Engineering; and Food Engineering are available. A concentration should be selected early in the academic program since there are differences as early as the freshman year.

Graduates may pursue careers in design, analysis, or development in power and machinery, electrical and electronic systems, processing and materials handling systems, soil and water engineering, waste management, biological and environmental systems, and food engineering.

Each concentration in the curriculum has provisions for elective courses to be taken in the student's area of interest. Students must consult with their advisors each semester regarding the selection of courses and should outline a plan for all such electives before starting the junior year. In the senior year, comprehensive design of systems and their components is emphasized.

Students majoring in agricultural engineering are eligible to participate in the Engineering Cooperative Scholarship program and other student activities in the College of Engineering. Agricultural engineering majors interested in the Cooperative Engineering Scholarship program should consult with the head of the Department of Agricultural Engineering or their faculty advisor.

**AGRICULTURAL ENGINEERING**

**Freshman**
- Agricultural Engineering 105 ....................... 2
- Basic Engineering 100, 111, 121 ....................... 7
- Chemistry 120, 130 ........................................... 8
- English 101, 102 .............................................. 6
- Mathematics 141, 142 ........................................ 8

**Sophomore**
- Agriculture 101 ............................................. 3
- Agricultural Engineering 201 ............................ 6
- Basic Engineering 101, 131 .................................... 6
- Bioscience 110, 120 .......................................... 4
- Engineering Science and Mechanics 231, 321 ........... 6
- Mathematics 241, 243 ........................................ 6
- Physics 231, 241 ............................................ 6
- Humanities/History/Social Science Elective ............ 8
- Mechanics 241, 243 ........................................ 6
- Basic Engineering 101, 131 .................................... 6
- Chemistry 120, 130 ........................................... 8
- English 101, 102 .............................................. 6
- Mathematics 141, 142 ........................................ 8

**Junior**
- Agricultural Engineering 303, 451 ..................... 7
- Basic Engineering 201 ........................................ 3
- Biochemistry 471 ............................................. 3
- Chemistry 350 ................................................. 3
- Economics 201 ................................................. 4
- Fluid Mechanics .............................................. 3
- Industrial Engineering and Technology 405 .......... 3
- Microbiology 210 ............................................. 3
- Senior
- Agricultural Engineering 311, 400, 403, 413, 433 ...... 13
- Civil Engineering ............................................ 3
- Design Elective .............................................. 3
- Environmental Engineering ............................... 3
- Industrial Engineering ...................................... 3
- Mechanical Engineering ................................... 3
- Technical Elective ......................................... 3
- Total: 134 hours

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science or History</td>
<td>Consult advisor for additional guidelines and a list of approved courses.</td>
</tr>
<tr>
<td>Select from A.E. 311 Processed Food and Biological Materials; A.E. 340 &amp; 341 Soil and Water Conservation; and A.E. 331 Power Units and Machinery.</td>
<td></td>
</tr>
<tr>
<td>Select from C.E. 390 Fluid Mechanics (4) or ESM 341 Fluid Mechanics.</td>
<td></td>
</tr>
<tr>
<td>Eligibility for design courses may depend on the technical elective chosen. Consult with your advisor prior to selecting a technical elective so that you are able to take the design elective course you desire.</td>
<td></td>
</tr>
<tr>
<td>One course in writing (normally technical writing) and one course in public speaking.</td>
<td></td>
</tr>
</tbody>
</table>

**AGRICULTURAL ENGINEERING WITH CONCENTRATION IN BIOLOGICAL ENGINEERING**

**Freshman**
- Agricultural Engineering 105 ....................... 2
- Basic Engineering 100, 111, 121 ....................... 7
- Chemistry 120, 130 ........................................... 8
- English 101, 102 .............................................. 6
- Mathematics 141, 142 ........................................ 8

**Sophomore**
- Agricultural Engineering 200, 243 ................... 4
- Basic Biology Technology Elective ....................... 3
- Basic Engineering 101, 131 .................................... 6
- Engineering Science and Mechanics 231, 321 ........... 6
- Mathematics 241, 243 ........................................ 6
- Physics 231 ....................................................... 3

**Junior**
- Agricultural Engineering 303, 451 ..................... 7
- Basic Engineering 201 ........................................ 3
- Biochemistry 471 ............................................. 3
- Chemistry 350 ................................................. 3
- Economics 201 ................................................. 4
- Fluid Sciences Elective ....................................... 3
- Industrial Engineering and Technology 405 .......... 3
- Microbiology 210 ............................................. 3
- Senior
- Agricultural Engineering 311, 331, 400, 403, 413, 433 ...... 16
- Writing Elective .............................................. 3
- Design Elective .............................................. 3
- Humanities/History/Social Science Elective ............ 3
- Economics 201 ................................................. 4
- Food Science and Technology 440, and 490-499, 451, 470, or 480 .............................. 6
- Total: 134 hours

**AGRICULTURAL ENGINEERING TECHNOLOGY**

**Advisors:**
- Professors McDow, Mote, Wilhlem, Wilkerson, Womac, D. Yoder and R. Yoder.
- No baccalaureate degree program is offered in agricultural engineering technology; however, seven 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. A minor in agricultural engineering technology requires a minimum of 18 semester hours as follows: Agricultural Engineering Technology 202, 212, 432, 442 and two of the three courses 422, 452, 462.

A program leading to the Master of Science degree with a major in agricultural engineering technology is available (see the Graduate Catalog). The graduate program is open to qualifying BS graduates from other disciplines who earned a minor in agricultural engineering technology or who completed courses equivalent to those required for the minor in agricultural engineering technology.

ENTOMOLOGY AND PLANT PATHOLOGY

Professors:

Associate Professors:
J.F. Grant, Ph.D. Clemson; K.D. Gwinn, Ph.D. VPI and SU; H.R. Pless, Ph.D. Clemson.

Assistant Professors:
F.N. Schrick, Ph.D., Clemson; J.M. Smalling, Ph.D., Texas A&M; J.D. Smith, Ph.D., Nebraska; W.R. Black, Ph.D., Tennessee; G.I. Smalling, Ph.D., Nebraska; A.F. Mathews, Ph.D., Nebraska; T.A. Smalling, Ph.D., Texas A&M; D.E. Thompson, Ph.D., Nebraska; V.R. Heitmann, Ph.D., Maine; J.P. Hitchcock, Ph.D., Illinois; H.E. Kattes, Ph.D., Virginia Polytechnic Institute; F.B. Mason, Ph.D., Kansas State; J.D. Quigley, Ph.D., Virginia Polytechnic Institute; M.O. Smith, Ph.D., Oklahoma State; J.C. Weller, Ph.D., Nebraska.

Advisors:
Professors Erickson, Godkin and Oliver. Associate Professors Backus, Bell, Heitmann, Hitchcock, Kattes, Mason, Oliver, Quigley, Smith and Weller. Assistant Professors Grizzle, Hollingsworth-Jenkins, Mathew, Schrick, and Smalling.

The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in horse, swine, poultry, sheep, dairy and beef cattle production and management may be elected, providing the opportunity for specialization in the dynamic livestock and meat industry. Elective courses are available for students who wish to apply their education to other areas of specialty.

A minor in animal science consists of 3 credits from 260 (Animal Industry & Market Evaluation) or 280 (Farm Animal Management Practices); 4 credits from 330 (Animal Nutrition, Feeds, & Ration Formulation); 3 credits from 381 (Animal Production Systems); and 12 credits from a selection of courses meeting departmental requirements as business electives. The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in horse, swine, poultry, sheep, dairy and beef cattle production and management may be elected, providing the opportunity for specialization in the dynamic livestock and meat industry. Elective courses are available for students who wish to apply their education to other areas of specialty.

ANIMAL SCIENCE WITH CONCENTRATION IN PRODUCTION/MANAGEMENT

Professors:
K.R. Robbins (Head), Ph.D. Illinois; K.M. Barth (Emeritus), Ph.D. Rutgers; M.C. Bell (Emeritus), Ph.D. Oklahoma State; V.K. Bledner (Emeritus), Ph.D. Ohio State; C.C. Chamberlain (Emeritus), Ph.D. Iowa State; B.H. Erickson, Ph.D. Kansas State; J.D. Godkin, Ph.D. Massachusetts; G.L. Hall (Dean, College of Agricultural Sciences and Natural Resources), Ph.D. Iowa State; S.L. Hainsard (Emeritus), Ph.D. Floridas; R.W. Henry, D.V.M., Ph.D. Ohio State; E.R. Lidwell (Emeritus), M.S. Tennessee; T.P. McDonald, Ph.D. Tennessee; J.B. McLaren (Emeritus), Ph.D. Auburn; S.P. Oliver, Ph.D. Ohio State; J.K. Miller, Ph.D. Georgia; D.O. Richardson, Dean, Agr. Exp. Sta.), Ph.D. Ohio State; A. Saxton, Ph.D. North Carolina State; T.W. Schulte, Ph.D. Tennessee; H.V. Shirley (Emeritus), Ph.D. Illinois; M.H. Simon, Ph.D. Auburn; P.L. Tugwell (Emeritus), Ph.D. Kansas State.

Associate Professors:

Assistant Professors:

Advisors:
Professors Erickson, Godkin and Oliver. Associate Professors Backus, Bell, Heitmann, Hitchcock, Kattes, Mason, Oliver, Quigley, Smith and Weller. Assistant Professors Grizzle, Hollingsworth-Jenkins, Mathew, Schrick, and Smalling.

The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in horse, swine, poultry, sheep, dairy and beef cattle production and management may be elected, providing the opportunity for specialization in the dynamic livestock and meat industry. Elective courses are available for students who wish to apply their education to other areas of specialty.

A minor in animal science consists of 3 credits from 260 (Animal Industry & Market Evaluation) or 280 (Farm Animal Management Practices); 4 credits from 330 (Animal Nutrition, Feeds, & Ration Formulation); 3 credits from 381 (Animal Production Systems); and 12 credits from a selection of courses meeting departmental requirements as business electives. The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in horse, swine, poultry, sheep, dairy and beef cattle production and management may be elected, providing the opportunity for specialization in the dynamic livestock and meat industry. Elective courses are available for students who wish to apply their education to other areas of specialty.

ANIMAL SCIENCE WITH CONCENTRATION IN PRODUCTION/MANAGEMENT

Hours Credit

Animal Science 220, 280 .................................................. 6
Agriculture 230 .................................................. 3
Speech 210 or 240 .................................................. 3
"Writing Elective" .................................................. 3
Economics 321 .................................................. 4
"Humanities Elective" .................................................. 3
"Business Elective" .................................................. 3
Free Electives .................................................. 9
Total: 132 hours

1May be chosen from approved list of courses meeting University requirements as Social Sciences.
2May be chosen from approved list of courses meeting University requirements as Humanities.
3May be chosen from approved list of courses meeting departmental requirements as business electives.
4May be chosen from approved list of courses meeting departmental requirements as biological science restricted electives.
5May be chosen from approved list of courses meeting University requirements as History.

ANIMAL SCIENCE WITH CONCENTRATION IN PRODUCTION/MANAGEMENT

Hours Credit

Freshman
Agriculture 101 .................................................. 3
Biology 100-110 .................................................. 3
English 101-102 .................................................. 3
Mathematics 121-122 or 141-142 or 151-152 .................................................. 6-8
Chemistry 100-110 or 120-130 .................................................. 8
Animal Science 101 .................................................. 1
'Social Science elective' .................................................. 3

Sophomore
Animal Science 220, 260 .................................................. 6
Agriculture 230 .................................................. 3
Speech 210 or 240 .................................................. 3
"Writing Elective" .................................................. 3
Economics 321 .................................................. 4
"Physical Science and Mathematics Restricted Elective" .................................................. 3
"Biological Science Restricted Elective" .................................................. 3
Free Electives .................................................. 9
Total: 132 hours

Junior
"Biological Science Restricted Elective" .................................................. 3
"Physical Science Restricted Elective" .................................................. 3
"Humanities Elective" .................................................. 3
"History" .................................................. 6
Animal Science 320, 330, 340, 350 .................................................. 13
Senior
"Humanities Elective" .................................................. 3
"Biological Science Restricted Elective" .................................................. 3
"Physical Science Restricted Elective" .................................................. 3
"History" .................................................. 6
Animal Science 320, 330, 340, 350 .................................................. 13
Free Electives .................................................. 12
Total: 132 hours

ANIMAL SCIENCE WITH CONCENTRATION IN PRODUCTION/MANAGEMENT

Hours Credit

Freshman
Agriculture 101 .................................................. 3
Biology 110-120 .................................................. 3
English 101-102 .................................................. 3
Mathematics 121-122 or 141-142 or 151-152 .................................................. 6-8
Chemistry 100-110 or 120-130 .................................................. 8
Animal Science 101 .................................................. 1
Social Science elective .................................................. 3

Sophomore
Animal Science 220, 260 .................................................. 6
Agriculture 290 .................................................. 3
Speech 210 or 240 .................................................. 3
"Writing Elective" .................................................. 3
Economics 321 .................................................. 4
"Physical Science and Mathematics Restricted Elective" .................................................. 3
"Biological Science Restricted Elective" .................................................. 3
Free Electives .................................................. 9
Total: 132 hours

Junior
"Biological Science Restricted Elective" .................................................. 3
"Physical Science Restricted Elective" .................................................. 3
"Humanities Elective" .................................................. 3
"History" .................................................. 6
Animal Science 320, 330, 340, 350 .................................................. 13
Senior
"Humanities Elective" .................................................. 3
"Biological Science Restricted Elective" .................................................. 3
"Physical Science Restricted Elective" .................................................. 3
"History" .................................................. 6
Animal Science 320, 330, 340, 350 .................................................. 13
Free Electives .................................................. 12
Total: 132 hours
Pre-Veterinary Medicine Program

This program allows students to be awarded a B.S. degree in Agriculture with a major 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:

- Completion of all pre-veterinary requirements:
  
  a. English Comp. 101-102 (3,3) - 6 hours
  b. Humanities and Social Sciences - 18 hours
  c. Calculus A-B, 121-122 or Calculus I-II, 141-142 or Biocalculus I-II, 151-152 (3,3) - 6 hours
  d. Elements of Physics 221-222 (4,4) - 8 hours
  e. General Chemistry 120-130 (4,4) - 8 hours
  f. Organic Chemistry 350-360 and Laboratory 389 (3,3,2) - 8 hours
  g. Cellular and Comparative Biochemistry 410 (4) - 4 hours
  h. General Biology 110-120 (4,4) - 8 hours
  i. Genetics 220 - 4 hours
  j. Cell Biology 210 - 4 hours

- The last 30 hours of the three-year pre-veterinary curriculum must have been taken at UT Knoxville.

- At least 12 hours of upper division (300 and 400 level courses) technical agriculture courses must be taken at UT 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:
  
  a. Animal Science 101 - 1 hour
  b. Agriculture 101 - 3 hours
  c. Animal Science 260 - 3 hours
  d. Animal Science 320 - 3 hours
  e. Animal Science 330 - 4 hours
  f. Animal Science 340 - 3 hours
  g. Animal Science 390 - 3 hours
  h. One course from Animal Science 481, 482, 483, 484, 485, 486, or 489 - 3 hours
  i. Computer Science Elective - 3 hours
  j. Economics 201 - 3 hours
  k. Speech 210 or 240 - 3 hours

- NOTE: Agriculture 101, Economics 201 and Speech 210 or 240 will be accepted by the CVM as meeting requirements in the Humanities/Social Science category. The remainder must be a Social Science elective, a Humanities elective, and a Humanities elective described as writing intensive. Writing intensive History courses may also be used.

- Satisfactory completion of the first two semesters in the CVM professional program.

- No later than December 31 of the student’s first year in the CVM (s)he should contact the Animal Science Department to complete on graduation procedures for this program.

- A total of 132 hours must be completed by the end of the first year in the CVM.

Food Science and Technology

C.J. Brekke (Head), Ph.D. Wisconsin; J.L. Collins, Ph.D. Maryland; F.A. Draughon, Ph.D. Georgia; H.O. Jaynes (Emeritus), Ph.D. Illinois; S.L. Melton, Ph.D. Tennessee; J.T. Miles (Emeritus), Ph.D. Wisconsin; W.W. Ovoden (Emeritus), Ph.D. Iowa State University; M.P. Penfield, Ph.D. Tennessee.

Associate Professors:

G.L. Christen, Ph.D. Missouri; H.D. Loveady, Ph.D. Kansas State; J.R. Mount, Ph.D. Ohio State.

Assistant Professor:

D.A. Golden, Ph.D. Georgia.

Advisors:

Collins, Draughon, Loveady, Melton, Mount and Penfield.

The major in food technology and science prepares students to apply the sciences and engineering technology to manufacture, preserve, store, and distribute foods that meet the needs and desires of consumers. Coursework emphasizes the basic principles of converting raw food materials into acceptable consumer products. Selected commodity courses detail processing of specific types of food materials. Students entering the program must have an interest in the sciences, particularly chemistry, microbiology, and biology.

This curriculum is designed to prepare students for a professional career in positions in the food industry such as food microbiologist, food chemist, quality evaluation and control supervisor, plant management, ingredients specialist, etc. The program of coursework complies with guidelines in the model curriculum of the Institute of Food Technologists. A Special Problems course provides opportunity for practical training in food processing plants and laboratories or federal and state laboratories. The minor in Food Science and Technology requires a minimum of 16 hours as follows:

- 140, 420, 429, 410 or 411, 440, and one elective course in Food Science and Technology.

Total: 132 hours
FORESTRY, WILDLIFE AND FISHERIES

Professors: J.W. Barrett (Emeritus), Ph.D. Syracuse; E.R. Buckner, Ph.D. North Carolina State; H.A. Core (Emeritus), Ph.D. Syracuse; B.L. Deardorff, Ph.D. Colorado State; R.W. Dimmick, Ph.D. Wyoming; R.L. Little, Ph.D. North Carolina State; D.M. Ostermeier, Ph.D. Syracuse; M.R. Pelton, Ph.D. Georgia; G. Schneider (Associate Dean, College of Agricultural Sciences and Natural Resources), Ph.D. Michigan State; R.J. Strange, Ph.D. Oregon State; E. Thor (Emeritus), Ph.D. North Carolina State; J.L. Wilson, Ph.D. Tennessee.


Assistant Professors: D.A. Buehler, Ph.D. Virginia Polytechnic Institute; J.M. Fly, Ph.D. Michigan.

The department offers two majors. The major in forestry leads to the degree Bachelor of Science in Forestry and the major in wildlife and fisheries science leads to the degree Bachelor of Science in Wildlife and Fisheries Science. The forestry major has three concentrations: Forest Resources Management Concentration, Wildland Recreation Concentration, and Wood Utilization Concentration.

A joint program between the department and Knoxville College allows students to earn a B.S. in Biology from Knoxville College while taking courses at UTK that results in a forestry emphasis or a wildlife and fisheries sciences emphasis. This curriculum is designed for students who wish to pursue graduate studies in renewable natural resources.

FORESTRY

The profession of forestry is the science, the art, and the practice of managing and using for human benefit the natural resources which 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.

A minor in Forestry consists of 16 credit hours as follows: FWF 211 or FWF 250, FWF 311 and 9 hours from FWF 312, 313, 315, 316 and 416 and Forestry designated courses.

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 credits available for special 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 Econometrics including economics, business administration, social science; Forest Inventory including mathematics, statistics, computer science, photogrammetry; Forest Recreation including natural and social sciences; and Wildlife Management including ecology, zoology, 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 tree 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 provides opportunities to obtain an education in preparation for professional positions in the planning, development, interpretation, and management of private and public forested lands for recreational purposes. Students also learn the basic philosophy and principles associated with leisure time and its use along with the relationship of forest resources to the constructive use of leisure time.

WOOD UTILIZATION CONCENTRATION

The Wood Utilization Concentration offers students with an interest in business, engineering, materials science, and processing technology an opportunity to concentrate their studies and interest in the forest products industry. Specific coursework in the department focuses on wood properties, solid wood processing, wood composites and gluing, and measurement and marketing of wood products, and includes field trips to local industries and extensive use of laboratory facilities on campus. A sound background in basic sciences is required. With elective credits students may select specific additional coursework in areas of interest that will augment their understanding of industry operations and could include study in business, engineering, or business management. Excellent career opportunities are anticipated in all areas of the industry.

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 119, 121</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Botany 110, 120</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 100</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Agriculture 101</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>FWF 211, 300</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>FWF 311</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Forestry 311, 332</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biology 230</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Humanities Elective</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Ethics Elective</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Communications Elective</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Freshman J.</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Total: 135 hours

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 119, 121</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Botany 110, 120</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 100</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Agriculture 101</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>FWF 211, 300</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>FWF 311</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Forestry 311, 332</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Biology 230</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Humanities Elective</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Ethics Elective</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Communications Elective</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Freshman J.</td>
<td>10</td>
<td>10</td>
</tr>
</tbody>
</table>

Total: 135 hours
### Wildlife and Fisheries Science
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.

A minor in Wildlife and Fisheries Science consists of 16 hours from FWF 300, 317, 410, 416, WFS 341, 441, 443, 444 and 445. Prerequisites will not be waived.

#### Freshman
- English 101, 102
- Mathematics 110, 121
- Biology 110, 120
- Economics 201
- Agriculture 101
- FWF 211, 300

#### Sophomore
- Chemistry 100, 110
- Statistics 201 or Plant and Soil Science 471
- Agriculture 290
- Speech 210 or 240
- Animal Science 220
- FWF 311
- Biology 230
- Humanities Electives

#### Junior
- FWF 312, 315, 317
- WFS 341, 443
- Zoology 471
- FWF 316 or Forestry 321 or 422
- History Elective
- Science Electives
- General Elective

#### Senior
- FWF 410, 416
- WFS 440, 442, 444, 445, 490
- Zoology 474
- Science Electives
- General Electives

Total: 136 hours

### Ornamental Horticulture and Landscape Design

#### Professors:
- G.D. Crafer (Head), Ph.D. Ohio State
- L.M. Callahan, Ph.D. Rutgers
- E.T. Graham, Ph.D. Pennsylvania State
- P.M. Gresshoff, Ph.D. Australian National University
- G.L. McDaniel, Ph.D. Iowa State
- N.D. Peacock (Emeritus), Ph.D. Michigan State
- D.B. Williams, Ph.D. Pennsylvania State

#### Associate Professors:
- John W. Day, Ph.D. Mississippi State
- S.M. Rogers, M.L.A. University of Georgia
- R.N. Trigiano, Ph.D. North Carolina State University
- W.T. Witte, Ph.D. University of Maryland

#### Instructors:
- Garry Menendez, M.S., University of Tennessee
- Sue Wilson, M.S., Ohio State

The department of Ornamental Horticulture and Landscape Design (OHLDF) of the University of Tennessee provides quality academic instruction to undergraduate and graduate students. The department is staffed by experienced instructors who are committed to the success of their students. OHLDF advisors give students sound advice in the selection of career specialties, elective courses, and provide serious students the best education possible. Professors want their students to be successful and enjoy positive student-teacher relationships. They keep track of job openings and offer students solid, candid advice during the job selection process. Since most OHLDF teachers are also research scientists, undergraduate students interested in advanced studies are directed into appropriate courses necessary for admission to graduate school. Students are encouraged to work with faculty researchers in a variety of laboratory, greenhouse or field experiments. The OHLDF curriculum is organized into three different concentrations: technology, business and science. Each concentration offers a different academic approach to address the breadth of vocational opportunities available to OHLDF undergraduate students. Major study areas are landscape design, floriculture, turfgrass management, landscape construction and contracting, wholesale nursery production and retail garden center management. A minimum of 132 credit hours including Internship 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 are available from OHLDF, other university departments and laboratories and local commercial firms.

