Graduate programs leading to the Master of Science and Doctor of Philosophy with a major in biosystems engineering are available to graduates of a recognized curriculum in engineering, mathematics, or one of the physical or biological sciences. A graduate program leading to the Master of Science in biosystems engineering technology is available to graduates in a recognized curriculum in agriculture or other related fields. These programs emphasize the application of engineering and engineering technology to agricultural and other biological systems. Major focus areas of the program are machinery systems; environmental quality and resource conservation; instrumentation, sensor, and control systems; and bioprocessing. Prerequisite courses may be required depending upon the applicant’s academic background and interest area within the program.

A graduate program leading to a Master of Science with a major in environmental and soil sciences is offered to graduates of recognized curricula in physical or biological sciences. The department also participates in the plants, soils, and insects Doctor of Philosophy program which is administered jointly by the departments of Biosystems Engineering and Environmental Science, Plant Sciences, and Entomology and Plant Pathology. For concentrations offered by these other departments, please see their sections in this catalog. Faculty in the Biosystems Engineering and Environmental Science Department administer the environmental and soil sciences master’s program and the environmental and soil sciences concentration in the plant, soils, and insects Doctor of Philosophy program. The master’s and doctoral programs are broad-based, emphasizing the application of chemical, biological, and physical principles to understand, manage, and manipulate the terrestrial environment. Within the concentration students may select an agricultural or non-agricultural focus area in soil and water chemistry; nutrient and elemental cycling; land management and reclamation; pedology; climatology; soil biology and biochemistry; contaminant transport; and soil physical processes.

A significant aspect of graduate education beyond formal courses and thesis projects is active participation in the professional community which exists within academic departments at universities. Student/faculty seminars are one of the professionally rewarding activities of the community. Accordingly, all graduate students are encouraged to participate in Biosystems Engineering 503 and other departmental seminars regardless of whether they are registered for seminar credit.

### ADMISSION

A completed departmental data sheet and three completed Graduate Rating Forms are required in addition to the Application for Graduate Admission. Students must submit scores from the Graduate Record Examination. Each applicant will be advised about any prerequisite courses before entering a program. The student’s program of study must be approved by his/her advisory committee and must comply with the requirements of the Graduate Council.

### MASTER OF SCIENCE

#### Biosystems Engineering Major

**REQUIREMENTS**

Applicants accepted into the program must complete at least 30 hours to earn a degree. Of these 30 hours, 20 must be in courses numbered 500 or greater (six hours of thesis plus 14 hours of other courses). Biosystems Engineering 503 Seminar (1) must be taken three times during the course of the program, the last of which must be in the student’s final semester before graduation. Other specific requirements for the 30 hours are:

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering 503 (3 times 1 hr), 519, 543, and other major subject coursework</td>
</tr>
<tr>
<td>Coursework in computational methods</td>
</tr>
<tr>
<td>Program Electives</td>
</tr>
<tr>
<td>Thesis 500</td>
</tr>
</tbody>
</table>

Total 30

1 Mathematics, computer science, statistics, or any course containing appropriate computational components that may be approved by the department.

In addition to completing the 30 hours, master’s students must pass a final oral examination covering the thesis, related areas, and graduate coursework.

#### Biosystems Engineering Technology Major

**REQUIREMENTS**

**Thesis Option**

Applicants accepted into the program must complete at least 30 hours to earn a degree. Of these 30 hours, 20 must be in courses numbered 500 or greater (six hours of thesis plus 14 hours of other courses). Biosystems Engineering Technology 503 Seminar (1) must be taken three times during the course of the program, the last of which must be in the student’s final semester before graduation. Other specific requirements for the 30 hours are:

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering Technology</td>
</tr>
<tr>
<td>Coursework in computational methods</td>
</tr>
<tr>
<td>Program electives</td>
</tr>
<tr>
<td>Thesis 500</td>
</tr>
</tbody>
</table>

Total 30

1 Mathematics, computer science, statistics, or any course containing appropriate computational components that may be approved by the department.
In addition to completing the 30 hours, master’s students must pass a final oral examination covering the thesis, related areas, and graduate coursework.

