily, a student will not be allowed to enroll in a course at a level above that determined by his or her placement exam score. In exceptional circumstances, students will have the right to appeal their placement to the Mathematics Department. The exam will be administered during summer orientation and at designated times during the fall, spring, and summer registration.

MATHEMATICS MAJOR

The undergraduate mathematics major is designed to provide a broad introduction to mathematics which serves as preparation for a wide variety of careers. The requirements below, which provide a solid introduction to four of the core components of mathematics, should be regarded as minimal preparation for careers in mathematics or closely related mathematical fields. Students with special interests and talents are encouraged to take as many other mathematics courses as their schedule permits.

Prerequisites to the major are Mathematics 141-142 (or Honors version 147-148) and 171 or Computer Science 102.

Major requirements consist of 37 semester hours of mathematics courses including (1) Mathematics 231, 241 (or 247), 251 (257), 300; and (2) eight additional courses at the 300-400 level (except 309, 399, 403, 405, 490, 497 and 498) satisfying the following conditions.

• At least one course must be taken from each of the following categories.

  Algebra – 351, 455-456 (455-458).
  Analysis – 341, 445-446 (447-448).
  Numerical Analysis – 371 or Computer Science 370, 471-472.

• At least one 400-level two-semester sequence must be taken from the list above.

• Computer Science 311 and Computer Science 380 may be used as upper-division mathematics electives in part (2).
HONORS PROGRAM

The Mathematics Department Honors Program offers highly talented students an accelerated curricular path that permits them to enroll in graduate-level mathematics courses as early as the junior year, making them highly competitive for graduate fellowships upon completion of a Bachelor of Science degree. In addition to a more rapid curriculum, the honors program offers enhanced academic advising and opportunities for students to interact with their peers through the Undergraduate Honors Seminar (Mathematics 497) in which honors students will discuss their theses and other undergraduate research projects.

Students who are interested in participating in the departmental honors program are urged to enroll in Mathematics 300 as soon as possible. Students who have completed Mathematics 300 may apply to the Mathematics Undergraduate Office for admission into the program, no later than the end of the junior year. Admission is based on recommendation of two University of Tennessee, Knoxville, mathematics faculty, including the student's teacher in Mathematics 300 or an upper-division Mathematics honors course. Students are normally expected to be in the top 20% among Mathematics 300 students to be admitted to the honors program. Those who are not admitted based on performance in Mathematics 300 but who do exceptionally well in an upper-division mathematics honors course may also be admitted. Membership in the Chancellor’s Honors Program is not required, nor does such membership guarantee admission into the departmental honors program.

Honors students must meet stronger requirements. Specifically, honors students must meet all the requirements for a Bachelor of Science in Mathematics, but must also enroll in at least 4 hours of Mathematics 497 and take two upper-division mathematics sequences (instead of one), one of which must be an honors sequence. Honors students must also maintain a 3.40 cumulative GPA in all upper-division math courses and write a thesis (normally while enrolled in Mathematics 498) that must be approved by an honors thesis committee. The honors category upon graduation is determined as follows, based on the GPA of all upper-division math courses: GPA at least 3.40 = Honors; GPA at least 3.60 – High Honors; GPA at least 3.80 = Highest Honors.

SAMPLE PROGRAMS

There are many careers one can pursue with a mathematics major. Sample programs for four different goals are listed below. Additional information is available in the Department of Mathematics office.

Industrial Employment

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 141-142 (or 147-148) and 171</td>
<td>11</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Distribution Requirement</td>
<td>8</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 241 (or 247), 251 (or 257), and 300</td>
<td>13</td>
</tr>
<tr>
<td>Non-U.S. History Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (completion of secondary level)</td>
<td>3</td>
</tr>
<tr>
<td>Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 351, 431 (or 435), 341, 371</td>
<td>12</td>
</tr>
<tr>
<td>Humanities Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 471-472, 423, 475</td>
<td>12</td>
</tr>
<tr>
<td>Upper-Level Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Oral Communication Requirement</td>
<td>1-3</td>
</tr>
<tr>
<td>Electives</td>
<td>4-6</td>
</tr>
</tbody>
</table>

Total 120 minimum

Preparation for Graduate School

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 141-142 (or 147-148) and 171</td>
<td>11</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language (beginning level, preferably French,</td>
<td>6</td>
</tr>
<tr>
<td>German, or Russian)</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Distribution Requirement</td>
<td>8</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 247, 257, and 300</td>
<td>13</td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language (completion of secondary level)</td>
<td>3</td>
</tr>
<tr>
<td>Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper-Division Mathematics Courses</td>
<td>12</td>
</tr>
<tr>
<td>Humanities Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Total 120 minimum