The Technology Concentration allows greater flexibility for the development of course work best suited for individual requirements. For example, students interested in the traditional OHLDF courses of study listed below should work closely with academic advisors to design those courses most applicable to specific needs. Students are encouraged to secure required internship training early and seek additional training.

#### The Business Concentration is a comprehensive program directed to students seriously interested in complementing their OHLDF jobs on a regional or national level. It provides an advantage for graduates entering the job market and is fundamental to those interested in starting their own companies. Students receive a minor in business administration allowing easier access to management positions as well as graduate programs such as the Masters of Business Administration (MBA) should they want to continue their education in the future.

The Science Concentration is intended for students interested in graduate studies leading to professional careers in cultural and associated agricultural or biological sciences. The required courses of study is sufficient for acceptance into most graduate programs but additional courses may be needed depending on an individual's particular career focus. The required senior project (OHLDF 493) and Internship (OHLDF 492) enhance technical skills and provide practical training.

### Traditional OHLDF Career Specialties

#### Landscape Design
Landscape designers create aesthetic concepts and practical plans for improved outdoor living. OHLDF 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, basic woody plant identification, landscape construction and maintenance methods, etc. The development of comprehensive design projects helps students prepare for careers in landscape design or advanced studies in landscape architecture. Graduates in design have access to a large segment of the OHLDF commodity areas of employment. Job opportunities include landscape designer or sales manager for landscape design/build firms, retail nurseries and garden centers; landscape maintenance and interior-scaping firms; landscape designer, architect or planner for city, county, and government horticultural or related facilities, college or university teacher, etc.

#### Floriculture
Floriculture is the field of growing, marketing and designing with flowers and plants. Students with interests in crop production, a talent for business management or abilities in artistic design and communication will find satisfying careers in the field of floriculture. Students study controlled environments, floriculture production, plant identification, business management, greenhouse engineering, marketing, post-harvest physiology, plant pathology, and interior plant maintenance and design. A scientific approach to regulaing plant growth as well as practical intern training is emphasized. The job market includes occupationally thought of as part of floriculture, such as greenhouse production and floral design and sales.
GARDEN CENTER AND RETAIL NURSERY MANAGEMENT

Garden Centers and retail nurseries are the primary sources of nursery products sold to the general public. They sell numerous gardening products intended for homeowners including landscape shrubs and trees, annuals and perennials, tropicals, bulbs, flowers, fertilizers, chemicals, garden and lawn tools, power equipment, etc. Retail nurseries may offer landscape and interturfscaping services, lawn maintenance, pool and garden specialty services, wholesale production and sales of specialty plants such as hanging baskets, wildflowers, vegetable and garden herbs, ornamental tropical fish, etc. Students study basic landscape plants, marketing, field botany, interior plants, fundamentals of landscape design, turfgrass management, etc. They learn basic management principles, pricing and mark-up methods, nursery marketing, labor managing and hiring processes, etc. Job titles include store manager, landscape manager, production manager, retail marketing manager, buyer, salesperson, landscape salesperson, buyer, landscape designer, landscape architect, plant diagnosticians, etc.

OTHER SPECIALTY AREAS

Other OHLD vocational areas are: landscape maintenance, interior plantscaping, arboriculture and botanical garden, wholesale nursery products distributor, nursery products broker, wholesale florist, retail florist, horticulture therapy, plant inspector, etc.

A minor in Ornamental Horticulture and Landscape Design shall consist of 18 hours of courses in Ornamental Horticulture and Landscape Design. Three of the following four courses must be included: 280, 310, 330, 340. Any of the following may be taken as part of the nine additional hours: 210, 220, 230, 320, 350, 360, 370, 380, 410, 440, 450, 450, 480, 490, 493. Any of these courses may be taken before entering Ornamental Horticulture and Landscape Design.

SCIENCE CONCENTRATION

A General Biology 110, 120 may substitute for Botany 110-120 before entering Ornamental Horticulture and Landscape Design.

Courses are selected in conference with academic advisor.

Lists of appropriate courses for these electives are available at the OHLD office.

BUSINESS CONCENTRATION

A General Business 110, 120 may substitute for Botany 110-120 before entering Ornamental Horticulture and Landscape Design.

Courses are selected in conference with academic advisor.

Lists of appropriate courses for these electives are available at the OHLD office.
PLANT AND SOIL SCIENCE

Professors:
J.E. Foss (Head), Ph.D. Minnesota; F.L. Allen, Ph.D. Texas; F.F. Bell (Emeritus), Ph.D. Michigan; D.L. Coffey, Ph.D. Florida; B.V. Conger, Ph.D. Washington; H.A. Friis, Ph.D. Iowa; R.M. Hayes, Ph.D. Illinois; L.M. Josephson (Emeritus), Ph.D. Wisconsin; R.J. Lewis (Emeritus), Ph.D. North Carolina; W.L. Parks (Emeritus), Ph.D. Purdue; J.H. Reynolds, Ph.D. Illinois; C.E. Sams, Ph.D. Indiana; M.C. Skidmore; L.N. Seitz (Emeritus), Ph.D. North Carolina; M.S. Kansas State; M.E. Springer (Emeritus), Ph.D. California (Berkeley); H.D. Swingle (Emeritus), Ph.D. Louisiana State; D.D. Tyler, Ph.D. Kentucky; D.R. West, Ph.D. Nebraska.

Associate Professors:
J.T. Ammons, Ph.D. West Virginia; D.E. Dayton, Ph.D. North Carolina State; W.A. Krueter, Ph.D. Illinois; G.M. Lessman, Ph.D. Michigan State; J. Logan, Nebraska; V.H. Reich, Ph.D. Iowa State.

Assistant Professors:
M.E. Essington, Ph.D. California (Riverside); T.C. Mueller, Ph.D. Georgia; M.D. Mullen, Ph.D. North Carolina State; G.V. Wilson, Ph.D. Arkansas.

Advisors:
Allen, Coffey, Foss, Lessman, Mullen, Reich, and Reynolds.

Plant and soil science deals with field and vegetable crops and soil resources. Plant science includes crop ecology and physiology; crop breeding and genetics for crop improvement; introduction of new varieties, crop management for high quality products, and yield control for efficient crop production. Soil science includes studies in soil formation and classification for better understanding of our soil resources; soil management for optimum crop production, conservation and environmental quality; soil fertility for efficient nutrient utilization; basic studies in chemistry, physics, and biology as they apply to the soil and to a better understanding of its properties and use.

The plant and soil scientist must have knowledge of the basic physical, chemical, and biological sciences and be trained in communication and computer skills. The scientist may be broadly trained or may specialize in a more specific phase of the subject.

Many employment opportunities are available for the well-trained plant and soil scientist including positions with public agencies such as Agricultural Extension Services, Soil Conservation Service, Forest Service, Federal Credit Service, and educational institutions. Many plant and soil scientists are also employed in private industry as technical specialists, consultants, supervisors, salespersons, appraisers, farm managers and in international agriculture.

Students selecting this major must complete the basic curriculum for the College of Agriculture and fulfill the major group requirements. A minor may be selected from among many related disciplines.

Required courses for a major in Plant and Soil Science are 210, 211, 230, 401 and 471 plus 3 courses from Group A and 3 courses from Group B. Of the 6 courses chosen from Groups A and B, one must be a soil science course and one must be a plant science course. Group A: Plant and Soil Science 311, 312, 331, 332, 333, 334. Group B: Plant and Soil Science 411, 412, 413, 414, 431, 433, 435.

Appropriate selection of the many electives available in the Plant and Soil Science curriculum depends on the student's interest and career goals. A departmental advisor will assist in designing a program to meet the student's individual objectives. Possible options include field crops, fruits, vegetables, water and soil conservation, plant breeding, pest management, agribusiness, international agriculture, environmental science, etc.

A minor in Plant and Soil Science consists of 18 credit hours including 210, 211, 230, and at least 9 elective hours. Plant and Soil Science 471 will not be accepted as a course to meet minor requirements.

Total: 132 hours

1. Lists of appropriate courses for these electives are available in the OHLG office.
2. Electives should be selected in conference with academic advisor.
THE STUDY OF ARCHITECTURE

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, history, human interaction as well as developing 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. Therefore, the student must understand the cultural, social, philosophical, and ethical context of the discipline of architecture. The School emphasizes learning and thinking which will enable its graduates to adapt to change to rapidly evolving global circumstances.

GENERAL INFORMATION

Most states require that an individual intending to become an architect hold an accredited degree. There are two types of degrees that are accredited by the National Architectural Accrediting Board: (1) the Bachelor of Architecture, which requires a minimum of five years of study, and (2) the Master of Architecture, which requires a minimum of three years of study following an unrelated bachelor's degree or two years following a related pre-professional bachelor's degree (4+2 programs). Only these professional degrees are structured to educate those who aspire to registration and licensure as architects. The University of Tennessee offers both the five-year Bachelor of Architecture and a three-year Master of Architecture for students with an unrelated bachelor's degree.

The University and the School provide many work study opportunities for students to earn supplemental income on campus. Self-disciplined students who are taking a full academic load should plan a work schedule not to exceed 15 hours per week.

FACILITIES

FACILITIES

The award winning Art + Architecture Building, completed in 1981, provides one of the finest facilities in the country for architecture students. The building is home to both art and architecture students who occupy extensive studio space surrounding an open Commons space, filled with natural light. A cafe and auditoriums open onto the Commons as well. Changing art and architecture exhibits are installed in the Ewing Gallery, the Exhibition Space, the Commons, and the Sculpture Garden. The architecture students have an extensive woodshop and modelmaking shop, darkrooms, experimental building platform, electronic studio, and presentation spaces. The building itself is a model of how architectural space can promote a sense of community among the artists and architects within the larger University community.

FINANCIAL ASSISTANCE

As the only accredited architecture program in the State of Tennessee, the School of Architecture is fortunate to have many generous supporters from different components of the construction industry. As a result, numerous awards, prizes, scholarships, traveling stipends, fellowships and internships are available to academically motivated students. Alumni actively support the School by participating in School activities, by extensive donations to scholarship and enrichment funds, and by developing intern programs for student employment. A full listing of these is included in this catalog.

The University and the School provide many work study opportunities for students to earn supplemental income on campus. Self-disciplined students who are taking a full academic load should plan a work schedule not to exceed 15 hours per week.

FRESHMAN ADMISSION REQUIREMENTS

Students interested in architecture are encouraged to learn about the profession of
architecture, to learn about the different educational degree programs (see above) and to visit the School of Architecture.

High school students are encouraged to take physics and calculus. Students enrolled in Advanced Placement courses should take the national AP exam. Furthermore, students are strongly encouraged to take drawing and/or art classes as a way to develop visual ability. Extensive "drafting", "mechanical drawing" or "architecture" courses based on drafting are not recommended, just as one would not recommend extensive typing courses to someone who plans to be a writer.

Admission to the School is selective, based on the following criteria: (1) Accept applicants with a total of 55 or above using the formula of the high school grade point average times 10 plus the Enhanced ACT composite score. A minimum Enhanced ACT score of 23 (SAT 1500; 600 if taken prior to April, 1995) is required. The minimum high school GPA is 2.7. (2) Refuse all applicants with an Enhanced ACT composite score of 20 (SAT 930; 800 if taken prior to April, 1995) or below; (3) Refuse all applicants not falling into items 1, 2 to the Committee on Admissions. This Committee will meet in March to review applicants—following receipt of high school records, test scores and other requested material necessary to complete the admission process. Applicants will be informed of their status by April 15th of each year.

DEADLINES FOR APPLICATIONS

Deadlines for application to the School of Architecture coincide with those set forth by The University of Tennessee. All applications must be received by August 1 for fall semester admission, and no later than three weeks before the start of classes for admission to any other semester. It should be noted that due to the strong sequential character of the curriculum and certain prerequisites, entry in any semester other than fall may be difficult.

TRANSFER STUDENTS

Transfer students as well as intercollegiate transfer students are required to have at least a 2.3 grade point average to be considered.

CURRICULUM FOR ARCHITECTURE

The curriculum for the Bachelor of Architecture Degree includes a combination of required and elective courses which offer the student both a solid professional program of study and a broad general education. While the majority of the courses are designated as required, students may use the available architecture electives to expand their knowledge in areas of special interest. Academic non-architecture electives allow students to broaden their education in areas of general interest: the humanities, natural sciences, social sciences, arts and multicultural studies. All electives are to be taken only with the approval of the student's advisor.

All students studying for a Bachelor of Architecture degree will include the following requirements in their course of study. Students are not allowed to enroll simultaneously in two design courses. For any additional specialized requirements, the student should refer to the Student Handbook of the School of Architecture and the student's advisor.

SERVICE PRACTICUM REQUIREMENT

A three-month, non-credit internship in an architect's office is required. Upon petition, work in an engineer's or contractor's office or related work may be approved by the School. This work must be evidenced by a letter from the employer indicating type and quality of student's work and time of employment prior to the fifth year. (See course description for Architecture 400.)

For foreign students may need to obtain Immigration and Naturalization Service Employment Authorization before service practicum begins. To obtain authorization, foreign students should take their I-94 form to the Office of International Student Affairs not more than 60 days nor less than 30 days before the anticipated starting dates. Beginning service practicum employment without INS authorization constitutes unauthorized employment and may jeopardize a foreign student's continued stay in the United States.

FIVE YEAR PROGRAM

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>First Year</th>
<th>Year 1</th>
<th>Second Year</th>
<th>Year 2</th>
<th>Third Year</th>
<th>Year 3</th>
<th>Fourth Year</th>
<th>Year 4</th>
<th>Fifth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Architecture 101, 102</td>
<td>5</td>
<td>Architecture 211, 212</td>
<td>6</td>
<td>Architecture 231</td>
<td>3</td>
<td>Architecture 431</td>
<td>4</td>
<td>Architecture 480, 462</td>
</tr>
<tr>
<td></td>
<td>Architecture 171, 172</td>
<td>5</td>
<td>Architecture 232</td>
<td>3</td>
<td>Architecture 121, 122</td>
<td>6-8</td>
<td>Architecture 471, 472</td>
<td>12</td>
<td>Design Course Elective</td>
</tr>
<tr>
<td></td>
<td>History 151, 152</td>
<td>6</td>
<td>Physics 121, 122 or Natural Science elective</td>
<td>6</td>
<td>Electives</td>
<td>15-17</td>
<td>Electives</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mathematics 141, 142 or 121, 122</td>
<td>6-8</td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Total: 158 hours

Students are not allowed to enroll simultaneously in two of these design courses.

LECTURES AND EXHIBITS

The School of Architecture is committed to providing a variety of meaningful learning opportunities outside of the classroom itself. Lectures, panel discussions, films, symposia, and exhibits are all important components of a lively academic environment. The Ewing Gallery, in the Art + 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, visiting artists and architects. In the Commons itself are more spontaneous exhibits of current student work.

The Robert B. Church Memorial Lecture is an annual endowed gift in memory of a well-loved former dean of the School. Over the years, the Church Lecture series has allowed the School to bring some of the most internationally renowned architects to Tennessee. The regular lecture series features diverse architects, artists, theorists, and historians who discuss their work and ideas. 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 the students.

During Fall 1995, the School of Architecture plans a major celebration of its Thirtieth Anniversary with a series of presentations, exhibits, and panel discussions involving students, faculty, and alumni.

PUBLICATIONS

Students in the School each year publish The University of Tennessee Journal of Architecture. The Journal has a different theme each year, but typically includes articles related to current thinking in the field, as well as student work.

SPECIAL PROGRAMS

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 1981 at the Urban Design Center in Chattanooga, architecture students have had the opportunity to contribute to the evolving urban identity of Chattanooga by working with city leaders on various strategic sites for future development in the city. The visionary work of the Urban Design Center is recognized nationally as a wonderful example of how teaching, creative work and community service can be combined in a meaningful learning experience for advanced students. More recently, other cities and communities in Tennessee are interested in similar design studio arrangements.
Interdisciplinary design studios are available to upper class students. A very popular studio of Historic Preservation unites Interior Design students with Architecture students who collaborate together on projects of historical significance for different communities.

During the summer, students may elect to participate in different programs sponsored by the University of Tennessee College of Architecture and Planning. 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.

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

OPPORTUNITIES FOR FOREIGN STUDY

Students in their fourth year of study may elect to spend one semester studying abroad or off campus program, organized either by the University of Tennessee or by other accredited architecture programs. One member of the School faculty leads a program in Europe every year. Since 1988, the School has had a very successful exchange agreement with the University of Krakow in Poland. Studies abroad, arranged to include a full semester's credit for advanced students, include design, history and theory of architecture, and directed independent study.

In cooperation with the Danish International Student Committee, a program is regularly offered in Copenhagen which attracts architecture students from around the world. The University of Tennessee 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 University of Tennessee students for 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 tries to maintain 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 fifth year work, where students have the opportunity to discuss their Comprehensive Design Project with practicing architects.

Architecture is 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.

SECOND YEAR PREREQUISITES

(1) Satisfactory completion of first-year architecture program with grade point average at least 2.3; exceptions may be made only by petition. (2) Application for progression must be submitted no later than June 15 preceding the start of the second year. Students must maintain an overall 2.3 grade point average by the end of 32 hours (attempted) in order to maintain “full status” in the program. Delinquent students must be put on “temporary status” for one semester. These students will have one semester to raise the overall GPA to a 2.3 or have minimum 2.3 on each semester's work until overall average is raised to 2.3. If the GPA is not brought up to 2.3, the student will be dropped from the architecture program.

THIRD YEAR PREREQUISITES

Students are required to have all first and second-year courses satisfactorily completed before entering the third-year design courses, Architecture 371-372. Students' progress and design work in second-year will be reviewed by a committee of the faculty to determine their readiness for advancement to third-year. Students who register for a third-year design course holding first or second-year deficiencies may be required to drop the course at any point during the semester.

FOURTH YEAR PREREQUISITES

Architecture students must have attained third-year standing in the School before being admitted to any 400-level course, with the exception of Architecture 400 Service Practicum. Students must complete all requirements of the curriculum through the third year before entering Architecture 471.

COURSE LOAD

The average course load in any semester is 16 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 School of Architecture cannot be taken as Satisfactory/No Credit. Credit hours over and above the specific graduation requirements may be taken S/NC. A student who desires to take a course S/NC 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.
The College of Arts and Sciences is home to a wide array of academic disciplines and interdisciplinary programs. Such diverse areas of study as Computer Science and Classics, Anthropology and Zoology, Women's Studies and Latin American Studies are represented among the twenty-six departments and twelve special programs that compose the College.

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

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

The central purposes of a liberal education include the encouragement of intellectual tolerance, a dedication to the quest for knowledge as a worthwhile goal 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 a dozen or more interdisciplinary programs. The College's faculty help their students prepare for any and all careers. Faculty research and creative activity are the foundations on which education in this College is built. As a result of that faculty endeavor the lives of students are enriched and the world's body of knowledge grows. That is the basic mission of the College of Arts and Sciences faculty in a research University.

PROGRAMS OF STUDY

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

DEGREES OFFERED

(1) BACHELOR OF ARTS

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

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

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

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

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

(2) BACHELOR OF SCIENCE

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

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

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

Bachelor of Science in Chemistry - (See Department of Chemistry.)

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

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

REQUIREMENTS FOR DEGREES
Bachelor of Arts and Bachelor of Science Basic Programs

Each student seeking a Bachelor of Arts or Bachelor of Science degree must develop a program which includes the following:

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

PROGRAMS LEADING TO BACHELOR OF ARTS AND BACHELOR OF SCIENCE DEGREES

The Bachelor of Arts and the Bachelor of Science Degrees share the same program of Basic Skills and Distribution Requirements (except where noted otherwise).

BASIC SKILLS

English Composition
Purpose:
1. To gain and improve the skills necessary to write English expository prose coherently and convincingly.
2. To improve reading skills.
3. To enhance critical and analytical abilities as applied to key issues and texts.

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

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

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

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

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

The following sequences satisfy the requirement:

Asian Languages 231-232 Intermediate Chinese I, II; 251-252 Intermediate Japanese I, II.
German 201-202 Intermediate German; 206 Honors: Intermediate German.
Italian 211-212 Intermediate Italian.
Portuguese 211-212 Intermediate Portuguese.
Russian 201-202 Intermediate Russian.

Mathematics, Formal Reasoning, or Logic

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

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

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

DISTRIBUTION
1. Divisional Distribution
   a. Non-United States History
      Purpose:
      a. To acquire an appreciation for the richness of the past as a statement of human capability, aspiration, and achievement.
      b. To develop a historical perspective on a civilization that differs from or serves as the foundation for studying one's own.
      c. To develop the ability to explore continuity and change among historical events and movements, and to be able to assess them critically.
      d. To learn to keep one's own place and time in proper perspective, and to appreciate it more fully because of an awareness of human creativity as revealed through a study of the past of a civilization.
      e. To further develop writing skills.
      Requirement:
Major Black Writers.
(two of three) 251 Introduction to Poetry; 252 Introduction to Drama; 253 Introduction to Fiction; French 291-292 French Literature in English Translation.
Information Sciences 330 Books and Related Materials for Children.
Medieval Studies 281 Medieval Culture: Readings from the Early Middle Ages, 500-1000; 282 Medieval Culture: Readings from the Later Middle Ages, 1000-1500.
Russian 221-222 Russian Literature in English Translation; 321 Works of Dostoevsky in English Translation; 322 Works of Tolstoy in English Translation; 325 Modern German Novel in English Translation; 326 German Drama in English Translation.
Spanish 281 Spanish Literature in English Translation; 282 Spanish American Literature in English Translation.