**Non-Thesis Option**

A non-thesis option in Biosystems Engineering Technology is available to qualified students. Applicants accepted into the program must complete at least 33 hours to earn a degree. Of these 33 hours, 20 must be in courses numbered greater than 500. Biosystems Engineering Technology 503 Seminar (1) must be taken three times during the course of the program, the last of which must be in the student’s final semester before graduation. Other specific requirements for the 33 hours are:

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biosystems Engineering Technology 503 (3 times 1 hour), 506, and other major subject coursework</td>
</tr>
<tr>
<td>Coursework in computational methods</td>
</tr>
<tr>
<td>Program electives</td>
</tr>
<tr>
<td>Coursework in special emphasis area</td>
</tr>
<tr>
<td>Capstone Experience (project and report, typically 508)</td>
</tr>
<tr>
<td><strong>Total 33</strong></td>
</tr>
</tbody>
</table>

• Mathematics, computer science, statistics, or any course containing appropriate computational components that may be approved by the department

In addition to completing the 33 hours, non-thesis students must pass a comprehensive written final examination covering the graduate program, including the capstone experience. At the discretion of the candidate’s committee, an oral examination may also be required.

**MASTER OF SCIENCE**

**Environmental and Soil Sciences Major**

Students seeking a Master of Science degree with a major in environmental and soil sciences will generally concentrate their studies in one of the environmental and soil sciences focus areas. The focus areas include: soil and water chemistry; nutrient and elemental cycling; land management and reclamation; pedology, genesis, and classification; environmental climatology; soil biology and biochemistry; and soil physical processes. Both thesis and non-thesis options are available. Please see the environmental and soil sciences master’s concentration homepage for additional information: http://bioengr.ag.utk.edu/graduate/, or contact the environmental and soil sciences program’s graduate liaison.

**ADMISSION**

Applicants having bachelor’s degrees in fields that are related or unrelated to environmental and soil sciences may apply, although acceptance may be contingent upon the completion of prerequisite course work. Submit application, official transcripts, scores from the general portion of the Graduate Record Examination, and fee to the Graduate Admissions Office. In your application, indicate that you are applying to the environmental and soil sciences Master of Science program. Submit curriculum vitae, three letters of reference (or three Graduate Rating Forms), and a short statement of professional goals and reasons for applying to: Environmental and Soil Sciences’ Master’s Program Coordinator, Biosystems Engineering and Environmental Science Department, The University of Tennessee, 2506 E.J. Chapman Drive, Knoxville, Tennessee 37996-4531.

**REQUIREMENTS**

**Thesis Option**

To obtain a Master of Science degree, the student must meet the following requirements, in addition to those of the Graduate Council (as specified in the Master’s Degree section at the front of this catalog).

• Upon consultation with the department head, the student will be assigned a major professor who acts as chair of the student’s advisory committee. The student and the major professor will assemble a graduate advisory committee consisting of the major professor and a minimum of two additional faculty, each holding the rank of assistant professor or above. At least one-half of the committee members must hold teaching appointments. The advisory committee must be formalized by the end of the second semester of graduate study.

• Develop and submit an approved program of study by the end of the second semester of graduate study. A minimum of 24 hours of graduate coursework is required in the program of study, exclusive of six hours of 500 Thesis. The program of study is subject to the approval of the student’s advisory committee, and must meet the following requirements.

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>503 Seminar</td>
</tr>
<tr>
<td>Courses numbered above 503</td>
</tr>
<tr>
<td>Courses within the major (excluding courses numbered 503 and below)</td>
</tr>
<tr>
<td>500 Thesis</td>
</tr>
<tr>
<td><strong>Total 30</strong></td>
</tr>
</tbody>
</table>

1Courses that are in the major include those in environmental and soil sciences. In addition, Geology 510 and Environmental Engineering 535 are in the major. The student’s committee may require additional coursework beyond the 24 hours if the student’s progress or background indicates a need or deficiency.

• Develop a research problem and presentation by means of a written proposal to the student’s committee. This must be completed during the first two semesters of graduate study and before enrollment in 500.

• Pass a final oral exam that integrates the student’s thesis and coursework, administered by the advisory committee. The student is expected to be conversant in the soil and environmental sciences, particularly in the thesis and allied areas.