Secondary Education

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 141-142 (or 147-148) and 171</td>
<td>11</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6</td>
</tr>
<tr>
<td>Lab Science Distribution Requirement</td>
<td>8</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 241 (or 247), 251 (or 257), and 300</td>
<td>13</td>
</tr>
<tr>
<td>Social Science Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language (completion of secondary level)</td>
<td>3</td>
</tr>
<tr>
<td>Science Distribution Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 323, 351, 341, 371, 400</td>
<td>15</td>
</tr>
<tr>
<td>Social Sciences Distribution Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
<td>3</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 445-446, 460, 421 (or 411, 431)</td>
<td>12</td>
</tr>
<tr>
<td>Oral Communication Requirement</td>
<td>6</td>
</tr>
<tr>
<td>Educational Psychology 401</td>
<td>3</td>
</tr>
<tr>
<td>Special Education 402</td>
<td>3</td>
</tr>
<tr>
<td>Theory and Practice in Teacher Education 352 (1), 335 (3)</td>
<td>4</td>
</tr>
<tr>
<td>Instructional Technology 486</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 120 minimum

5TH YEAR MASTER OF SCIENCE

Students may earn a Bachelor of Science (majoring in mathematics) and a Master of Science with a major in mathematics in five years as follows. (See the Graduate Catalog for more information on the Master of Science degree.) Please note that admission as a graduate student must be obtained prior to the beginning of the fifth year.

- Complete a total of 129 hours, including 99 hours of undergraduate credit prior to the fourth year and no more than 15 hours per semester in the fourth year.
- Do not complete the requirements for an undergraduate degree prior to the end of the fourth year. (For example, postpone one upper-level distribution requirement until the last semester of the fourth year).
- Complete an additional 9 hours of 400- or 500-level mathematics courses for graduate credit by submitting a “Senior Requesting Graduate Credit” form and obtaining
Accelerated/5th Year Master of Science

First Year
Mathematics 147-148 and 300 ............................................. 11
English Composition .................................................. 6
Foreign Language (preferably French, German, or Russian) .......... 6
Lab Science Distribution Requirement .................................. 8
Social Science Distribution Requirement ................................ 3

Second Year
Mathematics 171, 231, 247, 257 ........................................... 12
Upper-Division Mathematics Courses .................................. 9
Non-U.S. History Distribution Requirement ............................. 6
Foreign Language ......................................................... 3
Science Distribution Requirement ...................................... 3

Third Year
Upper-Division Math Sequence (possibly honors) ....................... 6
Honors Upper-Division or Graduate Math Sequence ...................... 6
Humanities Distribution Requirement .................................... 6
Social Science Distribution Requirement ................................. 3
Upper-Level Distribution Requirement ................................... 3
Electives ......................................................................... 2

Fourth Year
Upper-Division Honors or Graduate Math Sequences ................... 12
Upper-Level Distribution Requirement .................................... 3
Oral Communication Requirement ....................................... 1-3
Electives ......................................................................... 9-11

Total 120 minimum

5TH YEAR MASTER OF SCIENCE IN STATISTICS

Students may earn a Bachelor of Science with a major in mathematics and a Master of Science with a major in statistics in five years following a similar program as above. For more information contact the Department of Statistics, Operations and Management Science.

Minor in Mathematics

Prerequisite to the minor – Mathematics 141-142 (or 147-148). The minor consists of Mathematics 231, 241, 251, 300 and 9 additional hours at the 300-400 level (except 309, 399, 405, 490, 497 and 498). Computer Science 370 may be substituted for three of those hours. The grade in each of these courses must be at least C.
DEPARTMENT OF MODERN FOREIGN LANGUAGES AND LITERATURES

http://web.utk.edu/~mflf/
Chauncey J. Mellor, Interim Head

Professors

Bziec-Skov, F., PhD .................................................. Washington
Campion, E., PhD ..................................................... Yale
Creel, B., PhD ......................................................... California (Davis)
DiMaria, S., PhD ...................................................... Wisconsin
Essif, L., PhD .......................................................... Brown
Handelsman, M.H. (Distinguished Professor), PhD .................. Florida
Hodges, C.R. (Dean of the Graduate School), PhD .................... Chicago
Holmlund, C., PhD .................................................... Wisconsin
Holub, R. (Provost), PhD .............................................. Wisconsin
Levy, K.D., PhD ......................................................... Kentucky
Mellor, C.J., PhD ....................................................... Chicago
Rivera-Rodas, O., PhD ................................................. California (Davis)
Romeiser, J.B., PhD .................................................... Vanderbilt
Young, D.J., PhD ....................................................... Texas