2. The following course packages are designated philosophical perspectives packages:

a. Classics 221 Early Greek Mythology; 222 Classical Greek and Roman Mythology.
   Philosophy 110 The Human Condition: Value and Reality; 111 The Human Condition: Knowledge and Reality; 240 Ethics; plus one of the following: 342 Business Ethics; 344 Professional Responsibility; 345 Medical Ethics; 349 War and Morality; 380 The Concept of Woman (Same as Women's Studies 380); 382 Philosophy of Feminism (Same as Women's Studies 382).
   b. The following courses are designated study or practice of the Arts courses:
   Architecture 111 Architecture and the Built Environment; Art 191 Introduction to Studio Art: Various Media.
   English 263 Introduction to Creative Writing; German 323 German Film.
   Speech Communication 280 Introduction to Oral Interpretation; 380 Oral Interpretation of Prosse Literature.
   Theatre 220-221 Acting; 245 Basic Stage Costume and Makeup; 250 Introduction to Scenery Technology; 260 Fundamentals of Lighting and Sound Production; 323 Period Movement and Dance.
   c. The following courses are designated study of the Arts courses:
   Art 172 Western Art I; 173 Western Art II; 183 Asian Art.
   Classics 322 Archaeology and Art of Ancient Greece; 323 Archaeology and Art of Etruria and Rome.
   Music General 110 Music Appreciation; 120 History of Rock.
   Philosophy 350 Aesthetics; 353 Philosophy and Literature.
   Theatre 100 Introduction to Theatre.

Women's Studies 330 Women in Music.

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

Religious Studies 351 Introduction to United States Religious History; 352 African-American Religion in United States; 355 Religion and Culture in the United States in one of the three areas indicated below and 3 credits from one of the remaining two areas (total 9 credits for this requirement). Writing Emphasis Courses:
  a. United States Studies
   Purpose:
   a. To develop an appreciation and knowledge of United States culture and civilization.
   b. To provide a basis from which to compare foreign cultures and civilizations.
   c. To develop a critical understanding of the sources of values and traditions that constitute contemporary United States civilization.
   d. To develop an understanding of the relationship between individual and societal behavior.
   e. To further develop writing skills.
   The following courses are designated United States Studies courses:
   Anthropology 310 North American Indians; 312 Appalachian Culture; 315 African-American Anthropology (Same as African and African-American Studies 315); 320 African Cultures: 360 North American Prehistory; 480 Black Communities in Urban America; 483 African-American Women in American Society (Same as Women's Studies 483).
   American Studies 310 Introduction to American Studies.

3. The following courses are designated study or practice of the Arts courses:
   Architecture 111 Architecture and the Built Environment; Art 191 Introduction to Studio Art: Various Media.
   English 263 Introduction to Creative Writing; German 323 German Film.
   Speech Communication 280 Introduction to Oral Interpretation; 380 Oral Interpretation of Prosse Literature.
   Theatre 220-221 Acting; 245 Basic Stage Costume and Makeup; 250 Introduction to Scenery Technology; 260 Fundamentals of Lighting and Sound Production; 323 Period Movement and Dance.

4. The following courses are designated study or practice of the Arts courses:
   Art 172 Western Art I; 173 Western Art II; 183 Asian Art.
   Classics 322 Archaeology and Art of Ancient Greece; 323 Archaeology and Art of Etruria and Rome.
   Music General 110 Music Appreciation; 120 History of Rock.
   Philosophy 350 Aesthetics; 353 Philosophy and Literature.
   Theatre 100 Introduction to Theatre.

Women's Studies 330 Women in Music.

(continued on next page)
AREAS OF CONCENTRATION

(1) Required Major

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. Up to 6 credit hours taken in the major may also be used to satisfy basic skills or distribution requirements where listed. In addition, students making A or B in English 118 may use a 200-level literature course in the English Department to satisfy the second half of their Basis Skills English Composition requirement and part of their Humanities requirement if the course is listed there. A minimum grade of C must be earned in every course counted as part of a major. Students transferring from other institutions must complete at least 9 credit hours at UT 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 as available in the Basic Program for a B.A. or B.S. include: Anthropology, Art, Art History, Audiology, Biochemistry, Biology, Botany, Chemistry, Classics, Computer Science, Economics, English, French, Geography, Geology, German, History, Interdisciplinary Studies, Italian, Mathematics, Microbiology, Music, Philosophy, Physics, Political Science, Psychology, Religious Studies, Russian, Sociology, Spanish, Speech Communication, Statistics, and Zoology.

(2) 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.

(3) Optional Minors

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

Business Minor for Non-Business Students: Requirements include the following courses: Accounting 201-202, Economics 201,
Students in the Individualized Program will satisfy all the Basic Skills and Distribution requirements, just as do those in the Basic Program. The point at which the individualization takes place is in the area of concentration. Although the quantitative aspect of the area of concentration is the same as for the major in the Basic Program (i.e., a minimum of 24 hours in courses numbered above 200), there is no restriction in principle on the choice of courses of which it is composed. The student may design a program in consultation with an advisor and submit it for consideration to the Committee on the Individualized Program. The proposed courses of study must have some clear central purpose, usually implemented through intensive work in two or three departments; an undirected scattering of courses will not be approved. For further information contact the Arts and Sciences Advising Center.

COLLEGE SCHOLARS PROGRAM

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

The College Scholars Program affords the highest degree of freedom to the student in developing a meaningful curriculum. Each program is worked out individually with a faculty advisor or mentor, so that the student's experience in the University represents that freedom within which total education may be rounded out and enriched. Elective courses should be chosen with care so that they will truly enhance the student's total program and help in the achievement of well thought-out educational objectives.

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

1. Additional courses in the major field;
2. A related minor;
3. An area in the arts;
4. An off-campus semester.

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

INDIVIDUALIZED PROGRAM

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

Students in the Individualized Program will satisfy all the Basic Skills and Distribution requirements, just as do those in the Basic Program. The point at which the individualization takes place is in the area of concentration. Although the quantitative aspect of the area of concentration is the same as for the major in the Basic Program (i.e., a minimum of 24 hours in courses numbered above 200), there is no restriction in principle on the choice of courses of which it is composed. The student may design a program in consultation with an advisor and submit it for consideration to the Committee on the Individualized Program. The proposed courses of study must have some clear central purpose, usually implemented through intensive work in two or three departments; an undirected scattering of courses will not be approved. For further information contact the Arts and Sciences Advising Center.
ments. At the end of their second year, they will have a conference with the Associate Dean for Graduate Business Programs and be advised of their prospects for formal admission. If the student is a likely candidate, he/she will be advised to take the G.M.A.T. in October of the third year and to submit an application to the M.B.A. program. The admission decision will be made by January of the third year. Upon admission, students will begin M.B.A. coursework in the fourth year and be awarded a B.A. degree at the end of that year. Upon successful completion of the fifth year the student will receive the M.B.A. degree.

### Hours Credit

**Freshman**  
- Foreign Language: 6
- Mathematics: 6
- Non-U.S. History: 6
- Natural Science: 6

**Sophomore**  
- Social Sciences electives: 12
- Humanities Part I: 6
- Humanities Part II: 3
- Electives: 9

**Junior**  
- Upper division distribution: 9
- Electives: 12

**Senior**  
- Total: 101 hours

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

Only three hours of Economics may be used to fulfill this requirement.

The student must major in 10-10 semester hours in the College of Arts and Sciences. Consult the Undergraduate Catalog for descriptions of minor.

### PRE-MEDICAL PROGRAM

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

Although the B.A./B.S. degree is 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.

### Hours Credit

**Freshman**  
- English 101, 102 or equivalent: 6
- Biology 110-120 or Zoology 117-127: 8
- Chemistry 120-130: 8
- Mathematics: 8-6
- Social Sciences electives: 9

**Sophomore**  
- Chemistry 350, 360, 369: 8
- Physics 221, 222: 8
- Divisional Distribution (D) Humanities Part I: 3
- Divisional Distribution (D) Humanities Part II: 3
- Divisional Distribution (D) Humanities Part III: 3
- Divisional Distribution (D) Humanities Part IV: 3
- Divisional Distribution (D) Mathematics/Physical Sciences: 3
- Divisional Distribution (D) Social Sciences: 3
- Computer Science 100: 3

**Junior**  
- Zoology 230-240: 8
- Physics 221-222: 8
- Divisional Distribution (D) Humanities Part IV: 6
- Divisional Distribution (D) Mathematics/Physical Sciences: 3
- Divisional Distribution (D) Social Sciences: 3
- Computer Science 100: 3

**Senior**  
- Total: 124 Minimum hours

### Nuclear Medicine Technology

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

NOTE: Admission to the Nuclear Medicine Technology Program at UTMCX 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.

**Hours Credit**

- English 101, 102: 6
- Chemistry 120-130: 8
- Physics 221, 222: 8
- Divisional Distribution (D) Humanities: 6
- Divisional Distribution (D) Mathematics/Physical Sciences: 3
- Divisional Distribution (D) Social Sciences: 3
- Computer Science 100: 3

**Senior**  
- Total: 94 hours

### SENIOR YEAR PROGRAM OUTLINE

**Fall Semester**

- Physics For Nuclear Medicine I: 3
- Nuclear instrumentation: 3
- Radiopharmacy/Radiochemistry: 2
- Clinical Nuclear Medicine I: 4
- Clinical Practicum I: 4
Pre-Pharmacy Programs

The college offers three programs preparing students for the study of pharmacy at UT-Memphis. The Doctor of Pharmacy (Pharm.D.) degree is conferred by UT-Memphis upon completion of 4 years of professional study at Memphis following any of the three programs. Bulletins describing the three pre-pharmacy programs in detail may be obtained from the Health Professions Office, 220 Ayres Hall. The two-year program prepares students to be admitted to the College of Pharmacy upon completion of 60 hours of a prescribed course of study in the College of Arts and Sciences. Further information may be obtained from the Health Professions Office, 220 Ayres Hall.

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

Pre-Teaching Programs for Prospective K-8 Teachers

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

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

College of Arts and Sciences

Total: 93 hours

PRE-TEACHING SCIENCE AND MATHEMATICS OPTIONS: BACHELOR OF SCIENCE

(1) Environmental Science

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

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

1. Mathematics 121-115 (3,3) or Mathematics 121-112 (3,3) or Mathematics 141-142 (4,4) or Mathematics 151-152 (3,3)
2. Chemistry 100-110 (4,4) or Chemistry 120-130 (4,4)
3. Biology 110-120 (4,4) or Botany 110-120 (4,4) or Zoology 117-118 (4,4)

Total: 22-24 hours

Core courses: (14-16 hours)

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

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

A. Biological Sciences Track (At least 12 hours chosen from the following): Botany 305: Socio-Economic Impact of Plants (3); Botany 310: Plants: Evolutionary Survey (3) or Botany 320: Plants: Evolutionary Survey (3); Botany 330: Field Botany (4); Botany 340: Introduction to Oceanography (3); Botany 431: Botanical Ecology (3); Botany 451: Plant Tissue Culture (3); Ecology 370: Environment and Conservation (3); Ecology 371: Ecology of Forest, Wildlife and Fisheries (3); Forestry, Wildlife and Fisheries (3); Ecology 371: Environment and Conservation (3); Forestry, Wildlife and Fisheries (3); Ecology 371: Environment and Conservation (3);

B. Physical-Chemical Sciences Track (At least 12 hours)

1. Botany 305: Socio-Economic Impact of Plants (3); Botany 310: Plants: Evolutionary Survey (3) or Botany 320: Plants: Evolutionary Survey (3); Botany 330: Field Botany (4); Botany 340: Introduction to Oceanography (3); Botany 431: Botanical Ecology (3); Botany 451: Plant Tissue Culture (3); Ecology 370: Environment and Conservation (3); Ecology 371: Ecology of Forest, Wildlife and Fisheries (3); Forestry, Wildlife and Fisheries (3); Ecology 371: Environment and Conservation (3); Forestry, Wildlife and Fisheries (3); Ecology 371: Environment and Conservation (3);
B. Physical-Chemical Sciences Track (at least 12 hours chosen from among the following: Biochemistry 310: Introduction to biochemistry (3); Chemistry 350-360-366; Organic Chemistry and Lab (3,3,2); Ecology 370: Environment and Conservation (2); Geography 334: Meteorology (3); Geography 433: Land Surface System (3); Geography 434: Climatology (3); Geography 436: Water Resources (3); Geology 203: Geology of National Parks (3); Geology 325: Geological History of Land Organisms (3); Geology 450: Process Geomorphology (3); Geology 455: Basic Environmental Geology (3); Geology 485: Principles of Geohydrology (3)

Total: 26-28 hours

(2). Science

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

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

Total: 22-24 hours

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

Total: (parts a) 19 hours

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

b. Biological Sciences
+Anthropology 100: Principles of Biological Anthropology (3); +Anthropology 464: Principles of Zoarcheology (3); +Anthropology 480: Human Osteology (3); +Anthropology 490: Primate Evolution (3); +Anthropology 495: Human Paleontology (3); +Anthropology 498: Biology of Human Variability (3); Biochemistry 310: Introduction to Biochemistry (3); Of the following three courses you may choose only one: Botany 305: Socio-Economic Impact of Plants (3); Botany 306: Genetics and Society (3); Botany 309: Biology of Human Affairs (3); Botany 310: Plants: Evolutionary Survey I (3); Botany 320: Plants: Evolutionary Survey II (3); Botany 321: Introductory Plant Physiology (3); Botany 330: Field Botany (4); Geology 201: Fossils and the Meaning of Evolution (3); Geology 320: Paleobiology (3); Geology 420: Paleoclimatology (4); Microbiology 201: General Microbiology (3); Microbiology 310-319: Introduction to Microbiology and Lab (3,1); Psychology 210: Biological Basis of Behavior (3); Psychology 370: Ethology and Sociobiology (3); Psychology 410: Sensory Processes and Perception (3); +Psychology 461: Physiological Psychology (3); Zoology 230: Human Physiology (5); Zoology 240: Human Anatomy (3); Zoology 330-331: Animal Development and Embryology and Lab (3,2); Zoology 350: Comparative Vertebrate Biology (4); Zoology 360: Comparative Invertebrate Biology (4); Zoology 380: General Entomology (3); Zoology 450-459: Comparative Animal Behavior and Lab (3,3); Zoology 473: Herpetology (3); Zoology 474: Ichthyology (3); Zoology 476: Mammalogy (3)

+Course has prerequisite other than courses prerequisite to this major. See catalog for details.

c. Physical Sciences

Chemistry 350-360-369: Organic Chemistry and Lab (3,3,2); Geography 334: Meteorology (3); Geography 433: The Land-Surface System (3); Geography 434: Climatology (3); Geography 435: Biogeography (3); Geography 436: Water Resources (3)

+Course has prerequisite other than courses prerequisite to this major. See catalog for details.

Total: 35 hours

(3). Mathematics

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

Mathematics 115: Statistical Reasoning (3); Mathematics 130: Precalculus I (3); Mathematics 141-142: Calculus I and II (4,4); Mathematics 221: Discrete Mathematics (3); Mathematics 241: Calculus III (3); Mathematics 251: Matrix Algebra (3); Mathematics 323: Probability (3); Mathematics 400: History of Mathematics (3); Mathematics 401: Math and Microcomputing (3); Mathematics 460: Geometry (3)

Total: 35 hours

(4). Mathematics and Science

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

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

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

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

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

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

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

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

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

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

Total: 32-36 hours

PRE-TEACHING HUMANITIES OPTIONS: BACHELOR OF ARTS

(5). Arts

This concentration should develop the knowledge and understanding of the role of the arts in society and should include experiences with the visual arts, music, drama, and creative dance. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathemat-
ics sequences listed under Natural Science, Part II of the Arts and Sciences Distribution requirements: Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required courses:

Art 172: Western Art I (3) or Art 183: Asian Art (3); Music 110: Music Appreciation (3); Theatre 100: Introduction to Theatre (3)

9 hours in performance courses from 2 or 3 of the following areas: Studio Art (any course); Dance (any course); Music Performance (any course); Speech Communication 280: Introduction to Oral Interpretation (3); Speech Communication 390: Oral Interpretation of Prose Literature (3); Speech Communication 385: Oral Interpretation of Poetry (3); Speech Communication 480: Ensemble Interpretation (3); Theatre 220: Acting (3); Theatre 221: Acting (3); Theatre 245: Basic Costume Design (3); Theatre 250: Introduction to Scene Technology (3); Theatre 260: Fundamentals of Light and Sound (3); Theatre 320: Advanced Acting (3); Theatre 340: Introduction to Costume Design (3); Theatre 355: Introduction to Scenic Design (3); Theatre 362: Introduction to Lighting Design (3); Theatre 409: Stage Makeup (3); Theatre 430: Principles of Play Directing (4)

9 hours of Non-performance courses from 2 or 3 of the following departments: Art 173: Western Art II (3); Art 232: History of Photography (3); Art 371: Early Christian and Byzantine Art, to 1350 (3); Art 372: Northern European Painting, 1350-1600 (3); Art 374: Art of Northern Europe, 1600-1875 (3); Art 375: History of Modern Sculpture in Europe and America (3); Art 381: Medieval Art of the West, 800-1400 (3); Art 382: The Art of Italy: 1250-1450 (3); Art 383: The Art of Italy: 1475-1575 (3); Art 384: Art of Southern Europe: 1570-1700 (3); Art 385: Chinese Art (3); Art 386: Japanese Art (3); Art 471: History of North American Art (3); Art 472: History of 20th Century Art (3); Art 473: 19th Century American Painting (3); Art 475: History of 19th Century Painting in Europe and America (3); Art 476: History of 20th Century Painting in Europe and America (3); Art 486: Art of Indian Art (3); Dance 480 History of Dance through the 19th Century (3); Dance 490: Dance in the 20th Century (3); English 252: Introduction to Drama (3); English 306: Introduction to Shakespeare (3); English 382: American Literature (3); English 404: Shakespeare I: Early Plays (3); English 405: Shakespeare II: Later Plays (3); English 406: Renaissance Drama (3); English 412: British Drama from 1660-1800 (3); English 453: Continental Drama I (3); English 491: Foreign Study (1-15); French 490: Theatrical French (2-3); German 373: German Film (3); German 422: German Drama (3); Music: all courses in Music History and Music Theory; Spanish 450: 20th Century Hispanic Theatre (3); Theatre 210-211: Survey of World Drama (3,3); Theatre 310-311: History of the Theatre: (3,3); Theatre 312-313: History of the American Theatre (3); Theatre 410: Dramatic Theory and Criticism (3); 6 additional hours at the 300 level or higher from any of the courses listed above. +Course requires intermediate level in the language.

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

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

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

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

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

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

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

Total: 24 hours

Core courses: Geography 320: Cultural Geography; Core Concepts (3); History 373: Historical Issues (3) or History 379: American Issues: Individualism and Community (3) or History 360: American Issues: War and the Peaceful Ideal (3)

6 hours from the following: History 360-361: History of Latin America (3,3); History 362-363: History of East Asia (3,3); History 364: History of China (3); History 365: History of Japan (3); History 366: Ancient Near East Civilization (3); History 369-370: History of the Middle East (5,3)

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

Total: 18 hours

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

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

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

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

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

Required courses: (15 hours)

Philosophy 110-111: The Human Condition (3,3); Religious Studies 101: World Religions in History (3); Religious Studies 211: Ways of Understanding Religion (3); one of the following: Philosophy 380: The Concept of Woman (3); Philosophy 382: Philosophy of Feminism (3)

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

At least 6 hours in non-Western philosophy and religion to be chosen from the following or from an option approved through petition: Religious Studies 302: Religion of Primitive
(8.) United States Culture
The aim of this concentration is to develop breadth and depth of understanding about American culture, its uniqueness, its strengths, and its origins. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements. Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

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

6 hours from any U.S. History courses

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

6 hours in American Literature at 400 level

9 hours from the following: Anthropology 310: North American Indians (3); Anthropology 315: African-American Anthropology (3); Anthropology 360: North American Prehistory (3); Art 471: History of North American Art (3); Art 472: History of 20th Century American Art (3); Art 473: 19th Century American Painting (3); Economics 331: Government and Business (3); Economics 325: Economic History of the North Atlantic Community (3); English 332: Women in American Literature (3); English 334: Film and American Culture (3); Geography 361: Regional Geography of the US and Canada (3); Geography 363: Geography of the American South (3); Geography 365: Geography of Appalachia (3); Geography 425: Historical Geography of the United States (3); Geography 441: Urban Geography (3); Geography 443: Rural Geography (3); History 440: America: Mind, Mood and Society (3); History 445: The African-American Experience from the Colonial Period to the Present (3); History 453: Women in American History (3); History 455: Cities and Urbanization in American History (3); Music 350: History of Jazz (3); Music 440: Music of North America (3); Philosophy 425: American

(9.) Multicultural Studies
This concentration should develop a greater sensitivity, appreciation, and knowledge regarding other cultures both nationally and internationally. It should also increase understanding of issues of race and ethnicity. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements. Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required courses: (9 hours)
Geography 410-102: World Geography (3,3); Anthropology 130: Cultural Anthropology (3)

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

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

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

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

Total: 36 hours (at least 18 at 300 level or above)

(10.) Social Studies
This concentration should develop perceptions of the broad field of social science and broaden the historical and geographic knowledge base. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements. Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Total: 30 hours
B.A. students must complete a minimum of 12 credits from at least two areas. B.S. students must complete a minimum of 6 credits from at least two areas for the Social Science requirements.

B.A. students must take a two-semester course package in either literature or a philosophical perspective for Humanities, Part I and for Part II. Students must complete a minimum of 6 credits from the four lists under the Humanities requirement; not more than 3 credits may be taken in the Arts.

B.A. students must complete a minimum of 6 credits in one of the three areas and 3 credits from one of the remaining two areas. B.S. students must complete a minimum of 6 credits in two of the three areas.

Depending upon course selection, a student may require less than the listed elective hours to reach the minimum total of 93 hours.