• Environmental and Soil Sciences 503 Seminar (1) must be taken three times during the course of the program, the last of which must be in the student’s final semester before graduation.

A student who has started a degree program under the thesis option is not eligible to transfer to the non-thesis option after the end of the first semester of graduate study or after receiving a graduate assistantship stipend for more than one semester.

**Non-Thesis Option**

A student desiring the non-thesis option must declare this intention before the beginning of the second semester of study. The student must meet the following requirements, in addition to those of the Graduate Council (as specified in the Master’s Degrees section at the front of this catalog).

• Upon consultation with the department head, the student will be assigned a major professor who acts as chair of the student’s advisory committee. The student and the major professor will assemble a graduate advisory
committee consisting of the major professor and a minimum of two additional faculty, each holding the rank of assistant professor or above. At least one-half of the committee members must hold teaching appointments. The advisory committee must be formalized by the end of the second semester of graduate study.

- Develop and submit an approved program of study by the end of the second semester of graduate study. A minimum of 33 hours of graduate coursework is required in the program of study. The program of study is subject to the approval of the student’s advisory committee, and must meet the following requirements.

### Hours Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>503 Seminar</td>
<td>3</td>
</tr>
<tr>
<td>593 Special Problems in Environmental and Soil Sciences</td>
<td>3</td>
</tr>
<tr>
<td>Courses numbered above 503 (exclusive of 593)</td>
<td>18</td>
</tr>
<tr>
<td>Courses within the major (excluding 500 and 502)</td>
<td>12</td>
</tr>
</tbody>
</table>

Courses that are in the major include those in environmental and soil sciences. In addition, Geology 510 and Environmental Engineering 535 are in the major. The student’s committee may require additional course work beyond the 33 hours if the student’s progress or background indicates a need or deficiency.

- In lieu of a thesis, students are required to complete three hours of 593 by participating in a single research program for a period of 12 weeks. The advisory committee approves the research problem. Satisfactory completion of this requirement requires a written, original research report that is acceptable to the student’s committee.
- Pass a comprehensive written examination that integrates the student’s course work and research problem. The exam is developed and administered by the advisory committee.
- Environmental and Soil Sciences 503 Seminar (1) must be taken three times during the course of the program, the last of which must be in the student’s final semester before graduation.

A student who has started a degree program under the non-thesis option may transfer to the thesis option upon approval of a potential major professor and the department head.

### DOCTOR OF PHILOSOPHY

**Plants, Soils, and Insects Major - Environmental and Soil Sciences Concentration**

A doctorate with a major in plants, soils, and insects, with a concentration in environmental and soil sciences, is offered under a multi-departmental doctoral program. Three departments participate: Plant Sciences, Entomology and Plant Pathology, and the soils faculty in Biosystems Engineering and Environmental Sciences. Other concentrations within the Plants, Soils, and Insects doctoral program include horticulture, crop sciences, weed biology, plant improvement, entomology, plant pathology, integrated pest management and plant bioactive compounds. Focus areas in the environmental and soil sciences concentration include soil and water chemistry; nutrient management; pedology, genesis and classification; environmental climatology; soil biology and biochemistry; and soil physical processes. Please see the environmental and soil sciences doctoral concentration home page for additional information, http://bioengr.ag.utk.edu/graduate/, or contact a faculty member in the area of interest.

### ADMISSION

Submit application, fee, official transcripts, and scores from the general portion of the Graduate Record Examination to the Graduate Admissions Office. In your application, indicate that you are applying to the plants, soils, and insects doctoral program. Submit resume, three letters of reference (or three Graduate Rating Forms), photocopy of Graduate Record Examination scores and a short statement of professional goals and reasons for applying to: Environmental and Soil Sciences Doctor of Philosophy Program Coordinator, Biosystems Engineering and Environmental Sciences Department, The University of Tennessee, Knoxville, 2506 E.J. Chapman Drive, Knoxville, Tennessee 37996-4531. In your statement letter and application, please indicate your interest in the environmental and soil sciences concentration.

### REQUIREMENTS

To obtain the doctorate, the student must meet the following requirements.