Associate Professors

Ayo, A., PhD ........................................................... Arizona
Blackwell, S.H., PhD .................................................. Indiana
Cruz-Chang, N., PhD ................................................. State University of New York (Buffalo)
Kaplan, G., PhD ......................................................... Pennsylvania
LaCure, J., PhD ........................................................ Indiana
Lee, D.E., PhD .......................................................... Stanford
McAlpin, M.K., PhD ................................................... Columbia
Ohnesorg, S., PhD ..................................................... McGill (Canada)
Pevukhina, N.K., PhD ................................................... Bryn Mawr
Silva-Filho, E., PhD .................................................... North Carolina

Assistant Professors

Arnold, M.N., PhD ..................................................... Texas
Cano, L., PhD .......................................................... Penn State
Dubriel, S., PhD ........................................................ Emory
Duke, D., PhD .......................................................... Pittsburgh
Gimmel, M., PhD ....................................................... Indiana
Gregory, A., PhD ....................................................... Texas
He, D., PhD ............................................................. British Columbia
Horiguchi, N., PhD .................................................... Pennsylvania
Johnson, E., PhD ......................................................... Tennessee
Kong, K., PhD ............................................................ Michigan
Magliow, D.H., PhD .................................................. Princeton

Programs in the Department of Modern Foreign Languages and Literatures provide students with courses in language, literature, linguistics, and culture. Along with developing language proficiency in reading, writing, speaking, and listening comprehension, the courses prepare students for study abroad and offer learning experiences that foster understanding and appreciation of global issues and multicultural perspectives.

Placement Examination

Students who have had previous work (either two or more years in high school or one year in college) in Chinese, French, German, Italian, Japanese, Portuguese, Russian, or Spanish must take a placement test to determine the appropriate level course for which to register. Placement tests are given for incoming students during summer orientation and throughout the year. Please contact the department for further details.

Proficiency Examinations

Students who have acquired a knowledge of French, German, Italian, Russian, or Spanish should request a proficiency test. A student earning a grade of C or better will receive credit for an appropriate number of courses. Superior students are encouraged to proceed as rapidly as their achievement permits.

Study Abroad

Five summer study abroad opportunities are available to students through the department. The department sponsors programs in Brazil, France, Italy, Mexico, and Spain. Students can earn up to 6 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 language and world business. A faculty member accompanies students in 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 program. For more information concerning prerequisites, lodging arrangements, costs, and dates of an individual program, contact the Department of Modern Foreign Languages and Literatures, 701 McClung Tower.

Students are also 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 be transferred to the University of Tennessee, Knoxville. For qualified students, the department also offers Asian Languages 491, German 491, and Russian 491. Students should consult the department before registering for the foreign study course.

FRENCH MAJOR

The French major consists of 30 hours in courses numbered 333 and above. (French 300 does not count toward the major but is recommended for students needing grammar review.) All majors must complete the following courses (or their equivalent with consent of the department) – 333, 334, 351, 352, 421, 422, 440; one 3-hour literature course at the 400 level; 6 additional hours of French courses at the 300 or 400 level. Advanced students may substitute a 400-level course for either 333 or 334 with consent of the French faculty.

HONORS CONCENTRATION

The honors concentration consists of at least 33 hours of French courses numbered above 302. Students must have at least 12 hours of honors courses, one of which must be an honors-by-contract course in French. Application may be made after completion of French 351 and 352 or the equivalent. Students must present a cumulative GPA in French classes of not less than 3.50 and an overall GPA of not less than 3.25. A final honors project (French 493), directed by a French faculty member and approved by the French honors committee, must be completed with a grade of B or higher during the last 30 hours of coursework. This project will encompass both a written essay or portfolio and an oral presentation to the French faculty. French honors students will also complete a study abroad experience in France or another French-speaking country.

GERMAN MAJOR

Majors or minors in German should carefully prepare their programs in consultation with a departmental faculty advisor. German 201, 202 (or equivalent) are prerequisites to the major. German 331, 332 do not count toward the major. In order to graduate, majors will be required to take a proficiency test in German.

LANGUAGE AND LITERATURE CONCENTRATION

The language and literature concentration consists of at least 30 hours of German in courses numbered above 300, including 301-302 and 3 hours chosen from German 323, 350, 363 or 415.

GERMAN STUDIES CONCENTRATION

The German studies concentration is designed for students who would like to focus on German-speaking countries from a more comprehensive cultural perspective. The four components of the German studies concentration are an introduction to the German language; knowledge of cultural achievements (art, music, philoso-