SCIENCE-MEDICAL TECHNOLOGY CURRICULUM

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

<table>
<thead>
<tr>
<th>COURSE LOAD</th>
</tr>
</thead>
</table>
| The average course load in the college for any semester is 15-16 credit hours. The University defines full-time undergraduate students as those who register for a minimum of 12 hours. The maximum number of hours which may be taken is 18, exclusive of elective work in ensemble music and physical education. Exceptions to this rule will require approval by the Director of Student Academic Affairs (220 Ayres).

LOWER DIVISION—UPPER DIVISION

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

SATISFACTORY/NO CREDIT

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

1. Courses, except those offered only on this basis, may not count for Basic Skills or Distribution requirements or major or minor requirements unless specifically permitted by petition. This restriction applies to majors or minor categories or corequisites.

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

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

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

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

The option of taking courses on a S/NC basis is provided to encourage the able student to venture beyond the limits of those courses in which the student does well and, motivated by intellectual curiosity, to explore subject matter in which performance may be somewhat less outstanding that work in preferred subject fields.

Note: Students planning to seek admission to graduate or professional schools (especially in the health sciences) should discuss with their advisors possible limitations on exercise of the S/NC option before registering for courses on this basis.

OFF-CAMPUS STUDY

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

INDEPENDENT STUDY

Certain educational goals may best be met through independent study done by an individual under the direction of a faculty member. Students who wish to do such independent work should obtain the approval of their faculty members and the departments concerned prior to embarking upon their study. Credit per semester will vary from 1-15 hours. Up to 21 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

STUDY ABROAD AND FOREIGN STUDY COURSES

Several opportunities for study abroad are available to students in the college. One avenue is through group programs arranged and supervised by departments of the college on a full-semester or summer term basis. A second opportunity is through group programs conducted abroad by other academic institutions in which UT Knoxville students, with approval may enroll for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University's Division of International Education. A third opportunity is through individualized programs under the foreign study number 491. The nature of this work as well as credit for it should be negotiated by students prior to departure with the appropriate Arts and Sciences departments. Credit will be awarded only after completion of all agreed upon requirements, and may not be earned from 1-15 hours in any one department. Up to 21 hours of such credit, exclusive of that earned in group programs offered by departments, could apply toward a degree in the college. Departments may in any of the above forms, however, limit the hours of credit which can be applied toward a given major.
African and African-American Studies

See Interdisciplinary Programs.

American Studies

See Interdisciplinary Programs.

Ancient Mediterranean Civilizations

See Interdisciplinary Programs.

Anthropology

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

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

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

Research Associate Professor: J. Chapman, Ph.D. North Carolina.

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

Progression Standards:

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

The anthropology major consists of 450 and 27 additional hours of upper division coursework in Anthropology. This course work shall be distributed as follows:

(a) archaeological method and theory: 361, 362, 440, 464
(b) archaeological area: 360, 461, 462, 463
(c) cultural area: 310, 311, 312, 313, 314, 315, 319
(d) cultural and method theory: 410, 411, 412, 413, 441, 431
(e) biological anthropology: 480, 490, 494, 495, 496

(2) remaining hours may be selected from any upper division Anthropology courses.

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

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

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

Art


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

B. F. A. in Studio Art

The B.F.A. is Studio Art is a professionally oriented degree especially intended for those students planning careers or graduate study in the visual arts. All students seeking studio degrees (BA Studio, BFA Studio and Art Education, BFA Graphic Design, Illustration) must present and pass the appropriate Portfolio Review for their area of study in order to be admitted into advanced level coursework or 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 major courses. The Portfolio Review is recommended in the Sophomore year and is intended to provide a formal and in-depth overview of the student's work and its potential for success in the area of study early enough to allow a student to make a program change should that be advisable. Students who do not pass Portfolio Review are provided with options including redelivering a portfolio for reevaluation during the next review cycle. All studio courses require 3 hours per week attendance for each credit hour earned. Completing the B.F.A. program may take more than 8 semesters. Students are urged to seek departmental advisement each semester to ensure proper scheduling.

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 UT Knoxville. Transfers who expect to enroll in 300 (junior level) or 400 (senior level) courses must present a portfolio of 10-15 works. The majority of which must be in the major area of concentration.

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

Students may be accepted into advanced media concentrations in Ceramics, Drawing, Painting, Printmaking, Sculpture, Watercolor, and approved Inter-Area combinations, after passing the appropriate portfolio course.

Basic Requirements

Core

Course

Hours Credit

Art History 171, 172, 173

9

Additional Hours

Studio 101, 103

9

Studio 296

3

Studio 211 Drawing; 213 Painting; 1 (or 215)

9

Watercolor I; Sculpture 241 or 242 or 244 or 245 or 246; Printmaking (161 or 262 or 263 or 264)

12

9 hours from the following: Fiber-Fabric (201 or 202 or 203 or 204); 242 Life Modeling; 231 Photography; 292 Film Design; 291 Ceramics

9

Total:

46

Concentration - Ceramics; Drawing; Painting; Printmaking; Sculpture; Watercolor; or Inter-Area (approved combinations of studio media).

200 level

3

Portfolio Review (Pre-requisite to 300 (junior level) or 400 (senior level) courses)

0

300 and 400 level

20

Approved Studio Electives for Concentration

9

Total:

32

Studio Electives

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

Total:

15 hours

General Curriculum

English Composition

6

Non-U.S. History/Social Science

6

Natural Science/Mathematics

6-8

Arts and Sciences Non-Art Electives

14-16

Total:

34 hours

1 Approved Concentration Electives (Maximum credit hours in parenthesis): Ceramics: Art 212 (6), Art 231 (9), Art 242 (3), Art 262 (3), Art 341 (3), Art 342 (3), Art 420 (4), Art 420 (6). Drawing: Art 210 or Art 215

**B.F.A. in Studio Art with an Additional Major in Art Education**

Students who wish to obtain licensure to teach art in the schools should pursue the B.F.A. degree in studio with an additional major in Art Education. For details, see Art Education listings in the College of Education section of this catalog.

**B.F.A. in Graphic Design/Illustration**

The Graphic Design/Illustration major is specifically designed to provide the basic visual education for those persons who wish to pursue careers in the commercial application of art in fields such as advertising, art direction, package design, publications, television, etc.

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 UT Knoxville. Transfers who expect to enroll in 300 (junior level) or 400 (senior level) courses must present a portfolio of 10-15 works, the majority of which must be in graphic design.

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

A minimum of 127 credit hours are required for graduation. Two options are available:

- Graphic Design or Illustration. Students are advised that courses in Graphic Design/Illustration must be taken in sequence, and that successful completion of Art 350 (Portfolio Review, S/NC) is prerequisite to all upper division courses.

**GRAPHIC DESIGN CONCENTRATION**

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Art Core</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 171, 172, 173</td>
<td>9</td>
</tr>
<tr>
<td>Art History electives</td>
<td>6</td>
</tr>
<tr>
<td>Art 101, 103</td>
<td>4</td>
</tr>
<tr>
<td>Art 295, 211, 213 (or 215)</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total:</strong> 28</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Graphic Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 350 (S/NC)</td>
<td>0</td>
</tr>
<tr>
<td>Art 212, 3 hours drawing elective</td>
<td>6</td>
</tr>
<tr>
<td>Art 231</td>
<td>3</td>
</tr>
<tr>
<td>Art 151</td>
<td>2</td>
</tr>
<tr>
<td>Art 251, 252, 351/353/356, 354/355, 453, 454, 455 in sequence</td>
<td>22</td>
</tr>
<tr>
<td>Art 456</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total:</strong> 45</td>
<td></td>
</tr>
</tbody>
</table>

*Both courses must be taken concurrently.*

**Design and Professional Electives**

Art 259, 292, 331, 353, 354, 355, 392, 398, 404, 405, 453, 454, 459, 491, 492, 496; Advertising 250, 350, 490; Marketing 301 | 12 |

**Studio Electives**

Students must choose a total of 9 hours from a minimum of two categories:

1. Fiber-Fabric; (2) Papernaking;
2. Printmaking; (4) Ceramics;
3. Sculpture. | 9 |

**General Curriculum**

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>English Composition</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-U.S. History/Social Science</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Natural Science/Mathematics</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Arts and Sciences Non-Art Electives</td>
<td>13-15</td>
<td></td>
</tr>
<tr>
<td><strong>Total:</strong> 33</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>ILLUSTRATION CONCENTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Core</td>
<td>28</td>
</tr>
<tr>
<td>Art 171, 172, 173</td>
<td>9</td>
</tr>
<tr>
<td>Art History electives</td>
<td>6</td>
</tr>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295, 211, 213 (or 215)</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total:</strong> 28</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Illustration</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 350 (S/NC)</td>
<td>0</td>
</tr>
<tr>
<td>Art 212, 9 hours of drawing electives</td>
<td>12</td>
</tr>
<tr>
<td>Art 231</td>
<td>3</td>
</tr>
<tr>
<td>Art 151</td>
<td>2</td>
</tr>
<tr>
<td>Art 251, 252, 351/353/356, 354/355, 453, 454, 455 in sequence</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total:</strong> 44</td>
<td></td>
</tr>
</tbody>
</table>

*All three courses must be taken concurrently.*

**Studio Electives**

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

<table>
<thead>
<tr>
<th>General Curriculum</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Non-U.S. History/Social Science</td>
<td>6</td>
</tr>
<tr>
<td>Natural Science/Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>Arts and Sciences Non-Art Electives</td>
<td>14-16</td>
</tr>
<tr>
<td><strong>Total:</strong> 34</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>ILLUSTRATION CONCENTRATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Core</td>
<td>127 hours</td>
</tr>
<tr>
<td>Art 171, 172, 173</td>
<td>9</td>
</tr>
<tr>
<td>Art History electives</td>
<td>6</td>
</tr>
<tr>
<td>Art 101, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 295, 211, 213 (or 215)</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total:</strong> 127 hours</td>
<td></td>
</tr>
</tbody>
</table>

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

**B.A. Majors in Art History**

| Hours Credit | Prerequisite: Art 172, 173, 183 | 9 |
| Major: Art History courses numbered 200 and above (May include Greek and Roman Art and Archeology, Department of Classics) | 21 |
| Studio courses numbered 200 and above | 6 |
| Art 481 | 3 |
| **Total:** 39 hours |

Undergraduate work in Art History is enhanced by knowledge of at least one foreign language and by additional studio art experience. Graduate work normally requires reading knowledge of German, French, and any other language appropriate to an area specialization. Students anticipating possible careers in the museum or gallery field are advised that elective hours in Art 482, Museumology II, should be considered.

**B.A. Major in Studio**

| Hours Credit | Prerequisite: Art 101, 295, 103 | 7 |
| Major: Art 171 and 6 additional hours of Art History | 9 |
| Studio courses numbered 200 and above | 15 |

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

**B.A. Minor in Art History**

| Hours Credit | Prerequisite: Art 172, 173 | 6 |
| Minor: Art History courses 200 and above | 15 |

**B.A. Minor in Studio**

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

PI BETA PHI ARROWMONT SCHOOL OF ARTS AND CRAFTS

Director: S.J. Blain, M.F.A., Wisconsin.

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

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

**ASIAN STUDIES**

See Interdisciplinary Programs.

**ASTRONOMY**

See Physics and Astronomy.
strongly encouraged to consult with their advisors before selecting elective courses.

**BACTERIOLOGY**

*See Microbiology.*

**BIOCHEMISTRY**

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

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

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

**Division of Biology**

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

*Basic Faculty:*

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

**Concentration A** is designed for students whose career goals require a broad-based education in the biological sciences and who are directed toward secondary education or the business world and are not planning on graduating at the undergraduate level. students whose career goals involve graduate school in a biological discipline. Prerequisites are Biology 110-120 or Botany 110-120, or Zoology 117-118; Chemistry 120-123; Mathematics 115-121 or 121-122 or 141-142, or 151-152 and Physics 121-122 or 221-222.

**Requirements in the major** are Biology 210, 220, 230; two semesters chosen from Chemistry 350, 360, 369, 310-319, or Biochemistry 310; a total of 18 hours of upper division courses in the biological sciences including one course from each of these groups; Botany 310, 320, 330; Microbiology 310, 430; and Zoology 330, 350, 360, 380. Additional courses to reach the 18 hour total may be selected from any 300 or 400 level courses in Biochemistry, Botany, Microbiology, and Zoology; only one course may be chosen from Botany 305, 306, and 309; courses must include at least 3 hours at the 400-level, and no more than 3 hours of undergraduate research. One of the following capstone courses may count toward the major as well as toward upper level distribution requirements: Biochemistry 420, Microbiology 450, or Zoology 409.

**Concentration B** is designed primarily for students whose career goals involve graduate school in a biological discipline or professional school (medicine, dentistry, etc.). Prerequisites are Biology 110-120 or Botany 110-120 or Zoology 117-118; Chemistry 120-123; Mathematics 141-142 or 151-152; and Physics 221, 222.

**Requirements in the major** are Biology 210, 220, and 230; Chemistry 350, 360, 369; Biochemistry 410; and fourteen hours of additional course work in biological science selected from any 300 or 400 level course offered in Biochemistry, Botany (except 305, 306, 309), Microbiology, and Zoology. No more than 8 hours from one department may count toward the major and only 3 hours of undergraduate research. One of the following capstone courses may count toward the major and toward upper division distribution requirements: Biochemistry 420, Microbiology 450, or Zoology 409.

**A minor** consists of Biology 210, 220, 230 and 8 hours of upper-division courses chosen from the list below. Biochemistry 410-419; Botany, any 300- or 400-level courses; Microbiology, any 300- or 400-level courses; Zoology, any 300- or 400-level courses. (In meeting the upper-division minimum requirement, not more than 3 hours may be counted from more than one biological science department, and not more than 3 hours of research courses may be credited.) Prerequisites to the minor are introductory biology courses (Biology 110-120 or Zoology 117-118) and Chemistry 120-130.

**Botany**

*Professors:*
- E.E. Schilling (Head), Ph.D. Indiana; J.D. Caponetti (Undergraduate Coordinator), Ph.D. Harvard; E.E.C. Clebsch (Emeritus), Ph.D. Duke; M.B. Cruzan, Ph.D. SYNY (Stony Brook); H.R. DeSelm (retired), Ph.D. Ohio State; M.B. Cruzan, Ph.D. North Carolina State; F.H. Norris (Emeritus), Ph.D. Michigan State; R.W. Herndon (Emeritus, Alumni Distinguished Service Professor), Ph.D. Vanderbilt; L.G. Hickok, Ph.D. Massachusetts; R.W. Holton, Ph.D. Michigan; K.W. Hughes, Ph.D. Utah; L.W. Jones, Ph.D. Texas; J.F. McCormick, Ph.D. Emory; B.C. Mullin, Ph.D. North Carolina State; F.H. Norris (Emeritus), Ph.D. Ohio State; R.H. Petersen (Distinguished Professor), Ph.D.
The B.S. major in Botany may be obtained by completing one of the three concentrations: General Program, Organismal Botany, or Cellular and Molecular Botany. Prerequisites for all three concentrations are: Botany 110-120 or Biology 110-120; and Chemistry 120-130. Corequisites to the General Program is one of the following sequences: Mathematics 113-121 or 141-142 or 151-152, or Physics 121-122, or Geology 101-102, or Chemistry 350-360-369. Corequisites for both of the other concentrations are: Mathematics 141-142 or 151-152; Physics 121-122 or Geology 101-102; and Chemistry 350-360-369.

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

Concentration in Organismal Botany requirements are: Biology 210, 220; Botany 321, 310, 320, 330, 1 hour of 371, 2 hours from 400 or 441-442; and 7 additional hours selected from Botany (305, 306, 309 do not meet this requirement), Biology (220 is recommended for partial fulfillment of this requirement), or upper division Biochemistry, Microbiology, Zoology. A minimum of 40 hours completes this major's option (includes 8 hours of Organic Chemistry).

Concentration in Cellular and Molecular Botany requirements are: Biology 210, 220; Botany 321, 310, 320, 330, or 451, 1 hour of 371, 2 hours from 400 or 441-442; Biochemistry 410; and 3 additional hours selected from Botany (305, 306, 309 do not meet this requirement); Biology (220 is recommended for fulfilling this requirement); or upper division Biochemistry, Microbiology, Zoology. A minimum of 40 hours completes this major's option (includes 8 hours of Organic Chemistry).

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

---

**CHEMISTRY**

Professors: W.E. Bull (Head), Ph.D. Illinois; J.L. Adcock, Ph.D. Texas; S.D. Alexander, Ph.D. California (Berkeley); D.C. Baker, Ph.D. Ohio State; J.E. Bartmess, Ph.D. Northwestern; J.E. Bloor (Emeritus); D.H. Manchester (Emeritus); J. O. Chambers, E.L. Wehrly, Ph.D. Cook; R.D. Wisconsin; J.A. Dean (Emeritus), Ph.D. Michigan; J.F. Eastham (Emeritus), Ph.D. California (Berkeley); W.H. Fletcher (Emeritus), Ph.D. Minnesota; F.A. Grimm, Ph.D. Cornell; G.A. Gachon (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. University de Paris (France); G.W. Kabakal (Robert H. Cole Professor, Alumni Distributed Service Professor), Ph.D. Purdue; D.C. Kleinleiter, Ph.D. Princeton; J.D. Kovac, Ph.D. Yale; M.H. Liezke (Emeritus), Ph.D. Wisconsin; J.J. Magid, Ph.D. Tennessee; R.M. Mann, Ph.D. Yale; R.M. Pagni, Ph.D. Wisconsin; J.R. Peterson, Ph.D. California (Berkeley); G.K. Schweitzer (Alumni Distributed Service Professor), Ph.D. Illinois; M.J. Sepanek, Ph.D. Iowa State; W.T. Smith (Emeritus), Ph.D. Ohio State; W.A. Van Hook, Ph.D. Johns Hopkins; H.D. Purdy, T.F. Wallman (Alumni Distributed Service Professor), Ph.D. London (England); C. Woods, III (Associate Dean), Ph.D. North Carolina State; B. Wunderlich (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Northwestern.

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

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

**Bachelor of Science in Chemistry**

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

The B.S. degree is intended primarily for students who wish to major in chemistry but desiring a more flexible course of study than the B.S. in Chemistry, there is the regular B.S. degree. Because these two programs are designed for students with different career goals, the following paragraphs should be carefully considered before selecting courses. A student who decides to major in chemistry should 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 the Department of Chemistry, 575 Buehler Hall.

The B.S. degree is designed for students planning a career in chemistry. However, with the proper choice of physics, mathematics, and physical chemistry courses, the regular B.S. program is also suitable for such students.

Prerequisites to the major are Chemistry 120-130 or (preferably) 121-131 or 128-138, Chemistry 140, and Mathematics 141-142 or 151-152. Corequisites to the major is Physics 211-222, 231-232, or 133-134.

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

For students planning careers in Chemistry, the recommended courses (from the list above) are Mathematics 141-142, Physics 133-134 or 133-134, and Chemistry 473-483; although not required, certain additional courses are strongly suggested for students planning to become chemists: Mathematics 231-241 and Chemistry 230, 320, 329, and 496. Because professional chemists need a reading knowledge of foreign languages, intermediate competence 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 B.S. degree is not approved by the Committee on Professional Training of the American Chemical Society.
A minor in chemistry shall consist of the successful completion of 15 hours of chemistry courses numbered 200 and above including 310, 319 (4 hours) and at least one of the following sequences: 350-360, 369 (8 hours); or 471-481, 479 (8 hours); or 473-483, 479 (8 hours).

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

Placement in General Chemistry Sequences
The sequences which meet all requirements of a year of general Chemistry and which serve as prerequisite for upper-division courses are 120-130, 121-131, and 128-138; chemistry majors are strongly encouraged to take either of the latter sequences. Courses 100 and 110 emphasize organic and biochemistry, and may be used as prerequisite only for 431.

It is possible to move from one sequence to another if permission for substitution is obtained 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 130. Credit may be received for only one of the courses 100, 120, 121, or 128.

In any chemistry course above the freshman level which has Chemistry 130 as a prerequisite, 110 may be used as a prerequisite with approval of the Department of Chemistry. Chemistry 128-138 is an honors course designed for the student who has already made considerable progress in science. Class size is limited to 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 or 131. Beginning students who have had high school chemistry and who have had additional experience (e.g., summer institute study, special research projects, home laboratory) are invited to apply during the summer to the head of the department for permission to take a proficiency examination in one or more semesters of general chemistry. If a satisfactory grade is made on the examination, credit will be allowed for the semester (or course) for which the exam was taken. The Department of Chemistry gives credit in general chemistry to students who present satisfactory scores on the Chemistry Advanced Placement Examination.

CLASSICS

See Interdisciplinary Programs.

COMPUTER SCIENCE

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

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

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

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

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

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

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

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

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

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

Transfers from other institutions:

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

Appeals:

Those students denied progression may appeal to the Undergraduate Committee of the Computer Science Department. Information on the appeals procedure can be obtained by calling the Computer Science Department, 974-5056, the Undergraduate Programs Office, 974-5056, or by contacting an advisor in that office.