- The student and the major professor will select a minimum of three additional faculty, holding the rank of assistant professor or above, to serve on the student’s doctoral committee. The major professor and two committee members must be approved to direct doctoral research by the Graduate Council, and at least half of the committee must hold teaching appointments. At least one member of the committee must be from outside the department. The doctoral committee must be formalized by the end of the second semester of graduate study.
- Submission of an approved program of study by the end of the second semester of graduate study. A candidate for the doctoral degree must complete a minimum of 24 hours of graduate coursework numbered 503 or higher beyond the master’s degree. Candidates not having a master’s degree must complete a minimum of 48 hours of graduate coursework beyond the baccalaureate degree, 24 hours of which must be numbered 503 or higher. A minimum of 12 of the 24 hours, or 30 of the 48 hours, must be graded A-F. At least nine hours of the student’s coursework must be from outside the Plants, Soils, and Insects major, and a minimum of six hours must be taken in University of Tennessee, Knoxville, courses numbered 601 or higher. In addition, 24 hours of course 600 Doctoral Research and Dissertation are required.
- Satisfactory preparation of a written dissertation proposal and its oral defense to the student’s committee. This must be completed during the first two semesters of graduate study and before enrollment in 600.
- Passing both written and oral sections of the comprehensive examination. The candidate will be tested on his/her knowledge of the proposed dissertation and related fields. The student is expected to be conversant in the wide area of soil and environmental sciences.
- Environmental and Soil Sciences 603 Seminar (1) must be taken three times during the course of the program, the last of which must be in the student’s final semester before graduation.
- Satisfactory preparation of a written dissertation and its oral defense to the student’s doctoral committee.

Please see the Degree Program Requirements/Doctoral Degrees section at the front of this catalog for additional information.
DOCTOR OF PHILOSOPHY
Biosystems Engineering

ADMISSION

Students applying for admission into the doctoral program must submit evidence of ability to perform and report independent research to the satisfaction of the faculty of the department. An approved master’s thesis will usually be acceptable for this purpose.

REQUIREMENTS

To earn a degree, each doctoral student must complete at least 75 hours of approved graduate credit (beyond the baccalaureate degree) in biosystems engineering and supporting areas (engineering, computational methods, agricultural and biological sciences, and other related areas). Of the 75 hours, 48 must be in courses numbered greater than 500 (including 24 hours of course 600) and six hours of courses at the University of Tennessee, Knoxville, numbered greater than 600. Other specific requirements for the minimum 75 hours are

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Biosystems Engineering 619 and other major subject courses</td>
</tr>
<tr>
<td>9</td>
<td>Coursework in computational methods</td>
</tr>
<tr>
<td>21</td>
<td>Program electives</td>
</tr>
<tr>
<td>3</td>
<td>Biosystems Engineering 603 Seminar (1)</td>
</tr>
<tr>
<td>24</td>
<td>600 Dissertation</td>
</tr>
</tbody>
</table>

Total 75

1Mathematics, computer science, statistics, or any course containing appropriate computational components that may be approved by the department.
2Must be taken three times during the course of the program, the last of which must be in the student’s final semester before graduation.

In addition to completing the minimum 75 hours of graduate credit required for a degree, each doctoral student must also pass a comprehensive examination as required by the Graduate Council.

Department of
ENTOMOLOGY AND PLANT PATHOLOGY

http://eppserver.ag.utk.edu

Carl J. Jones, Head
Reid R. Gerhardt, Graduate Liaison

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

Associate Professors
Canaday, C.H., PhD ........................................................ Ohio State
Gwinn, K.D., PhD ........................................................ North Carolina State
Lentz, G., PhD ............................................................. Iowa State
Ownley, B.H., PhD ........................................................ North Carolina State

Stewart, S.D., PhD ........................................................ Auburn
Vail, K.M., PhD ........................................................... Florida

Assistant Professors
Hajimorad, M., PhD .................................................... Adelaide (Australia)
Lamour, K., PhD ......................................................... Michigan State
Moulton, J.K., PhD ....................................................... Arizona

MAJOR DEGREES

Entomology and Plant Pathology .................................................. MS
Plants, Soils, and Insects ........................................................... PhD

The Department of Entomology and Plant Pathology offers a graduate program leading to the Master of Science with a major in entomology and plant pathology, and the Doctor of Philosophy through the interdisciplinary plants, soils and insects program. Students in the entomology concentration may specialize in crop entomology, medical and veterinary entomology, insect biology, insect pest management, or biological control. Students in the plant pathology concentration may specialize in foliar and stem fungus diseases, soilborne pathogens, disease physiology, biocontrol, plant nematology, or virology. For specific information, contact the department head.