ECOLOGY

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

Shared Faculty:

Adams, Marshall, Ph.D., ORNL; Amundsen, C.C., Ph.D. Botany; Blaylock, B.G., Ph.D. ORNL; Beake, Christina R.B., Ph.D. Zoology; Buckner, E.R., Ph.D., Forestry, Wildlife and Fisheries; Bunting, Dewey, Ph.D. Zoology; Burghardt, Ralph W., Ph.D. Forestry, Wildlife and Fisheries; Drake, James A., Ph.D. Zoology; Echternacht, Gary, Ph.D.; Ehrich, Arthur C., Ph.D. Zoology; Elwood, J.W., Ph.D. ORNL; Emmanuel, William, Ph.D. ORNL; Eter, D.A., Ph.D. Zoology; Ferkas, Walter, Ph.D. Environmental Practices; Fribourg, Henry A., Ph.D. Plant and Soil Science; Gardner, R.H., Ph.D. ORNL; Gehrs, C.W., Ph.D. ORNL; Gist, C.S., Ph.D. ORAU; Gittens, John L., Ph.D. Zoology; Goss, L. Barry, Ph.D. Science Appl.; Greenburg, Neil, Ph.D. Zoology; Gross, L.J., Ph.D. Mathematics; Hallam, Thomas G., Ph.D. Mathematics; Hansel, Carol J., Ph.D. Geography; Herbes, S.E., Ph.D. ORNL; Hildebrand, S.G., Ph.D. ORNL; Hilty, J.W., Ph.D. Entomology and Plant Pathology; Horn, Sally P., Ph.D. Geography; Houston, M. Ph.D. ORNL; Kelly, Jim, Ph.D. TVA; Kimmel, B.L. Ph.D. ORNL; McCarty, David J.F., Ph.D. ORNL; McCamick, J. Frank, Ph.D. Botany; McCracken, G.F., Ph.D. Zoology; McKinney, M.L., Ph.D. Geology; Mulholland, P.J., Ph.D. ORNL; Nodvin, Stephen C., Ph.D. CPSU; Norby, Richard, Ph.D. ORNL; O’Donnell, P.J., Ph.D. ORNL; Pagni, R.M., Ph.D. Chemistry; Parker, Charles, Ph.D. ORNL; Pelton, Michael R., Ph.D. Forestry, Wildlife and Fisheries; Pimm, S.L., Ph.D. Zoology; Pleas, C.D., Ph.D. Entomology and Plant Pathology; Post, W., Ph.D. ORNL; Reed, R.M., Ph.D. ORNL; Reynolds, John H., Ph.D. Plant and Soil Science; Riechert, Susan E., Ph.D. Zoology; Rose, K.A., Ph.D. ORNL; Sayler, Gary S., Ph.D. Microbiology; Schlitar, Sonja E., Ph.D. Forestry, Wildlife and Fisheries; Schneider, Gary, Ph.D. (Acting Dean), Agricultural Sciences and Natural Resources; Smith, W.O., Ph.D. Botany; Stacey, G., Ph.D. Microbiology; Stewart, A., Ph.D. ORNL; Strange, R.J., Ph.D. Forestry, Wildlife and Fisheries; Tumer, Monica G., Ph.D. ORNL; VanHooke, R.I., Ph.D. ORNL; VanWinkle, W., Ph.D. ORNL; Vaughan, G., Ph.D. Zoology; Walton, B.T., Ph.D. ORNL; Wehry, E.L., Ph.D. Chemistry; West, D.C., Ph.D. ORNL; White, David C., Ph.D. Microbiology; Wilson, J.L., Ph.D. Forestry, Wildlife and Fisheries; Witherspoon, J.P., Ph.D. ORNL.

The Graduate Program in Ecology offers Master of Science and Doctor of Philosophy degrees. This intercollegiate program provides advanced courses in contemporary ecology for students from undergraduate programs in basic and applied biology, social sciences, mathematics and engineering. Research opportunities in both fundamental and applied ecology are intended to prepare students for academic careers as well as professional positions in industry or government. The Environmental Sciences Division of the Oak Ridge National Laboratory, the National Park Service, and the Tennessee Valley Authority provide advisors and research facilities. The Great Smoky Mountains, Cumberland Plateau, valley and ridge topography, TVA reservoirs and wild rivers provide local spectra of natural habitats and consequences of biological diversity that is truly unique. In addition, faculty research programs provide opportunities for students to search elsewhere on this continent and abroad.

Application forms for admission should be obtained from the Graduate School as well as from the Certification Clerk. Inquiries concerning the admission requirements should be addressed to the Director. Graduate Program in Ecology, University of Tennessee, Knoxville, Tennessee, 37996-1610. Consult the Graduate Catalog for listing of graduate level courses.

ECONOMICS

See faculty listing the College of Business Administration.

The program in economics combines a broad liberal education with the rigorous study of current issues of the day such as employment, inflation, the welfare of the poor, and the benefits and costs of economic growth.

Courses offered in the Department of Economics of the College of Business Administration provide opportunity for a major or minor in economics in the College of Arts and Sciences.

In economics consist of: (1) Economics 201 or equivalent honors courses as a prerequisite to the major and (2) Economics 311 and 313 plus 21 additional hours in upper division economics courses. Majors are encouraged to satisfy Part II of the Natural Science Distribution Requirement with one of the mathematics packages. Mathematics 115-121, 121-122, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.

HONORS: The Department of Economics offers honors B.A. degree. Candidates for the honors degree must complete 311, 313, and 21 upper division hours to include the honors seminar 491. Students interested in the honors degree should contact the department for details.

A Candidate for Honor consists of: (1) Economics 201; and (2) 12 additional hours at the upper-division level. Minors are encouraged to include Economics 311 and 313.

In addition, certification to teach economics in secondary schools is available. Students with such interest should consult the Certification Coordinator of the Office of Undergraduate Programs, Room 212, Claxton Educational Building as early in their program as possible to determine the appropriate requirements.

ENGLISH

Professors:

D.A. Carroll (Head), Ph.D. North Carolina; P.A. Adams (Young Professor Emeritus), Ph.D. Texas; E.W. Bratton, Ph.D. Illinois; D.D. Cox (Associate Head), Ph.D. Missouri; K. Curry (Emeritus), Ph.D. Yale; R.Y. Drake, Jr., Ph.D. Yale; W. Dykeman (Adjunct), B.A.

Northwestern: A.R. Eisor, Ph.D. Indiana; R.J. Finneman (John C. Hodges Professor), Ph.D. North Carolina; J.H. Fish (John C. Hodges Professor Emeritus), Ph.D. Pennsylvania; N.M. Gosele (Alumni Distinguished Professor), Ph.D. Yale; T.J.A. Heffernan, Ph.D. Cambridge; M. Kallet, Ph.D. Rutgers; M.L. Keene, Ph.D. Texas; R.M. Kelly (Young Professor), Ph.D. Duke; J.C. Kight (Honorary Professor), Ph.D. Florida; I. Leki, Ph.D. Illinois; M.A. Lofaro, Ph.D. Maryland; C. Maland, Ph.D. Michigan; F.D. Miller (Emeritus), Ph.D. Virginia; A.R. Penner, Ph.D. Colorado; J.E. Reese, Ph.D. Kentucky; N.J. Sanders (Young Professor), Ph.D. Shakespeare Institute, Stratford-on-Avon; D.J. Schneider (Douglas Bruce Professor Emeritus), Ph.D. Northwestern; D.M. Sura, Ph.D. North Carolina; W.R. Shurr (Honorary Professor), Ph.D. North Carolina; B.T. Stewart (Emeritus), Ph.D. Northwestern; J.C. Thomas, M.A. Stanford; J.B. Traheim, Jr. Ph.D. Princeton; R.H. Walker (Emeritus) M.A. Texas; T.V. Wheeler, Ph.D. North Carolina; J.M. White (Emeritus, Young Professor), M.A. Cambridge; N. Wright (Emerita), Ph.D. Yale.

Associate Professors:


Assistant Professors:

J.M. Atwill, Ph.D. Purdue; R. Bhatt, Ph.D. Illinois; P.G. Hammontree, M.A. Tennessee; R.
Hirst, Ph.D. Rensselaer Polytechnic; L.L. Howe, Ph.D. Columbia; L.D. Jennings, Ph.D. North Carolina.

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

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

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

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

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

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

Honors: For students who qualify, the English Department offers specially designated courses at the freshman, sophomore, junior and senior levels. The freshman and sophomore honors courses are enriched versions of regular sections in composition, in introduction to the various genres, and in American and British literatures. To be given “Honors” in English only upon the recommendation of the student’s advisor and Dean of the Graduate School. Students who have completed a 3.0 or better GPA in English, and have completed a laboratory science sequence other than Geography, may petition the department to substitute certain upper division physical geography courses for courses in the major.

GEOPHYSICAL SCIENCES

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

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

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

A B.A. major in Geography Geography 131 and 132 are prerequisite to a major in Geography, which consists of Geography 310, 320, 340, 415, and 498, and 12 additional credits selected from Geography courses at the 300 and 400 levels. At least one course must be chosen from among Geography 361, 363, 365, 372, 373, 375, and 379, and at least nine hours must be at the 400 level.

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

FRENCH

See Romance and Asian Languages.

GEOGRAPHY

Professors: H.Y. McSween (Head), Ph.D. Harvard; T.W. Breadth, Ph.D. Iowa; R.D. Hatcher (UT Knoxville/ORNL Distinguished Scientist), Ph.D. Tennessee; O.C. Kopp, Ph.D. Columbia; T.C. Labotka, Ph.D. Caltech; K.C. Misra, Ph.D. Wisconsin; R.E. McLaughlin (Emeritus), Ph.D. Tennessee; A. Lehigh, Ph.D. Tennessee; K.R. Walker (Carden Professor), Ph.D. Yale; J.G. Walls (Emeritus), Ph.D. North Carolina.

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

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

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

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

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

Concentration in Engineering Geology: Students wishing to prepare for a career in environmental/engineering geology, where communication with engineers is important, may elect this multidisciplinary minor.

Electives in the major and some of the courses necessary to satisfy the Arts and Sciences College Distribution requirements are specified. Required coursework includes: Geology 310, 320, 430, 340, 370, 440, 450, 455, 460, 470 and 485; Mathematics 141, 142, (or equivalent honors courses) and 231 (or substitution of Geology 401 for Math 231); Physics 231; Basic Engineering 101, 121, and 131; Civil Engineering 330, 435 and any one of the following: 390, 440, 530, 532 or Environmental Engineering 101, 119, 187; Plant and Soil Science 310, 312, 461; and Speech 240. Courses from the College’s approved lists for satisfying the Social Sciences, Humanities and Upper Level Distribution requirements will be recommended and approved by the student’s advisor.

Honors: Students who have completed 5 upper division courses in the major and have an overall GPA of 3.0 may elect to participate in an enrichment program involving research in the geological sciences. Research, in the form of an approved senior thesis, will be accomplished by successful completion of a minimum of 6 semester hours of Geology 491, 492, or 493 under the direction of a faculty member. The results of the research must be formally presented to the Department’s Seminar (Geology 595), the Tennessee Academy of Science, or other acceptable professional organization. Also, an approved written copy of the “thesis” must be submitted to the Department of Geological Sciences. A GPA of 3.0 must be maintained throughout matriculation. Interested students should consult their advisor for details about participation.
GERMANIC AND SLAVIC LANGUAGES

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

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

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

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

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

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

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

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

Major in German or Russian with a Con-
centration in Language and World Business:
Students who wish to prepare for ca-
reers in international business must complete
(a) a special major in either German or Rus-

## Conclusion

The document provides detailed information on the Germanic and Slavic languages program at the University, including course requirements, placement tests, and foreign study opportunities. It highlights the importance of careful planning and preparation for students interested in pursuing a major or minor in these languages. The text also emphasizes the benefits of studying abroad as a way to enhance language proficiency and cultural understanding. Overall, the document serves as a comprehensive resource for students looking to embark on a foreign language study program.
African and African-American Studies

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

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

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

Major concentration: African-American Studies

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

The major concentration is Asian Studies

The Asian Studies major 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.

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

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

Chair: Dr. Charles Maland (English)

The Cinema Studies minor consists of fifteen hours, including English 281 Introduction to the Film Studies, and Art 292 Film Design. It is strongly recommended that Introduction to Film Studies be taken before selection of elective courses provided for in the minor.

For further information consult the chairperson of the Cinema Studies Program, Charles Maland, English Department. Other related courses in such departments as history, philosophy, and sociology may be approved through consultation with Dr. Maland.

Approved areas include: Art 292 Film Design (3); Art 392 Intermediate and Advanced Film Design (3-6); Broadcasting 275 Introduction to Broadcasting (3); Broadcasting 430 Producing for Television (3); English 281 Introduction to Film Studies (3); English 334 Film and American Culture (3); English 494 Special Topics in Film (3); French 420 French Cinema (3); German 323 German Film (3); Italian 421 Topics in Italian Literature and Cinema (3); Political Science 312 Popular Culture and American Politics (3); Women’s Studies 469 Sexuality and Cinema (3).

COMPARATIVE LITERATURE

Chair: Dr. H.C. Rutledge (Classics)

A major concentration in comparative literature consists of 27 hours including Comparative Literature 201 and 401-402, and 9 hours of literature in a foreign language in courses numbered 300 and above. 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, Germanic and Slavic Languages, Religious Studies, and Romance Languages. Certain courses in Philosophy and Speech Communication may be substituted with the approval of the chairperson of the Comparative Literature Program. Students concentrating in comparative literature are strongly encouraged to acquire a working knowledge of a second foreign language, especially if they hope to pursue comparative literature are strongly encouraged to continue study of a foreign language beyond the minimum requirement.

ECONOMICAL STUDIES

Chair: Dr. Don Byerly (Geology)

The major 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 a B.A. major in Environmental Studies are: Biology or Botany 110-120; or Zoology 117-118; Chemistry 120-130; Geology 101; Geography 131; Mathematics 121-122 or 141-142 or 151-152; and Economics 201.

Major Concentration consists of two parts—a core and a minor. The core includes: Biology 230, Sociology 360, Philosophy 345, Economics 482, Agronomy 101; one of the following: Geology 455, Geography 436, or Agricultural Engineering 340 and 341; and either Geology 334, Geography 434, or Plant and Soil Science 432. The second part of the major consists of meeting the requirements for a minor in one of the environmentally related curricula offered by the various colleges of the University. Most minors are likely to require 15-18 hours. Curricula that would be suitable for an Environmental Studies minor include, but are not limited to: Plant and Soil Sciences, Wildlife and Fisheries Science, Forestry, Chemistry, Geology, Geology, Botany, Zoology, Biology, Sociology, Economics, Political Science, or Business Administration.

LATIN-AMERICAN STUDIES

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

The major concentration consists of two optional tracks: (1) General Studies or (2) Brazilian Studies. Each program requires 27 hours, of which 12 are in core courses, including Latin American Studies 401 and 402, three hours of either History 360 or 361, and three hours of an approved Spanish or Portuguese literature/culture course at either the 300 or 400 level. In addition to the core courses, the General Studies track will consist of fifteen hours selected from courses offered by three different participating departments. The Brazilian Studies track will consist of fifteen hours beyond the core courses including a minimum of six hours in UTK's Summer Study Program in Fortaleza, Brazil (or other programs in Brazil approved by the director of Latin American Studies) and up to nine hours of approved courses that focus on Brazil. Majors are strongly urged to take as a prerequisite Latin American Studies 251-252.

The minor consists of 18 hours including Latin American Studies 251-252, three hours of an approved Spanish or Portuguese literature/culture course at either the 300 or 400 level, and nine additional hours selected from courses offered by three different participating departments.

A practical working knowledge of Spanish or Portuguese is a prerequisite for majors and minors. All students are strongly encouraged to earn credit hours through UT Knoxville's Latin American Studies Abroad Program at the Federal University of Ceara in Fortaleza, Brazil. Other foreign study programs are also available for Brazil and Spanish-speaking Latin America.

For further information consult with Dr. Cynthia Duncan (601 McClung Tower), Chairperson of the Latin American Studies Program.

LINGUISTICS

Chair: Dr. Bethany K. Dumas (English)

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

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

Corequisites: (a) Completion of a third year of foreign language study (literature) which satisfies the Foreign Studies option to fulfill the upper-level distribution requirement (required). (b) A two-semester sequence of a non-Indo-European language to be selected from the following: Asian Studies 121-122 (5,5) (Arabic); Asian Studies 131-132, 131-132, 135 (5,5) (Chinese); Asian Studies 141-142, 141-142 (4,4) (Hebrew); Asian Studies 151-152 (5,5) (Japanese); Religious Studies 209-210 (3,3) (Hebrew); other Indo-European language sequences approved by the Linguistics Committee (required).

The concentration shall consist of 30 hours distributed as follows: (a) 24 hours composed of Audiology and Speech Pathology 305 (3); English 371, 372, and 471 (3,3,3); French, German, Russian or Spanish 425-426 (3,3); and Linguistics 420-430 (3,3); and (b) 6 hours of the following, selected with the Linguistics Committee: Anthropology 411 (3); Audiology and Speech Pathology 320, 466, 579 (3,3,3); Educational and Counseling Psychology 457 (3); Special Education and Rehabilitation 522 (3), 532-533 (3,3); English 371, 372, 472, 475, 486, 508-509, 680 (3 hours each); French 421, 422, 521-522 (3 hours each); German 436-436 (3,3), 571-572 (3,3); Linguistics 400 (3), Philosophy 479 (3).


**MEDIEVAL STUDIES**

Chair: Dr. Paul Barrette (French)

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

A concentration in Medieval Studies focuses upon culture and society from the collapse of the Roman Empire to the 16th century. Such a concentration offers the opportunity to deepen one's self-awareness and broaden one's view of the range of human possibilities by studying a very different and remote culture, its conditions of life, social and political institutions, values and ideals, and modes of perception and expression. Latin is the most appropriate language for students in the Medieval Studies concentration and is essential for those who plan to continue their studies in graduate school. In addition, students planning to go on to graduate school are strongly advised to supplement their Medieval Studies concentration with extensive work in one of the traditional disciplines.

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

Category #1—History, Philosophy, and Political Science: History 312 Medieval History: 300-1100 (3); History 313 Medieval History: 1100-1400 (3); History 330 History of England to 1688 (3); History 334 History of Germany to 1815 (3); History 369 History of the Middle East (3); History 474 Studies in Medieval and Early European History (3); Philosophy 322 Medieval Philosophy (3); and Political Science 475 Ancient and Medieval Political Thought (3).

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

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

**RUSSIAN AND EAST EUROPEAN STUDIES**

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

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

**URBAN STUDIES**

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

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

A major concentration in Urban Studies consists of a minimum of 30 semester hours, including Urban Studies 250, 350, 450, 460, and at least 15 additional semester hours from the Urban Studies curriculum. A minor consists of 18 semester hours, including Urban Studies 250 and 350 plus additional semester hours from the Urban Studies curriculum. Curricular planning should be done with an advisor in Urban Studies. For more information, contact the chairperson of the Urban Studies Committee.

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

**WOMEN'S STUDIES**

Chair: Dr. Nancy Goslee (English)

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

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

The major concentration in Women's Studies consists of 30 semester hours including one of the Images of Women in Literature courses (either 210 or 215), Women in Society (220), Emergence of the Modern American Woman (310), at least three hours of Independent Study (493), and at least one course from each of the three major areas: Women's Heritage (324, 380, 383, 432, 453, 466, 483), Contemporary Issues (375, 382, 410, 425, 434), and Literature and the Arts (330, 332, 422). As its content varies, 400 may be included in any of these areas. Students are encouraged to take at least nine hours in one of these areas.

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

**ITALIAN**

See Romance and Asian Languages.

**JAPANESE**

See Interdisciplinary Programs (Asian Studies).

**LATIN**

See Classics.

**LATIN AMERICAN STUDIES**

See Interdisciplinary Programs.

**LINGUISTICS**

See Interdisciplinary Programs.

**MATHEMATICS**

Professors: J.B. Conaway (Head), Ph.D. Louisiana State; N. Alikakos, Ph.D. Brown; V. Alexiades, Ph.D. Delaware; D.P. Anderson, Ph.D. Chicago; G.A. Baker, Ph.D. Cornell; J.S. Bradley (Emeritus), Ph.D. Iowa; J.H. Carruth, Ph.D. Louisiana State; C.E. Childs, Ph.D. Peter; R.J. Daverman, Ph.D. Wisconsin; D.J. Dessart, Ph.D. Maryland; D.E. Dobbs, Ph.D. Cornell; G.
Courses in the major are open only to qualified students who have completed the first three years of the Science-Medical Technology Curriculum, described in the College of Arts and Sciences curricula section of this catalog, and who have been approved by the Medical Technology Admissions Committee.

**MEDIEVAL STUDIES**

See Interdisciplinary Programs.

**MEDICAL BIOLOGY/MEMORIAL RESEARCH CENTER**

The Department of Medical Biology of The University of Tennessee College of Medicine-Knoxville Unit was formed from the faculty of The University Memorial Research Center and Hospital in 1978. The Research Center was established in 1956. The faculty has research, education, and service interests in cancer, blood diseases, metabolism, neuroscience, birth defects, cytogenetics and clinical genetics. Courses in these areas are offered to students at the graduate and undergraduate levels. Elective courses are also available to students in the College of Medicine.

The faculty with the College of Veterinary Medicine participates in the graduate program leading to M.S. and Ph.D. degrees in Comparative and Experimental Medicine. Other advanced degree students can do thesis research in the department by arrangement with other life science departments at the University.

**MICROBIOLOGY**

The requirements for the B.S. degree in Mathematics, but take 12 (rather than 9) hours in Mathematics 499 and Mathematics courses numbered 421 through 472. The grade point average computed on the 24 hours of Mathematics courses consisting of 323, 341, 351, and 371, plus the aforementioned 12 hours, will determine the honors category: GPA at least 3.4 - Honors; GPA at least 3.6 - High Honors; GPA at least 3.8 - Highest Honors.

Students with credit for more than 12 hours in Mathematics 499 and Mathematics courses numbered 421 through 472 may designate the 12 hours to be included in the above average.

Minor: Mathematics 141-142 or 141-142 is prerequisite to a minor in Mathematics. A minor in Mathematics consists of (1) 241 and 251; (2) 221 or 231; and (3) nine additional hours in Mathematics courses numbered 300 or higher. The grade in each of the above courses must be at least C.

**B.S. Major:** Prerequisites are Biology 150 or 110-120, 210-220, Chemistry 120-130, and Mathematics 151-152 or 141-142, and Physics 221-222 or 231-232. The major consists of Chemistry 350-360-370-380-390-410, Microbiology 310, 319, 320, 329, 12 additional hours of 400-level Microbiology courses.

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

**MEDICAL TECHNOLOGY**

**INSTRUCTORS:**

Kenneth Bonee, M.S. Tennessee; Tony Campbell, M.M. Tennessee; C.G. Doss, M.A. Tennessee; Richard Little, Ph.D. California (Los Angeles); Rita Reagan, M.M. Tennessee; Jennifer Stevens, M.A. Kentucky.

All entering freshman and all other students who have not completed a college level mathematics course, except students who have received AP calculus credit, must take the UT Knoxville 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.

**B.S. Major:** Mathematics 141-142 (or the Honors version, 147-148) is prerequisite to a major in Mathematics. Majors must also have computer programming skills sufficient to take 371; students without other computing experience should take Computer Science 102. The courses required for the major are: 221 Discrete Mathematics I (3); 231 Differential Equations I (3); 241 calculus II; or 247 Honors: Calculus III (4); 251 Matrix Algebra I; or 257 Honors: Matrix Algebra I (3); 323 Probability I (3); 341 Analysis I (3); 351 Algebra I (3); 371 Numerical Algorithms I (3); and nine additional hours selected from Mathematics 404, 499 and Mathematics courses numbered 421-472.

**Honors B.S. Major:** Candidates for an honors degree in Mathematics must fulfill all of the requirements for the B.S. degree in Mathematics, but take 12 (rather than 9) hours in Mathematics 499 and Mathematics courses numbered 421 through 472. The grade point average computed on the 24 hours of Mathematics courses consisting of 323, 341, 351, and 371, plus the aforementioned 12 hours, will determine the honors category: GPA at least 3.4 - Honors; GPA at least 3.6 - High Honors; GPA at least 3.8 - Highest Honors.

Students with credit for more than 12 hours in Mathematics 499 and Mathematics courses numbered 421 through 472 may designate the 12 hours to be included in the above average.

Minor: Mathematics 141-142 (or 141-142) is prerequisite to a minor in Mathematics. A minor in Mathematics consists of (1) 241 and 251; (2) 221 or 231; and (3) nine additional hours in Mathematics courses numbered 300 or higher. The grade in each of the above courses must be at least C.

**MEDIEVAL STUDIES**

See Interdisciplinary Programs.

**MEDICAL BIOLOGY/ MEMORIAL RESEARCH CENTER**

The Department of Medical Biology of The University of Tennessee College of Medicine-Knoxville Unit was formed from the faculty of The University Memorial Research Center and Hospital in 1978. The Research Center was established in 1956. The faculty has research, education, and service interests in cancer, blood diseases, metabolism, neuroscience, birth defects, cytogenetics and clinical genetics. Courses in these areas are offered to students at the graduate and undergraduate levels. Elective courses are also available to students in the College of Medicine.

The faculty with the College of Veterinary Medicine participates in the graduate program leading to M.S. and Ph.D. degrees in Comparative and Experimental Medicine. Other advanced degree students can do thesis research in the department by arrangement with other life science departments at the University.

**MICROBIOLOGY**

The requirements for the B.S. degree in Mathematics, but take 12 (rather than 9) hours in Mathematics 499 and Mathematics courses numbered 421 through 472. The grade point average computed on the 24 hours of Mathematics courses consisting of 323, 341, 351, and 371, plus the aforementioned 12 hours, will determine the honors category: GPA at least 3.4 - Honors; GPA at least 3.6 - High Honors; GPA at least 3.8 - Highest Honors.

Students with credit for more than 12 hours in Mathematics 499 and Mathematics courses numbered 421 through 472 may designate the 12 hours to be included in the above average.

Minor: Mathematics 141-142 or 141-142 is prerequisite to a minor in Mathematics. A minor in Mathematics consists of (1) 241 and 251; (2) 221 or 231; and (3) nine additional hours in Mathematics courses numbered 300 or higher. The grade in each of the above courses must be at least C.

**B.S. Major:** Prerequisites are Biology 150 or 110-120, 210-220, Chemistry 120-130, and Mathematics 151-152 or 141-142, and Physics 221-222 or 231-232. The major consists of Chemistry 350-360-370-380-390-410, Microbiology 310, 319, 320, 329, 12 additional hours of 400-level Microbiology courses.

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

**MEDICAL TECHNOLOGY**

Courses in the major are open only to qualified students who have completed the first three years of the Science-Medical Technology Curriculum, described in the College of Arts and Sciences curricula section of this catalog, and who have been approved by the Medical Technology Admissions Committee.

**MUSIC**

**PROFESSORS:**


**ASSOCIATE PROFESSORS:**


**ASSISTANT PROFESSORS:**

S. Binder; D. Brunell; M.M. Ehrman, B.S. Northwestern; W.W. Hawthorne, Ph.D. Cincinnati; C. Smith, B.M. SUNY.
Bachelor of Music Degree: The Department of Music offers curricula leading to the Bachelor of Music degree with concentrations in music theory, composition, electronic music, music history and literature, and applied music (voice; piano; organ; sacred music-organ or piano; sacred music-vocal and liturgical; sacred music-instrumental); string; woodwind, brass, and percussion instruments; studio music; and jazz (string pedagogy). This study prepares students for graduate music study or for positions in music for which a professional music degree is required.

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

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

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

APPLIED MUSIC
Applied study is classified as Principal or Secondary.

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

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

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

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

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

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

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

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

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

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

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

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

The Bachelor of Arts Degree - Music Major

Music Course Requirements Pre-requisites: Music Theory 110, 120 (6); Music Theory 130, 140 (2); Music Performance 103 level (2). Courses toward the major: Music Theory 210, 220 (6); Music History 200 (3); Music History 210, 220 (6); Music Performance 200 level or above (four semester minimum) (6); Music General 200 - 4 semester minimum (0); Music Theory 220 (3); Music History 350, 380, 390; Music Electives (0-3 hours) selected from: Music History 460; Music General 301; Music Theory 490 or Music History 493; Music General 411 (0); Total of 43-46 hours.

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

B.M. Curriculum in Music Education-Instrumental Emphasis

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Major Instrument)</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music General 200</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Education 230</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music History 300</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>'Foreign Language</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 210, 220</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Major Instrument)</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music General 200</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Education 210</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Education 220</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Minor Woodwind Instrument)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational &amp; Counseling Psychology 210</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Science</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 115</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Theory 310</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Theory 320</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Minor Instrument)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music General 200</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Education 350</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music History 380</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Education 420</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Ed. 310, 320</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Minor Brass Instrument)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historical Studies</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music Inst. 410</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total: 127 hours

1 Must be chosen from French, German, or Italian.
2 Full Recital Optional with approval of major area.
<table>
<thead>
<tr>
<th>B.M. Curriculum in Music Education-Instrumental Emphasis (4 year alternative)</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (Major Instrument)</td>
<td>4</td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music Education 240</td>
<td>2</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (Major Instrument)</td>
<td>4</td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music Education 430</td>
<td>3</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Natural Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 133 hours</strong></td>
<td></td>
</tr>
<tr>
<td>*Must be chosen from French, German, or Italian.</td>
<td></td>
</tr>
<tr>
<td>*Full Recital Optional with approval of major area.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.M. Curriculum in Music Education-Vocal/General Concentration Keyboard Emphasis (4 year alternative)</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music Education 430</td>
<td>3</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>4</td>
</tr>
<tr>
<td>Music Education 240</td>
<td>3</td>
</tr>
<tr>
<td>Psychosocial Studies</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Keyboard)</td>
<td>4</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music Education 430</td>
<td>3</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>4</td>
</tr>
<tr>
<td>Music Education 240</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 135 hours</strong></td>
<td></td>
</tr>
<tr>
<td>*Must be chosen from French, German, or Italian.</td>
<td></td>
</tr>
<tr>
<td>*Full Recital Optional with approval of major area.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B.M. Curriculum in Music Education/Vocal-General/Vocal Emphasis (4 year alternative)</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music Education 430</td>
<td>3</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>4</td>
</tr>
<tr>
<td>Music Education 240</td>
<td>3</td>
</tr>
<tr>
<td>Math 115</td>
<td>3</td>
</tr>
<tr>
<td>Math 115</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 115</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Music Education 240</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>Music Performance (Voice)</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music History 200</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Music Education 240</td>
<td>3</td>
</tr>
<tr>
<td>Natural Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 126 hours</strong></td>
<td></td>
</tr>
<tr>
<td>*Must be chosen from French, German, or Italian.</td>
<td></td>
</tr>
<tr>
<td>*Full Recital Optional with approval of major area.</td>
<td></td>
</tr>
<tr>
<td>College of Arts and Sciences</td>
<td>87</td>
</tr>
</tbody>
</table>

### B.M. Curriculum in Piano

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>English Composition 420, 430</td>
<td>6</td>
</tr>
<tr>
<td>Social Science</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 310</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Total:** 130 hours

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

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

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Total:** 130 hours

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

### B.M. Curriculum in Strings

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 100</td>
<td>8</td>
</tr>
<tr>
<td>Music Keyboard 110, 120</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 100</td>
<td>8</td>
</tr>
<tr>
<td>Music Keyboard 110, 120</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Total:** 130 hours

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

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

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 100, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 120, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 100</td>
<td>3</td>
</tr>
<tr>
<td>Music Comp. 180</td>
<td>8</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 399</td>
<td>2</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Music Comp. 200</td>
<td>0</td>
</tr>
<tr>
<td>Music Comp. 491</td>
<td>0</td>
</tr>
<tr>
<td><strong>Electives</strong></td>
<td>7</td>
</tr>
</tbody>
</table>

**Total:** 130 hours

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

---

1. Must be chosen from French, German, or Italian.
2. Full Recital Optional with approval of major area.
3. Foreign Language.
4. Annual Recital Required.
5. Music Keyboard.
6. Foreign Language.
7. Electives.
9. Total:
10. Hours Credit.
11. College of Arts and Sciences.
13. College of Education.
15. College of Science and Technology.
16. College of Business.
17. College of Law.
18. College of Dentistry.
19. College of Pharmacy.
21. College of Nursing.
22. College of Agriculture.
23. College of Engineering.
25. College of Fine Arts.
27. College of Design.
28. College of Environmental Science.
29. College of Public Affairs.
30. College of International Studies.
31. College of International Business.
32. College of International Relations.
33. College of International Law.
34. College of International Finance.
35. College of International Trade.
36. College of International Development.
37. College of International Health.
38. College of International Education.
40. College of International Technology.
41. College of International Engineering.
42. College of International Architecture.
43. College of International Design.
44. College of International Environment.
45. College of International Public Affairs.
47. College of International Policy.
48. College of International Economics.
49. College of International Economics.
50. College of International Economics.
51. College of International Economics.
52. College of International Economics.
53. College of International Economics.
54. College of International Economics.
55. College of International Economics.
56. College of International Economics.
57. College of International Economics.
58. College of International Economics.
59. College of International Economics.
60. College of International Economics.
61. College of International Economics.
62. College of International Economics.
63. College of International Economics.
64. College of International Economics.
65. College of International Economics.
66. College of International Economics.
67. College of International Economics.
68. College of International Economics.
69. College of International Economics.
70. College of International Economics.
71. College of International Economics.
72. College of International Economics.
73. College of International Economics.
74. College of International Economics.
75. College of International Economics.
76. College of International Economics.
77. College of International Economics.
78. College of International Economics.
79. College of International Economics.
80. College of International Economics.
81. College of International Economics.
82. College of International Economics.
83. College of International Economics.
84. College of International Economics.
85. College of International Economics.
86. College of International Economics.
87. College of International Economics.
B.M. Curriculum in Theory/Composition

**Freshman**
- English Composition 101, 102 .................. 6
- Music Theory 101, 120 .................. 6
- Music Theory 130, 140 .................. 2
- Music History 200 .................. 3
- Music Keyboard 110, 120 ................. 2
- Music Ensemble .................. 2
- Foreign Language .................. 2
- Music Theory 110, 120 .................. 6
- Music Performance 390 .................. 3
- Music Theory 290 .................. 3
- Music Performance 300 level ................. 2
- Music Ensemble .................. 2
- Social Science .................. 2
- Music General 200 .................. 0
- Historical Studies .................. 2

**Sophomore**
- Music Theory 210, 220 .................. 6
- Music Theory 230, 240 .................. 2
- Music History 210, 220 .................. 6
- Music Jazz 120 .................. 2
- Music Performance 200 level ................. 6
- Music Ensemble .................. 2
- Music General 200 .................. 0
- Social Science .................. 6
- Music General 301 .................. 0
- Electives .................. 6

Total: 129 hours

1. Must be chosen from French, German, or Italian.
2. Area of Study:
   - Music General 200 or 200 level.
   - Music History 300 or 300 level.
   - Music History 310 or 310 level.
   - Music History 320 or 320 level.
   - Music History 330 or 330 level.
   - Music History 340 or 340 level.
   - Music History 350 or 350 level.
   - Music History 360 or 360 level.
   - Music History 370 or 370 level.
   - Music History 380 or 380 level.
   - Music History 390 or 390 level.
   - Music History 400 or 400 level.
   - Music History 410 or 410 level.
   - Music History 420 or 420 level.
   - Music History 430 or 430 level.
   - Music History 440 or 440 level.
   - Music History 450 or 450 level.
   - Music History 460 or 460 level.
   - Music History 470 or 470 level.
   - Music History 480 or 480 level.
   - Music History 490 or 490 level.
   - Music History 500 or 500 level.
   - Music History 510 or 510 level.
   - Music History 520 or 520 level.
   - Music History 530 or 530 level.
   - Music History 540 or 540 level.
   - Music History 550 or 550 level.
   - Music History 560 or 560 level.
   - Music History 570 or 570 level.
   - Music History 580 or 580 level.
   - Music History 590 or 590 level.
   - Music History 600 or 600 level.
   - Music History 610 or 610 level.
   - Music History 620 or 620 level.
   - Music History 630 or 630 level.
   - Music History 640 or 640 level.
   - Music History 650 or 650 level.
   - Music History 660 or 660 level.
   - Music History 670 or 670 level.
   - Music History 680 or 680 level.
   - Music History 690 or 690 level.
   - Music History 700 or 700 level.
   - Music History 710 or 710 level.
   - Music History 720 or 720 level.
   - Music History 730 or 730 level.
   - Music History 740 or 740 level.
   - Music History 750 or 750 level.
   - Music History 760 or 760 level.
   - Music History 770 or 770 level.
   - Music History 780 or 780 level.
   - Music History 790 or 790 level.
   - Music History 800 or 800 level.
   - Music History 810 or 810 level.
   - Music History 820 or 820 level.
   - Music History 830 or 830 level.
   - Music History 840 or 840 level.
   - Music History 850 or 850 level.
   - Music History 860 or 860 level.
   - Music History 870 or 870 level.
   - Music History 880 or 880 level.
   - Music History 890 or 890 level.
   - Music History 900 or 900 level.
   - Music History 910 or 910 level.
   - Music History 920 or 920 level.
   - Music History 930 or 930 level.
   - Music History 940 or 940 level.
   - Music History 950 or 950 level.
   - Music History 960 or 960 level.
   - Music History 970 or 970 level.
   - Music History 980 or 980 level.
   - Music History 990 or 990 level.

B.M. Curriculum in Voice

**Freshman**
- English Composition 101, 102 .................. 6
- Music Theory 101, 120 .................. 6
- Music Theory 130, 140 .................. 2
- Music History 200 .................. 3
- Music Keyboard 110, 120 ................. 2
- Music Ensemble .................. 2
- Foreign Language .................. 2
- Music Theory 110, 120 .................. 6
- Music Performance 390 .................. 3
- Music Theory 290 .................. 3
- Music Performance 300 level ................. 2
- Music Ensemble .................. 2
- Social Science .................. 2
- Music General 200 .................. 0
- Historical Studies .................. 2
- Electives .................. 6

Total: 131 hours

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

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

**Freshman**
- English Composition 101, 102 .................. 6
- Music Theory 110, 120 .................. 6
- Music Theory 130, 140 .................. 2
- Music History 200 .................. 3
- Music Performance (100 level) ................. 8
- Music Ensemble .................. 2
- Music Keyboard 110, 120 ................. 2
- Music Performance (200 level) ................. 8
- Music Ensemble .................. 2
- Music Keyboard 210, 220 ................. 2
- Music Theory 390 .................. 3
- Music Ensemble .................. 2
- History Electives .................. 6
- Music General 200 .................. 0

Total: 133 hours

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

Social Science .................. 6
Music Theory 310 .................. 3
Music Perf. 355 .................. 6
Music Ensemble .................. 2
Music General 200 .................. 0
Music General 301 .................. 6
Music General 401 .................. 0
Music Education 310 .................. 3

**Senior**
- Electives .................. 3
- English Composition 101, 102 .................. 6
- Music Theory 110, 120 .................. 6
- Music History 200 .................. 3
- Music Performance (100 level) ................. 8
- Music Ensemble .................. 2
- Music Keyboard 110, 120 ................. 2
- Foreign Language .................. 2
- Music General 200 .................. 0
- Music General 401 .................. 0
- Historical Studies .................. 6

Total: 133 hours

1. Must take 1 year of two languages from French, German, or Italian.
2. Humanities-Arts (Non-music) Literature, Philosophical Perspectives, Interdisciplinary Studies.

**College of Arts and Sciences**

**Music**
- Music Performance 394 or 395, Independent Study in Music Theory 493, Music History Elective (300 level and above).
- Humanities-Arts (Non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.

**B.M. Curriculum in Voice**

**Freshman**
- English Composition 101, 102 .................. 6
- Music Theory 110, 120 .................. 6
- Music Theory 130, 140 .................. 2
- Music History 200 .................. 3
- Music Perf. 155 .................. 8
- Music Ensemble .................. 2
- Music General 200 .................. 0
- Music Vocal 230 .................. 0
- Music Voc. 240, 250 .................. 4

Total: 127 hours

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

**ORGANIZATIONAL PSYCHOLOGY PROGRAM**

See Graduate School.
PHILOSOPHY

Professors:
G.S. Brennert (Head), Ph.D. Michigan; R.E. Aquila, Ph.D. Northwestern; L.B. Coble, Ph.D. Nebraska; R.B. Edwards, Ph.D. Emory; G.C. Graber, Ph.D. Michigan; F. H. Marsh, Ph.D. Tennessee; B.C. Postow, Ph.D. Yale; D. Van de Vate, Ph.D. Yale.

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

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

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

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

PHYSICS AND ASTRONOMY

Professors:
W.M. Bugg (Head), Ph.D. Tennessee; C.R. Bingham, Ph.D. Tennessee; W.E. Blais, Ph.D. Michigan State; J.A. Breazeale, Ph.D. Michigan State; M.J. Brengle, Ph.D. Oregon; W.M. Bugg, Ph.D. Tennessee; J. Burgdorfer, Ph.D. Freie Universitat Berlin; T.A. Callcott, Ph.D. Purdue; R.W. Childers, Ph.D. Vanderbilt; L.G. Christophorou, Ph.D. Manchester (England); G.T. Condu, Ph.D. Illinois; W.E. Deeds (Emeritus), Ph.D. Ohio State; K.E. DUCKETT, Ph.D. Tennessee; A.G. Egil, Ph.D. Brown; S.B. Elston, Ph.D. Freie Universitat Berlin; T.A. Callcott, Ph.D. Purdue; R.W. Childers, Ph.D. Vanderbilt; L.G. Christophorou, Ph.D. Manchester (England); M.W. Guidry, Ph.D. Tennessee; H.H. Handler, Ph.D. Rutgers; E.G. Harris (Emeritus), Ph.D. Tennessee; E.L. Hart, Ph.D. Cornell, H.C. Jacobson, Ph.D. Yale; D.T. King (Emeritus), Ph.D. Bristol (England); J.W.L. Lewis (UTSI), Ph.D. Misissipi; J.M. Macek (Distinguished Scientist), Ph.D. Rensselaer Polytechnic Institute; G.D. Mabon (Distinguished Scientist), Ph.D. University of California (Berkeley); A.A. Mason (UTSI), Ph.D. Tennessee; W.K. McGregor (UTSI), Ph.D. Tennessee; W. Nazarowicz, Ph.D. Warsaw; F.E. Obenshain, Jr., Ph.D. Pittsburgh; L.R. Painter, Ph.D. Tennessee; D.J. Pegg, Ph.D. New Hampshire; E.W. Plummer, Ph.D. Carol; J.J. Quinn, Ph.D. Maryland; L.L. Riederger, Ph.D. Vanderbilt; L.A. Sellin (Chancellor's Research Scholar), Ph.D. Chicago; C.C. Shih, Ph.D. Cornell; S.P. Sorensen, Ph.D. Copenhagen (Denmark); M.R. Stayer, Ph.D. Massachusetts Institute of Technology; J.R. Thompson (Emeritus), Ph.D. Duke; J.C. Thompson, Ph.D. Illinois; G.W. Wheeler (Emeritus), Ph.D. Yale; J.W. White (Emeritus), Ph.D. North Carolina.

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

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

Research Professors:
I. Kamynchik, Ph.D. ITEP (Russia); Z. Zhang, Ph.D. Lanzhou.

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

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

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

POLITICAL SCIENCE

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

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

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

B.A. Major: Political Science 101 or 107, 102 and 201 are prerequisites to the major. Students must complete all three courses with no grade below "C" in any of the three courses, and with a GPA of at least 2.50 in the three courses, before they are accepted as majors in Political Science. The major consists of 24 hours of courses numbered 300 and above. These 24 hours must include at least one course in each of the four areas of the discipline.

United States Government and Politics:
311, 312, 315, 320, 321, 322, 330, 331, 340, 411, 412, 420, 421, 430, 431, 440, 441 and 442

Comparative Government and Politics:
350, 355, 391, 452, 454, 455, 461, 463, 464

International Relations:
365, 366, 370 and 470

Political Theory:
374, 475 and 476

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

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

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

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

Major in Political Science with a Concentration in Public Administration: Students majoring in Political Science who wish to prepare for a career in the public service may select a concentration in Public Administration. Corequisite courses are Mathematics 121 and Mathematics 115 or Statistics 201 and Accounting 201 and 202. Majors must earn a "C" or better in prerequisite and corequisite courses. The con-
All students wishing to follow the Academic Concentration must satisfy pre-requisites of Mathematics 112 and Mathematics 115 or Statistics 201, one year of biological science (e.g. Biology 110-120), Psychology 110 with a grade of C or better, and have a GPA of at least 2.25. Completion of this Concentration requires: (1) Psychology 210 or 220; (2) Psychology 395 and one semester of 396; (3) Two courses from Psychology 300, 310, 320, 330, 360 and 370; (4) One course from Psychology 410, 450, and 461; (5) One course from Psychology 400, 420, and 480; (6) One course from Psychology 440, 445, and 470; (7) Psychology 496; (8) One semester of 489, 493, or 499; and (9) One elective course at the 300 or 400 level. Continuation in the Academic Psychology Concentration requires a maintenance of 2.25 GPA. At any time a student drops below this level, he or she will be transferred to the General Concentration, and must apply for re-admission upon achieving a 2.25 or better GPA. Re-admission is not automatic, and a review of the student's total program will be undertaken, before a decision is made about re-admission to the Academic Concentration.

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

Of which must be 499. The remaining 3 hours which complete this major shall not include related language courses.

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

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

Minor: Fifteen hours of courses at the 300 level or above, not including related language courses. It is recommended that students minoring in religious studies discuss their program with a member of the department faculty.
French Major: Consists of 30 hours in courses numbered 323 and above. All majors must have the following courses (or their equivalents with consent of the department): 333 or 334; 345; 351-352; 353; 421; 422; 440. Literature concentration students must also have 6 hours of literature at the 400 level. 3 hours of which must be either 410, 411, 412, 413, 414, or 415 of language-oriented or civilization courses at the 300 or 400 levels. Language concentration students must also have 9 hours of language-oriented or civilization courses at the 300 or 400 levels.