MASTER OF SCIENCE

Entomology and Plant Pathology Major

ADMISSION

For admission to the Master of Science program, a student must meet all requirements of the University of Tennessee, Knoxville, Graduate Council and must have completed (1) general botany or biology, eight hours; (2) advanced biological sciences, eight hours; (3) general inorganic chemistry, six to eight hours; (4) organic chemistry, three hours. In addition, three completed rating forms and a written statement of career goals and interest in entomology or plant pathology should be submitted to the department. Submit application, fee, official transcripts, and scores from the general portion of the Graduate Record Examination to the Graduate Admissions Office.

REQUIREMENTS

The program requires a written thesis based on original research and the completion of a minimum of 24 hours of coursework for graduate credit, approved by the student’s advisory committee. Included in the course requirements are two acceptable seminar presentations for one hour each. An oral final exam must be passed to the satisfaction of the advisory committee after the thesis has been completed. A minor is not required but may be selected at the option of the student. The minor will include at least six hours and not more than 10 hours of graduate-level credit in the minor department. The student’s committee shall include a member of the faculty from the minor department to assist in designating courses required for the minor.

DOCTOR OF PHILOSOPHY

Plants, Soils, and Insects Major - Entomology, Plant Pathology, Integrated Pest Management, Bioactive Natural Products Concentrations

A Doctor of Philosophy degree with a major in plants, soils and insects, with concentrations in entomology, plant pathology, integrated pest management, and bioactive natural products, is
offered under a multi-departmental doctoral program. Three departments participate: Plant Sciences, Entomology and Plant Pathology, and the soils faculty in Biosystems Engineering and Environmental Sciences. Other concentrations within the PSI major include horticulture, crop sciences, weed biology, plant improvement, and environmental and soil sciences. Please see the doctoral program links on the homepage of the Department of Entomology and Plant Pathology for additional information, http://eppserver.ag.utk.edu/, or contact a faculty member in the area of interest.

ADMISSION

Submit application, fee, official transcripts, and scores from the general portion of the Graduate Record Examination to the Graduate Admissions Office. In your application, indicate that you are applying to the plants, soils and insects doctoral program. Submit resume, three letters of reference (or three Graduate Rating Forms), photocopy of Graduate Record Examination scores and a short statement of professional goals and reasons for applying to Entomology and Plant Pathology Doctor of Philosophy Program Coordinator, Department of Entomology and Plant Pathology, 2431 Joe Johnson Drive, 205 Plant Sciences Building, The University of Tennessee, Knoxville, Tennessee, 37996-4560. In your statement letter and application, please indicate your concentration of interest and intended major professor.

REQUIREMENTS

To obtain the doctorate, the student must meet the following requirements.

- The student and the major professor will select a minimum of three additional faculty, holding the rank of assistant professor or above, to serve on the student’s doctoral committee. The major professor and two committee members must be approved to direct doctoral research by the Graduate Council, and at least half of the committee must hold teaching appointments. At least one member of the committee must be from outside the department. The doctoral committee must be formalized by the end of the second semester of graduate study.

- Submission of an approved program of study by the end of the second semester of graduate study. A candidate for the doctoral degree must complete a minimum of 24 hours of graduate coursework numbered 503 or higher beyond the master’s degree. Candidates not having a master’s degree must complete a minimum of 48 hours of graduate coursework beyond the baccalaureate degree, 24 hours of which must be numbered 503 or higher. A minimum of 12 of the 24 hours, or 30 of the 48 hours, must be graded A-F. At least nine hours of the student’s coursework must be from outside the Plants, Soils, and Insects major, and a minimum of six hours must be taken in University of Tennessee courses numbered 601 or higher. In addition, 24 hours of course 600 Doctoral Research and Dissertation are required.