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

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

Italian Major: Consists of 27 hours in courses numbered 311 and above.

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

Spanish Major: Consists of 30 hours in courses numbered 323 or above. The following are required: 333, 334, 421, 422; 459. Students must also have a minimum of 3 hours of civilization, either 431 or 471; a minimum of 6 hours of conversation and composition from 323, 324, 423 or 424; and a minimum of 6 hours of literature from 433, 435, 436, 450, 451, 452, 461, 473, 474, 479. Majors are encouraged to take as many hours as possible, especially the surveys, 435-436 and 473-474.

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

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

(a) The Special Language Major:

(1) The French major consists of 33 hours. The following are required: French 333, 345, 351, 352, 440, 441, 442, 443, 444, a 400-level literature elective, and 3 hours of 491, 490 or 493.

(2) The Italian major consists of 27 hours. The following are required: Italian 311-312, 341, 342, 401, 490 or 491, and 9 hours of any 400-level literature course.

(3) The Language and World Business Japanese major concentration consists of 30 hours. The following are required: Japanese 251-252, 351-352, three hours of 490 or 491, and 9 hours of courses from the following: Art 386, Asian Studies 102 or 471 (if related to Japanese Literature 366, Japanese 313 or 314, Religious Studies 383.

(4) The Language and World Business Portuguese major concentration consists of 33 hours. The following are required: Portuguese 301-302, 309, 315, 316, 409, 431, six hours of 490 or 491 as approved by the director of the program, History 360 or 361, three hours of an approved Latin American Studies course.

(5) The Spanish major consists of 30 hours. The following are required: Spanish 333, 336, 345, 422, 431 or 471, 459, three hours of 490 or 491 and any 400-level literature course.

(b) The Professional Minor:

(1) International Business students will take 24 hours. The following are required: Accounting 201, 202, and Business Administration 496. Students then choose two courses from the following General Business courses: Marketing 301, Management 301, 303, Logistics and Transportation 301, 302, Finance 301, or Business Law 301. Students choose three courses from the following International Business courses: Management 471, Marketing 440, Logistics and Transportation 441, Economics 321, Business Administration 311, Retail and Consumer Sciences 421.

(2) International Retail Merchandising students will take 26 hours. The following are required: Accounting 201, Management 301, Retail and Consumer Sciences 210, 310, 321, 410, 421, and three credit hours from the following: RCS 350, 411, 412, 415, 450 or 493.

(3) International Agricultural Economics students will complete 24 hours. The following are required: Accounting 201, Agricultural Economics 210, 320, 342, 350, 420, 430, and three credit hours from the following: Marketing 301, Management 301, Finance 301, Logistics and Transportation 301, 302.

(c) Practical experience: Through French 490, Italian 490, Portuguese 490, or Spanish 490, each Language and World Business student must undertake study abroad, an internship, or a relevant research project for a minimum of 3 hours (included in major requirements).

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

Students interested in the Language and World Business program should contact the Director for advising as early as possible in their college careers. Students must have attempted 60 hours in order to be considered for progression to the major. Their academic records presented will be assessed by the Director of Language and World Business. Minimum requirements for progression to the concentration are a 2.75 cumulative average in the courses specifically required by the College of Arts and Sciences in Basic Skills and Distribution Areas and in the Language and World Business plan of studies, and a 3.0 average in language courses. Course prerequisites for the program include: French, Spanish, Portuguese, Italian, or Japanese 199, Economics 201 (under Social Science electives), and Math 121 and Statistics 201 (under Part I of the Natural Science electives). Progression is based on availability of space in the program. Progression standards are adjusted periodically, and current requirements are available from the Director of the Language and World Business Program. For further information, inquire in the Department of Romance and Asian Languages, 601 McClung Tower.

RUSSIAN

See Germanic and Slavic Languages.

RUSSIAN AND EAST EUROPEAN STUDIES

See Interdisciplinary Programs.

SOCILOGY

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

Associate Professors:
M.L. Benson (Head) Ph.D. Illinois; S. Cable, Ph.D. Pennsylvania State; S. Dorn, Ph.D. Oxford (England); S. Kurfth, Ph.D. Illinois (Urbana); S. Ploch, Ph.D. North Carolina; N.E. Shover, Ph.D. Illinois (Urbana); S.E. Wallace, Ph.D. Minnesota.

Instructor:
D.K. Harris, M.A. Tennessee.
Major: Before applying to the Sociology Department for admission to the major a student must complete either Sociology 110 or 120 and Sociology 200 with no grade lower than a C and with a 2.5 average for the two courses. Upon granting admission to the major, the department will assign the student an academic advisor who will help the student plan a program of study for the major. The major consists of 24 upper-division hours in sociology and must include Sociology 231 and Sociology 311. Students should complete Sociology 231 and Sociology 311 by the end of their junior year.

Minor: The minor consists of 15 upper-division hours in Sociology and must include Sociology 231 and Sociology 311. Prerequisites to the minor are six lower-division hours in Sociology which must include Sociology 200.

Concentration in Criminal Justice: All prerequisites and upper-division courses required for general majors are required for this concentration. In addition, the concentration consists of 18 hours of upper-division sociology as follows: Sociology 231, Sociology 311, Sociology 350, Sociology 390, Sociology 430, Sociology 446, and one course from each of the following two categories: (1) 210, 270, or 280; (2) 300, 320, or 330. An additional 12 hours in Speech Communication courses are required, six of which must be at the 400 level, and not more than three at the 300 level. No more than three hours from Speech Communication courses 445, 491, 492, 493 may be counted toward the major. Students should inquire in the Department Office for information and recommended advisors. Students whose GPA in Speech Communication courses falls below 2.25 or whose GPA in all courses falls below 2.0 will be warned that if the next semester's grades do not improve to those minimum levels, the student will be dropped as a Speech Communication major. Students who subsequently raise the overall GPA to at least 2.0 and the GPA in Speech Communication courses to at least 2.25 may reapply for admission to the major.

Minor with Concentration in Environment and Society: Prerequisite to the minor is Sociology 110 or 120. The minor consists of Sociology 200, Sociology 311, Sociology 360 and two courses from Sociology 344, Sociology 445, Sociology 446, Sociology 447.

College Scholars Honors

Director: Dr. Harry C. Jacobson

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

Theatre

Professor: T. P. Cooke, Ph.D. Florida State; R. M. Cothran, Jr.; M. Custer, M.F.A. Wisconsin; R. C. Field, M.A. Miami (Ohio); A. J. Harris, Ed. D. Tennessee; R. R. Marshburn, Ph.D. Florida State; P. L. Soper (Emeritus), Ph.D. Cornell.


Theatre 100 is a prerequisite to a major which consists of 220, 245, 250, 260, 310, 311, 312 and 430, and 12 additional hours of Theatre courses numbered 200 and above, 3 of which may be in cognate areas approved by the Department. At least one half of the hours in the major must be at the 300 level or above. No more than 6 hours of Theatre 481, 482, 483, 484, or 485 may apply to the major. Students majoring in Theatre should elect a literature package which includes English 252 to satisfy the College's Humanities Part 1 Divisional Distribution requirement.

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

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

Urban Studies

See Interdisciplinary Programs.

Women's Studies

See Interdisciplinary Programs.

Zoology

Professor: A. C. Echternacht (Head), Ph.D. Kansas; R. M. Bagby, Ph.D. Illinois; D. L. Bunting, II, Ph.D. Oklahoma State; J. G. Carlson (Emeritus), Ph.D. Pennsylvania; T. T. Chen, Ph.D. Florida; D. A. Eltnier, Ph.D. Minnesota; M. A. Handel (Distinguished Service Professor), Ph.D. Kansas State; B. Hochman (Emeritus), Ph.D. California (Berkeley); K. W. Jeon, Ph.D. London (England); D. C. Joy (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Oxford (England); J. R. Kennedy, Ph.D. Iowa; J. N. Lites (Emeritus), Ph.D. Ohio State; J. A. MacCabe, Ph.D. California (Davis); G. F. McCracken, Ph.D. Cornell; S. L. Pimm, Ph.D. New Mexico State; S. E. Riechert (Distinguished Service Professor), Ph.D. Wisconsin; L. E. Roth, Ph.D. Chicago; C. A. Shivers, Ph.D. Michigan State; G. L. Vaughan, Ph.D. Duke; H. G. Welch (Emeritus), Ph.D. Florida; G. L. Whitson, Ph.D. Iowa.

Major: Before applying to the College of Arts and Sciences for admission to the major a student must complete either Sociology 110 or 120 and Sociology 200 with no grade lower than a C and with a 2.5 average for the two courses. Upon granting admission to the major, the department will assign the student an academic advisor who will help the student plan a program of study for the major. The major consists of 24 upper-division hours in sociology and must include Sociology 231 and Sociology 311. Students should complete Sociology 231 and Sociology 311 by the end of their junior year.

Minor: The minor consists of 15 upper-division hours in Sociology and must include Sociology 231 and Sociology 311. Prerequisites to the minor are six lower-division hours in Sociology which must include Sociology 200.

Concentration in Criminal Justice: All prerequisites and upper-division courses required for general majors are required for this concentration. In addition, the concentration consists of 18 hours of upper-division sociology as follows: Sociology 231, Sociology 311, Sociology 350, Sociology 390, Sociology 430, Sociology 446, and one course from each of the following two categories: (1) 210, 270, or 280; (2) 300, 320, or 330. An additional 12 hours in Speech Communication courses are required, six of which must be at the 400 level, and not more than three at the 300 level. No more than three hours from Speech Communication courses 445, 491, 492, 493 may be counted toward the major. Students should inquire in the Department Office for information and recommended advisors. Students whose GPA in Speech Communication courses falls below 2.25 or whose GPA in all courses falls below 2.0 will be warned that if the next semester's grades do not improve to those minimum levels, the student will be dropped as a Speech Communication major. Students who subsequently raise the overall GPA to at least 2.0 and the GPA in Speech Communication courses to at least 2.25 may reapply for admission to the major.

Minor with Concentration in Environment and Society: Prerequisite to the minor is Sociology 110 or 120. The minor consists of Sociology 200, Sociology 311, Sociology 360 and two courses from Sociology 344, Sociology 445, Sociology 446, Sociology 447.

Theatre

Professor: T. P. Cooke, Ph.D. Florida State; R. M. Cothran, Jr.; M. Custer, M.F.A. Wisconsin; R. C. Field, M.A. Miami (Ohio); A. J. Harris, Ed. D. Tennessee; R. R. Marshburn, Ph.D. Florida State; P. L. Soper (Emeritus), Ph.D. Cornell.


Theatre 100 is a prerequisite to a major which consists of 220, 245, 250, 260, 310, 311, 312 and 430, and 12 additional hours of Theatre courses numbered 200 and above, 3 of which may be in cognate areas approved by the Department. At least one half of the hours in the major must be at the 300 level or above. No more than 6 hours of Theatre 481, 482, 483, 484, or 485 may apply to the major. Students majoring in Theatre should elect a literature package which includes English 252 to satisfy the College's Humanities Part 1 Divisional Distribution requirement.

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

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

Urban Studies

See Interdisciplinary Programs.

Women's Studies

See Interdisciplinary Programs.

Zoology

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

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

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

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

**Major: Prerequisites to the major are Biology 110-120 or Zoology 117-118 and Chemistry 120-130. Corequisites are Mathematics 121-122 or 151-152 or 141-142 and a year sequence in physics (except 141-142). Physics 221-222 are recommended and are required for admission to some professional schools. The major consists of Biology 210-220-230, 18 hours of upper division Zoology courses and two semesters of chemistry or biochemistry at the 200 level or above. (Acceptable second year chemistry sequences include: Chemistry 350-360-369; Chemistry 350 and 310-319; Chemistry 350 and Nutrition 200; Chemistry 350, 431 and Biochemistry 310; Chemistry 310-319 and Biochemistry 310). All Zoology majors are required to take at least 4 hours at the 400 level, including at least one laboratory or field course. The upper division Zoology courses must include at least one course from three of the following four areas: (1) Cellular and Developmental Biology (330, 420); (2) Physiology (440, 445); (3) Animal Diversity (350, 380); and (4) Evolution and Behavior (450, 460).

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

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

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

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

C. Warren Noel, Dean
Michael J. Stahl, Associate Dean for Research and External Affairs
David A. Hake, Director, Center for Business and Economic Research
John E. Riblett, Director, Management Development Center
Monique W. Anderson, Director, Undergraduate Business Program
Scott Buechler, Director Graduate Programs

Size and breadth of program immediately distinguish the College of Business Administration at UT Knoxville from the other such programs in Tennessee and in most of the surrounding states.

Despite the size, emphasis is placed on quality at all levels. The harmonious blending of undergraduate and graduate programs, of teaching and research, and of development of technical skills on the one hand and broad concerns for individual, social and economic values on the other makes the college a vital and exciting place to study and work.

College programs are fully accredited by the American Assembly of Collegiate Schools of Business. The UT Knoxville program in business was the first in Tennessee to be so recognized and one of the first ten in the South to receive accreditation.

UNDERGRADUATE PROGRAMS

General education, a business "core," and area specialization: this trinity underlies the UT Knoxville business program. Building on a firm foundation in written and oral communications, mathematical and statistical methods, and an understanding of the methodology and accomplishments of the social, behavioral, and natural sciences, the business core seeks to expose students to the realms of financial and managerial accounting, micro- and macro-economics, and the functional fields of business. Specialization comes through intensive study in one of the nine majors offered.

The combination of breadth and depth in the undergraduate program produces graduates who are well educated in one of the professional or functional fields of business. In the preparation of graduates for roles in society, the size of the college is an important advantage. Included among the nearly 110 faculty are many generalists, but also a rich variety of those with specialized knowledge and interests. Furthermore, the comprehensive nature of the University and the combined teaching/research/service mission of the institution and the college mean that the faculty are almost certainly on the cutting edge of their disciplines.

While size and diversity can be important advantages, those advantages can be overwhelming if the personal touch is lost. In an attempt to avoid the pitfall of impersonal education, the college has in place a plan of administered enrollments, designed to assure that the numbers enrolled would not exceed the limited capacity of the college to provide a quality education. The plan calls for admission to the programs of the college in two stages: at the lower division level (freshmen and sophomores) and at the upper division level (juniors and seniors). Admission to the upper division is limited to those who have successfully completed the prescribed lower division courses, who have shown seriousness of interest and purpose, and who have records of substantial academic achievement.

A further aspect of the college which helps in the development and maintenance of "personal scale" is found in the many student organizations in the college. More than a dozen clubs and professional fraternities and sororities represent a broad spectrum of student interest and provide continuing opportunities for the development of leadership skills and involvement with small groups on an intensive basis.

Success of any academic program is both difficult to define and hard to measure. In the final analysis, the building of character is probably the most valuable product of academic. On a more mundane level, however, we take a great deal of pride in our success in placing our graduates with local, regional, and national employers, and in the record of our graduating seniors on the nationwide Business Assessment Test, administered by the Educational Testing Service, which placed UT Knoxville students well within the top twenty percent of business school seniors nationally.

UNDERGRADUATE ADVISING CENTER

The College maintains a Student Advising Center staffed with full-time academic advisors to assist all students with their programs. Students who have been admitted to a major will confer with a faculty advisor from the selected major regarding career goals and opportunities. The objective of the Advising Center is to provide students with needed academic information.

PROGRESSION STANDARDS

Admission to the College of Business Administration does not guarantee acceptance into the chosen major. Admission to the upper-division (major) is based on the availability of space in the College as a whole and in the major requested. The academic progress of those admitted to the College is evaluated periodically. Those failing to make acceptable progress toward meeting the standards for progression to the upper-division are encouraged to seek alternative educational opportunities. Progression standards are adjusted periodically and current requirements can be determined by consulting with an advisor in the Undergraduate Advising Center.

PREMAJORS

Students who enter the College of Business as freshman or sophomores must apply for a major the semester after attempting 45 hours. The academic record presented will be assessed by the Director of the Undergraduate Advising Center. The following minimum requirements must have been met in order to be considered for admission to a major:

1. Must have followed a business curriculum.
2. Must have earned a minimum 2.75 (3.0 for Accounting) average, cumulative, over the courses specifically required in the lower-division of that curriculum, excluding non-business and non-departmental electives.
3. The overall record will be evaluated for quality and seriousness of purpose. An exces-
TRANSFER FROM OTHER UT KNOXVILLE PROGRAMS

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

The following minimum requirements must have been met in order to be considered for admission to a major:

1. Must have earned a minimum 2.75 average, cumulative, over the courses specifically required in the lower-division of that curriculum (3.0 for an accounting major), excluding non-business and non-departmental electives.
2. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses or failures may result in denial of admission.
3. Progression standards are subject to change; current standards are available in the Undergraduate Advising Center, Glocker 52.

TRANSFER FROM OTHER INSTITUTIONS

1. A student shall be able to transfer from an out-of-state community college or any four year institution, and shall be admitted to the College of Business Administration, only if his/her cumulative GPA is 3.00 or higher. If this standard is not met, the student shall be denied admission to the College.
2. A student shall be able to transfer from an in-state community college, and shall be admitted to the College of Business Administration, only if his/her cumulative GPA is 2.75 or higher. If this standard is not met, the student shall be denied admission to the College.
3. If a transfer applicant to the UT College of Business is denied upon transfer, he/she may reapply for admission to the College and to a major if he/she receives a 2.75 average (3.0 for an Accounting applicant) in his/her first 12 semester hours, or first semester in residence at UT (whichever is more in hours), over the courses specifically required in the lower division of the business curriculum, excluding non-business and non-departmental electives. The success of the application will be based on the entire student record. The application must be made prior to the end of required advising during the student’s second semester at UT (for the semester following 12 hours attempted).

APPEALS

The College has established a Progression Appeals Committee to which those students who have been denied progression may address an appeal. Information on the appeals process may be obtained by calling the Undergraduate Advising Center, 974-6096, or contacting an advisor in that office.

BUSINESS MINOR FOR NON-BUSINESS STUDENTS

Students not enrolled in the College of Business who wish to obtain a minor in Business Administration must successfully complete one of the following sequences:

OPTION 1

Accounting 201, 202, Economics 201, and Statistics 201
12 hours of upper-division business electives except that no more than three upper-division hours of accounting, economics, or statistics may be used for this minor.

OPTION 2 College of Engineering Students

Accounting 201, 202, Economics 201
Three of the following: Business Law 301, Finance 301, Management 301, Marketing 301.
Two of the following: Chemical Engineering 426, Industrial Engineering 300, 301, 302, 304, 405, 406, Mechanical Engineering 553.
All upper division course work must be taken at UT Knoxville. Students are responsible for meeting listed prerequisites of any upper division courses taken. Minors in other colleges are available to College of Business Administration students.

COURSE LOAD

The normal course load for a semester is 15-18 hours. In unusual circumstances permission to take a course load in excess of this maximum may be granted by the Director of the Undergraduate Advising Center in Business Administration.

SATISFACTORY/NO CREDIT

A maximum of 20 credit hours of satisfactory/no credit (S/NC) courses may be used toward degree requirements for a Bachelor of Science in Business Administration. Such credit hours may be used to meet only the requirements identified in the curriculum as “business or non-business electives”, plus any business courses specifically designated as being available for S/NC grading.

BUSINESS CORE REQUIREMENTS

The following core courses are required in all business curricula: Economics 201, Statistics 201, Accounting 201-202, Marketing 301, Finance 301, Business Law 301, Management 203, 301, 401. Students are advised to consult the University’s degree requirements as stated in the front section of this catalog as well as the requirements for the college or department.

FOREIGN STUDY

Several opportunities for study abroad are available to students in the college. One avenue is through group programs arranged and supervised by departments of the college on a full semester or summer term. A second is through group programs conducted abroad by another academic institution to which UT Knoxville students with approval may enroll for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University’s Division of International Education. A third opportunity is through individualized programs. The nature of this work as well as credit for it should be negotiated by students prior to departure with the appropriate department. Students should register for credit under the Foreign Study number BA 491. Credit will be awarded only after completion of all agreed upon requirements.

OFF-CAMPUS STUDY

Recognizing that learning is not restricted to formal class room situations, the college provides for students to earn credit toward graduation for approved off-campus study. Such study may be undertaken only with prior approval of faculty member and the department granting credit. It may include certain kinds of work experiences, community involvements, etc. Students should register for credit under the Off-Campus Study number BA 492. Credit will be awarded only after completion of all agreed upon requirements.

INDEPENDENT STUDY

Certain educational goals may best be met through independent study done by an individual under the direction of a faculty member. Students who wish to do such independent work should obtain the approval of the faculty members and the departments concerned prior to embarking upon their study. Students should register for credit under the Independent Study number BA 493, or the appropriate number in the department. Credit will be awarded only after completion of all agreed upon requirements.

CURRICULA

Freshman and Sophomore Curricula (except Statistics)

The following courses are prerequisite to all majors in the College of Business Administration except for the Statistics major which is presented in the departmental listing.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Mathematics 141, 142 or 121, 122</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Foreign Language</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural Science</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Humanities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting 201, 202</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Statistics 201</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Oral Communications</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Management 203</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Ethics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total: 63-65 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Mathematics 141-142 are preferred because they prepare students better for applying mathematical techniques to business problems. Baccalaureate levels must complete the intermediate sequence of a foreign language. Students may either continue the Foreign Language begun in high school or start a new sequence. Courses taken at the intermediate level or at other subject and subsequent may be treated as nonbusiness electives. Students whose native language is not English may meet this requirement by passing English 131 and 132 and by passing two English language literature courses taught by the English Department at the intermediate level.

Natural Science - Any two-course sequence from those listed below: NOTE: Certain restrictions may apply to receiving credit in some of these areas. See individual course descriptions or advisor for details.

- Astronomy 161-162, or 217-218; Biology 110-112; Botany 110-120, or 116-126; Chemistry 120-130, or 128-138; Geology 131-132; Geology 101-102; Physics 131-132, or 137-138, or 151-152; Zoology 117-118.


Humanities - Six hours from courses listed below with at least three from the literature list. Literature: Asian Languages 131-133; Classics 253, 254; Comparative Literature 202, 203. English 201, 202, 221, 222, 231, 232, 233, 251, 252, 253, 281, 333, or 200-level Honors Literature Courses; Any foreign language courses whose content is literature including foreign language in English translation; Medieval Studies 261, 262; Music History 310; Religious Studies 312, 313; Women's Studies 210, 215. Other Humanities: Art 171; Classics 221, 222; Philosophy 110, 111, 120, 121, 130, 135, 290, 342, 360, 380, 382; Religious Studies 101, 102, 232, 235, 300; Women's Studies 380, 385.

Oral Communications - One course from: Speech 240, 241, 242, 243 or 344.

Social Science - Any 3 hours except that Accounting majors must complete a course in Anthropology, Psychology or Sociology. Public Administration majors must complete either Political Science 101 or 107; Anthropology 110, 120, 130, 330; Geography 101, 102, 141, 320, 323; Political Science 101, 102, 107; Psychology 110, 117, 220, 310, 320, 380, 395; Sociology 110, 120, 200, 310, 346, 370, 415, 459.

ACCOUNTING AND BUSINESS LAW

Professors:
- K.G. Stanga (Head and Arthur Andersen Professor of Accounting), Ph.D. Louisiana State, CPA; N.E. Dittrich (Emeritus), Ph.D. Ohio State, CPA; B.D. Fisher, L.L.M. George Washington; H.C. Herring, III, Ph.D. Alabama, CPA; J.E. Kiger (Warran L. Slagle Professor of Accounting), Ph.D. Missouri, CPA; W.H. Read (Emeritus), MBA Northwestern, CPA; J.M. Reeves, Ph.D. Oklahoma State, CPA; H.P. Roth, Ph.D. Virginia Polytechnic Institute, CPA, CMA; J.R. Williams (Ernst & Young Professor), Ph.D. Arkansas, CPA.

Associate Professors:
- K.E. Anderson, Ph.D. Indiana, CPA; C.D. Izard, Ph.D. Mississippi, CPA; C.S. Massingale, MBA, Tennessee, J.D.; I.A. Posey, M.S. Tennessee, CPA, CMA; W.L. Slagle (Emeritus), M.S. Tennessee, CPA; R.L. Townsend, Ph.D. Texas, CPA.

Assistant Professors:
- J.V. Carcello, Ph.D., Georgia State, CPA, CMA, CIA; A.W. Galan, Ph.D., Virginia Polytechnic Institute; K.B. Hethco, Ph.D. Oklahoma; M.C. Letsinger (Emeritus), M.S. Tennessee, CPA; D.P. Murphy, Ph.D. North Carolina, CPA.

Distinguished Lecturer:
- S.B. Wolfe (Emeritus), B.S. Virginia Polytechnic.

Lecturer:

The undergraduate program is designed to provide a basic educational experience for students interested in accounting. The first two years emphasize general education, while the last two emphasize business education and general accounting education.

Most major accounting organizations and the faculty of the Department of Accounting and Business Law endorse postbaccalaureate education for those who aspire to leadership positions in professional accounting. Beginning in 1993, the State of Tennessee required a minimum of 150 semester hours of education to sit for the CPA exam. Other professional certification programs in accounting, such as Certified Management Accountant, Certified Information Systems Auditor, and Certified Internal Auditor, also endorse postbaccalaureate education.

A graduate program, comprised of 30 semester hours and leading to a degree of Master of Accountancy, is available to qualified graduates of baccalaureate programs. The general requirements for the Master of Accountancy degree are summarized in the Graduate Catalog.

Hours Credit

Junior
- Marketing 301 3
- Finance 301 3
- Electives 3

Management 301 3
- Accounting 321 3
- Electives 3

Political Science 101, 102 or 107 3
- Written Communications 3

Senior
- Management 401 3
- Accounting 411, 431 6
- Business Law 301 3
- Economics 311 or 310 3
- International Business 3
- Arts Elective 3

Total: 125 hours

Written Communications - One course from: English 263, 285, 355, 455, 461.

International Business - The international course requirement may be satisfied by taking either Business Administration 311 or 491, or an international course in a concentration such as Management 471, Logistics and Transportation 441, or Economics 321.

Arts - One course from the courses listed below: Art 172, 173, 183, 191; Classics 232, 233; English 263; Music 100, 110, 120, 130; Speech 280, 380; Theatre 100, 220, 221, 260; Women's Studies 330.

ECONOMICS

Professors:
- W.F. Fox (Head), Ph.D. Ohio State; R.A. Bohm, Ph.D. Pennsylvania; R.L. Bowby, Ph.D. Texas; S.L. Carroll, Ph.D. Harvard; H.S. Chang, Ph.D. Vanderbilt; D.P. Clark, Ph.D. Michigan State; W.E. Cole, Ph.D. Texas; P. Davidson (J. Fred Holly Professor of Political Economy), Ph.D. Pennsylvania; G.R. Feiwell (Emeritus), Ph.D. McGill; C.B. Garrison, Ph.D. Kentucky; H.W. Herzog, Jr., Ph.D. Maryland; H.E. Jensen (Emeritus), Ph.D. Texas; F.Y. Lee, Ph.D. Michigan State; A. Mayhew, Ph.D. Texas; J.R. Moore (Emeritus, Alumni Distinguished Service Professor), Ph.D. Cornell; W.C. Neale (Emeritus), Ph.D. London School of Economics; K.E. Quindry (Emeritus), Ph.D. Kentucky; M. Russell, Ph.D. Oklahoma; A.M. Schlottmann, Ph.D. Washington (St. Louis); G.A. Spiva, Jr. (Emeritus), Ph.D. Texas.

Associate Professors:
- J.A. Gauger, Ph.D. Iowa State, E. Clouff, Ph.D. Stanford; J.R. Kahn, Ph.D. Maryland; J.W. Mayo, Ph.D. Washington (Seattle); M.N. Murray, Ph.D. Syracuse; K.E. Phillips, Ph.D. Washington (Seattle).

Assistant Professors:
- A.F. Farmer, Ph.D. Duke; J. Rubin, Ph.D. University of California (Davis).

The first two years of general education and the last two which emphasize business education and a choice of courses in Economics prepare students for a wide variety of jobs, for postgraduate studies or in an MBA program.

Departmental advisors will assist students in selecting appropriate elective courses. Majors in Economics who wish to pursue graduate work in Economics or to seek work in the public sector should consult departmental faculty early in their careers for program advice.
### FINANCE

**Professors:**
- H.A. Black (Head and James F. Smith)
- P.D. DeGennaro, Ph.D.
- W.W. Wachowicz, Jr., Ph.D.
- J.W. Wansley (Clayton Chair of Excellence), Ph.D.

**Associate Professors:**
- L.A. Axtor, Ph.D.
- P.R. Daves, Ph.D.
- R.P. DeGennaro, Ph.D.
- M.C. Ehrhardt, Ph.D.

**Assistant Professors:**
- M.C. Collins, Ph.D.
- D. Gunthorpe, Ph.D.
- M.B. Stem, Ph.D.

Students may direct their studies in finance toward one of several functional areas: corporate financial management, financial markets and institutions, insurance and financial planning, investment management, and real estate finance and investment analysis. Students who wish to know more about specific career options should consult a faculty member who teaches in that particular area.

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Marketing 301</td>
</tr>
<tr>
<td>3</td>
<td>Finance 301</td>
</tr>
<tr>
<td>3</td>
<td>Management 301</td>
</tr>
<tr>
<td>3</td>
<td>Electives</td>
</tr>
<tr>
<td>3</td>
<td>Business Law 301</td>
</tr>
<tr>
<td>3</td>
<td>Accounting 311 or Statistics 302</td>
</tr>
<tr>
<td>3</td>
<td>Economics 311 or 313</td>
</tr>
<tr>
<td>3</td>
<td>Finance Elective</td>
</tr>
<tr>
<td>3</td>
<td>Social Science</td>
</tr>
<tr>
<td>3</td>
<td>Written Communications</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Management 401</td>
</tr>
<tr>
<td>12</td>
<td>Finance Elective</td>
</tr>
<tr>
<td>3</td>
<td>International Business</td>
</tr>
<tr>
<td>3</td>
<td>Arts Elective</td>
</tr>
<tr>
<td>6 or 11</td>
<td>Electives</td>
</tr>
</tbody>
</table>

Total: 125 hours

### MANAGEMENT

**Professors:**
- R.W. Boling (Emeritus), Ph.D.
- H.D. Dewhirst, Ph.D.
- G.H. Dobkins, Ph.D.
- P.D. Virginia Polytechnic
- L.R. James, Ph.D.
- A.H. Kealy (Emeritus), M.B.A.
- J.M. Larson, Jr. (Emeritus), Ph.D.
- C.W. Neel (Emeritus), Ph.D.
- D. Reese (Emeritus), Ph.D.
- M.C. Rush (Chair)
- S.C. Vance, William B. Stokely Professor of Management (Emeritus), Ph.D.
- G.A. Wagoner (Emeritus), M.S.
- G.H. Whitlock (Emeritus and Alumni Distinguished Service Professor), Ph.D.

**Associate Professors:**
- O.S. Fowler (Head), Management Science
- G.E. Fryxell, Ph.D.
- K.C. Gilbert (Chair, Management Science Program), Ph.D.
- R.T. Ladd, Ph.D.
- R.C. Maddox, Ph.D.
- A. Miller, Ph.D.
- C. Noon (Management Science), Ph.D.
- J.E.A. Russell, Ph.D.
- M.M. Srinivasan (Management Science), Ph.D.

**Assistant Professors:**
- M.R. Bowers (Management Science), Ph.D.
- I.J. Clelland, Ph.D.
- M. R. Bowers, Ph.D.
- C.P. Edirisinghe (Management Science), Ph.D.

**Electives**

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Marketing 301</td>
</tr>
<tr>
<td>3</td>
<td>Finance 301</td>
</tr>
<tr>
<td>3</td>
<td>Management 301</td>
</tr>
<tr>
<td>3</td>
<td>Electives</td>
</tr>
<tr>
<td>3</td>
<td>Business Law 301</td>
</tr>
<tr>
<td>3</td>
<td>Accounting 311 or Statistics 302</td>
</tr>
<tr>
<td>3</td>
<td>Economics 311 or 313</td>
</tr>
<tr>
<td>3</td>
<td>Finance Elective</td>
</tr>
<tr>
<td>3</td>
<td>Social Science</td>
</tr>
<tr>
<td>3</td>
<td>Written Communications</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Management 401</td>
</tr>
<tr>
<td>12</td>
<td>Finance Elective</td>
</tr>
<tr>
<td>3</td>
<td>International Business</td>
</tr>
<tr>
<td>3</td>
<td>Arts Elective</td>
</tr>
<tr>
<td>6 or 11</td>
<td>Electives</td>
</tr>
</tbody>
</table>

Total: 125 hours

### GENERAL BUSINESS

Students who complete this major are generalists in business administration. The General Business major permits students the greatest flexibility of college majors in selecting courses beyond the core of business courses.

### MANAGEMENT SCIENCE PROGRAMS

**Associate Professors:**
- K.C. Gilbert, Ph.D.
- C.E. Noon (Chairperson, Management Science), Ph.D.
- M.M. Srinivasan, Ph.D.

**Assistant Professors:**
- M.R. Bowers, Ph.D.
- C.P. Edirisinghe, Ph.D.
MARKETING, LOGISTICS, AND TRANSPORTATION

LOGISTICS AND TRANSPORTATION

Professors:

Associate Professor:
J.H. Fogg, Ph.D. Indiana.

Assistant Professor:
M.C. Holoom, Ph.D. Tennessee.

Defined as "the management of product and information flows from original source to final consumer," logistics represents a key bundle of resources which can create value for the customers. Effective management in areas such as warehousing, transportation, inventory, packaging, and information flow can be essential ingredients of customer satisfaction.

Even though the transportation industry has changed dramatically in recent years, the University of Tennessee's continuing reputation for excellence in this area is widely known. Graduates are attracted to a variety of entry-level positions in this exciting industry.

The internationally recognized logistics and transportation program at the University of Tennessee, Knoxville is one of the most comprehensive and contemporary programs in the nation. Many UT Knoxville graduates have advanced to executive levels in industrial and carrier businesses. With the integration of progressive information technology into the academic program, the graduates of UT's program in Logistics and Transportation readily meet the challenges of today's changing business environment.

PUBLIC ADMINISTRATION

The program in public administration is a joint effort sponsored by the Departments of Economics and Political Science. It is designed for students interested in public management, the formation of public policy or the interface between the public and private sectors. The program combines general education in business principles with specific courses dealing with the operation of government. In consultation with an advisor, students are encouraged to select electives in a manner that focuses their expertise.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Management 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Logistics and Transportation 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Arts Elective</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Written Communications</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Logistics and Transportation (401, 481)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>(402, 462)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Logistics and Transportation Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*International Business</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Social Science - One course from the courses listed below: Anthropology 110, 120, 130, 320; Geography 101, 102, 141, 320, 323; Political Science 101, 102, 107; Psychology 110, 117, 220, 310, 320, 380, 386; Sociology 110, 120, 200, 310, 348, 370, 415, 459.</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Management 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Management 203</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Business Law 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Logistics and Transportation 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total: 125 hours</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>301 is a prerequisite for all subsequent courses in Marketing. In addition, the remainder of the marketing courses have as a minimal prerequisite Accounting 201-202, Economics 301, and Stat 201 as required by the College of Business Administration.</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Marketing Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Economics or Political Science Electives</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>*Written Communications</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total: 125 hours</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>301 is a prerequisite for all subsequent courses in Marketing. In addition, the remainder of the marketing courses have as a minimal prerequisite Accounting 201-202, Economics 301, and Stat 201 as required by the College of Business Administration.</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Marketing Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Economics or Political Science Electives</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>*Written Communications</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total: 125 hours</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>301 is a prerequisite for all subsequent courses in Marketing. In addition, the remainder of the marketing courses have as a minimal prerequisite Accounting 201-202, Economics 301, and Stat 201 as required by the College of Business Administration.</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Marketing Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Economics or Political Science Electives</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>*Written Communications</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total: 125 hours</td>
<td></td>
<td>125</td>
</tr>
<tr>
<td>301 is a prerequisite for all subsequent courses in Marketing. In addition, the remainder of the marketing courses have as a minimal prerequisite Accounting 201-202, Economics 301, and Stat 201 as required by the College of Business Administration.</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Marketing Electives</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Economics or Political Science Electives</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>*Written Communications</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total: 125 hours</td>
<td></td>
<td>125</td>
</tr>
</tbody>
</table>
107; Psychology 110, 117, 220, 310, 320, 360, 395; Sociology 110, 120, 200, 310, 346, 370, 415, 459.

*International Business - The international course requirement may be satisfied by taking either Business Administration 311 or 491 or an international course in a concentration area such as Management 471, Logistics and Transportation 441, or Economics 321.

*Arts - One course from the courses listed below: Art 172, 173, 183, 191; Classics 232, 293; English 263; History 100, 110, 120, 130; Speech 280, 380, 385; Theatre 100, 220, 221, 260; Women's Studies 330.

**STATISTICS**

Professors:
William C. Parr (Head), Ph.D. Southern Methodist; Robert A. McLean (Emeritus), Ph.D. Purdue; John W. Philpott, Ph.D. Virginia Polytechnic; Richard D. Sanders, Ph.D. Texas; David L. Silveque, Ph.D. Stanford; Charles C. Thigpen (Emeritus), Ph.D. Virginia Polytechnic.

Associate Professors:
H. Bozdogan, Ph.D. Illinois; Esteban Walker, Ph.D. Virginia Polytechnic; Frank M. Guess, Ph.D. Florida State; Mary G. Leitman, Ph.D. Kentucky; Ramen V. Leon, Ph.D. Florida State; Dennis D. Lin, Ph.D. Wisconsin; Robert W. Mee, Ph.D. Iowa State; Mary Sue Younger, Ph.D. Virginia Polytechnic.

Instructors:
Sharon Neidert, M.S. Miami, Ohio; Charles M. Cwik, M.S. Tennessee; S. Paul Wright, M.S. Tennessee.

Lecturer:
James L. Schmidhammer, Ph.D. Pittsburgh.

Adjunct:
Darryl J. Downing, Ph.D. Florida; Stephen A. McGuire, Ph.D. Kansas State; Gipsie B. Ranney, Ph.D. North Carolina State; William L. Sanders, Ph.D. Tennessee; Tommy Wright, Ph.D. Ohio State.

**Instructor:** Sharon Donnelly, M.S. Tennessee.

The statistics major is designed for students interested in the application of statistics in business, government, and industry. All majors complete a set of courses designed to provide a general understanding of statistical methodology and also complete one of the two concentrations: Statistics - designed for students interested in positions involving quantitative research as well as for those interested in pursuing a graduate degree in statistics; or, Industrial Statistics - designed for students interested in process control and quality management in business, industry, and government.

**Electives**

- Mathematics 251: 3
- Ethics: 3
- Junior: 3
- Humanities: 6
- Marketing 301: 6
- Management 301: 6
- Social Science: 3
- Finance 301: 3
- Economics 311 or 313 or Logistics and Transportation 301: 3
- Written Communications: 3
- Total: 125 hours

**STAFF**

D.A. Hake (Director), Research Professor, Ph.D. Tennessee
K.E. Quinard (Emeritus), Professor, Ph.D. Kentucky
W.F. Fox, Associate Director, Research Professor, Ph.D. Ohio State
J.W. Mayo, Research Associate Professor, Ph.D. Washington (St. Louis)
D.M. Mandy, Research Assistant Professor, Ph.D. Illinois (Urbana)
M.N. Murray, Research Assistant Professor, Ph.D. Syracuse
M.J. Cornelius, Research Associate, M.S. Tennessee
P.M. Gilmore, Research Associate, B.A. Tennessee
P.J. Snodgrass, Research Associate, B.S. Tusculum College
J.A. Price, Research Associate, B.S. Tennessee
B.B. Vickers, Research Assistant, B.A. Mary Washington
V.C. Cunningham, Research Assistant, B.A. Tennessee
M.A. Kirby, Research Assistant, B.S. Texas
J.P. McDonald, Managing Editor, B.A. William & Mary
J.M. Snedeker, Associate Editor, B.A. Tennessee
S.J. Knuckles, Assistant to the Director, Associate in Business

**CENTER FOR BUSINESS AND ECONOMIC RESEARCH**

**STAFF**

D.A. Hake (Director), Research Professor, Ph.D. Tennessee
K.E. Quinard (Emeritus), Professor, Ph.D. Kentucky
W.F. Fox, Associate Director, Research Professor, Ph.D. Ohio State
J.W. Mayo, Research Associate Professor, Ph.D. Washington (St. Louis)
D.M. Mandy, Research Assistant Professor, Ph.D. Illinois (Urbana)
M.N. Murray, Research Assistant Professor, Ph.D. Syracuse
M.J. Cornelius, Research Associate, M.S. Tennessee
P.M. Gilmore, Research Associate, B.A. Tennessee
P.J. Snodgrass, Research Associate, B.S. Tusculum College
J.A. Price, Research Associate, B.S. Tennessee
B.B. Vickers, Research Assistant, B.A. Mary Washington
V.C. Cunningham, Research Assistant, B.A. Tennessee
M.A. Kirby, Research Assistant, B.S. Texas
J.P. McDonald, Managing Editor, B.A. William & Mary
J.M. Snedeker, Associate Editor, B.A. Tennessee
S.J. Knuckles, Assistant to the Director, Associate in Business

Management 471, Logistics and Transportation 441, or Economics 321.

*Arts - One course from the courses listed below: Art 172, 173, 183, 191; Classics 232, 293; English 263; History 100, 110, 120, 130; Speech 280, 380, 385; Theatre 100, 220, 221, 260; Women's Studies 330.
Communications media are a vital force in today's complex society. As a result, programs in the College of Communications acquaint students with the communications process and prepare them for professional work in many fields.

The College includes the School of Journalism and the Departments of Advertising and Broadcasting. The three academic divisions have a common core curriculum. This permits specialization at the junior and senior level.

The advertising, broadcasting, news-editorial, public relations and master's programs are accredited by the Accrediting Council on Education in Journalism and Mass Communications.

An exchange program with Central Netherlands Polytechnic, Utrecht, offers students a European Semester called "Europe in the World." Tennessee students study in European journalism in the Netherlands, but maintain their enrollment at UTK and pay only room, board and transportation costs.

The College is a member of the Association of Schools of Journalism and Mass Communication and of the Broadcast Education Association.

Requirements for All Curricula

Core Courses
All students in the College take the following core courses:
- Communications 100 - Introduction to Mass Communications
- Communications 200 - Writing for Mass Communications
- Communications 300 - Mass Communications Research Methods
- Advertising 340 - Advertising Research Methods
- Communications 400 - Mass Communications Law and Ethics

Satisfactory/No Credit Option
This option applies only to general elective courses. No course that is a part of the specific requirements of the College of Communications or a student's major department can be taken under this option. For example, social science, humanities and speech electives required by the various departments cannot be taken as S/NC.

Courses evaluated as "satisfactory" will count as hours toward graduation but not for calculating the grade point average. A student who wishes to take a S/NC course must indicate this at the time of registration. Under no circumstances may a student change from S/NC to regular credit or from regular credit to S/NC after the deadline for adding courses.

Minors
Minors are offered in Broadcasting and Journalism.

A minor in Broadcasting consists of 18 hours as follows: Communications 100, 200, Broadcasting 275 and Broadcasting electives (any three courses).

A minor in Journalism consists of 18 hours from the following: Communications 200, 400, plus 12 hours in journalism approved by the School of Journalism minor advisor.

Requirements for Graduation
The Bachelor of Science in Communications is awarded to majors who complete a program of 128 hours prescribed under departmental requirements listed below. At least 60 of those hours must be taken in courses other than the major or related communications fields. At least 18 of the hours in the major must be taken at The University of Tennessee, Knoxville. Normally no more than 14 transfer credits in the major will be applied to the 128 hours.

Progression Requirements
Entering freshmen and transfer students are first associated with the college as Pre-Majors. They may progress to a major in the School of Journalism or the Departments of Advertising or Broadcasting after the completion of at least 30 hours of prescribed course work with a 2.3 cumulative GPA.

Until they progress to a major, students may not enroll in courses in the College numbered 300 or above without approval.

Students who do not progress to a major by the time they have accumulated 60 credit hours will be dismissed from the College. Students must achieve a cumulative grade point average of at least 2.0 in all College of Communications courses used to fulfill graduation requirements.

During their last 32 hours prior to graduation, all students must have been accepted as majors in the College.

Transfer Students
Students from other colleges within the University are eligible to progress to a major in the College of Communications as soon as they complete at least 30 hours of prescribed coursework with a 2.3 cumulative GPA and complete Communications 100 Introduction to Mass Communications and make application to the appropriate Department or School.