- Satisfactory preparation of a written dissertation proposal and its oral defense to the student’s committee. This must be completed during the first two semesters of graduate study and before enrollment in 600.

- Passing both written and oral sections of the comprehensive examination. The candidate will be tested on his/her knowledge of the proposed dissertation and related fields.

- Presentation of at least two departmental seminars (two hours of Entomology and Plant Pathology 640), in addition to an exit seminar (no credit).

- Satisfactory preparation of a written dissertation and its oral defense to the student’s doctoral committee.

Please see the Degree Program Requirements/Doctoral Degrees section at the front of this catalog for additional information.

Department of

FOOD SCIENCE AND TECHNOLOGY

http://foodscience.utk.edu

H.C. Goan, Head
David A. Golden, Graduate Liaison

Professors

Brekke, C.J., PhD ................................................................. Wisconsin
Davidson, F.M., PhD ............................................................. Washington State
Draughon, F.A., PhD ................................................................. Georgia
Goan, H.C., PhD ................................................................. Michigan State
Morris, W.C., PhD ................................................................. Iowa State

Associate Professors

Golden, D.A., PhD ................................................................. Georgia
Loveday, H.D., PhD ................................................................. Kansas State
Mount, J.R., PhD ................................................................. Ohio State

Assistant Professors

Harte, F., PhD ................................................................ Washington State
Zivanovic, S., PhD ................................................................. Arkansas

Emeritus Faculty

Penfield, M. P., PhD ................................................................. Tennessee

MAJOR DEGREES

Food Science and Technology ................................................. MS, PhD

The Department of Food Science and Technology offers the Master of Science and Doctor of Philosophy degrees with a major in food science and technology. Students in the doctoral program may choose research in the concentration areas of food processing, food chemistry, food microbiology or sensory evaluation of foods. Commodity interests (meats, dairy, fruits, vegetables, bakery products) can be emphasized in any of the areas by careful selection of courses and the research topic. Minors are available in cognate fields. For detailed information, contact the department head.

ADMISSION

Admission requirements of the Graduate Council of the University of Tennessee, Knoxville, apply. In addition, applicants must submit scores from the general section of the Graduate Record Exam, a written statement of educational and career goals, and Graduate Rating Forms or letters of recommendation from at least three people familiar with the applicant’s scholastic ability and professional potential. Admission to the program is contingent upon faculty evaluation of the applicant’s undergraduate/graduate grade point average, Graduate Record Examination scores, rating forms, relevant work experience, and scores from the Test of English as a Foreign Language (TOEFL), if applicable.
MASTER OF SCIENCE
Food Science and Technology Major

Applicants must have a Bachelor of Science in food technology, food science, or a related scientific field.

REQUIREMENTS

Thesis Option

- Prior to research for the thesis, the student must develop a detailed written research plan. Registration for six hours of 500 Thesis is required.
- In addition to the thesis requirement, a minimum of 24 hours of graduate coursework is required. This work must be approved by the student’s committee and a minimum of 14 hours must be courses numbered above 500. The committee may require additional coursework if the student’s progress or background indicates such need.
- All students are required to take two hours of 501 Seminar in their program and are expected to attend this course and participate in discussions during their master’s program. Completion of 510 or equivalent is also required.
- An oral, final examination covering the thesis and coursework is required.

Non-Thesis Option

- In lieu of a thesis, students are required to complete a problem in cooperation with their employer (company or governmental agency) and their faculty committee. Students working on a problem must register for six hours of 503.
- In addition to the requirement for six hours of 503, a minimum of 24 hours of graduate coursework is required. This work must be approved by the student’s committee and a minimum of 14 hours must be courses numbered above 500. The committee may require additional coursework if the student’s progress or background indicates such need.
- All students are required to take two hours of 501 Seminar in their program and are expected to attend this course and participate in discussions during their master’s program. Completion of 510 or equivalent is also required.
- Students will be required to take a written comprehensive examination covering their coursework. In addition, an oral, final examination covering the problem and coursework is required. The oral examination will be held on the Knoxville campus.

DOCTOR OF PHILOSOPHY
Food Science and Technology Major

REQUIREMENTS

- Completion of a master’s degree in the field, or a closely related field, or passing a special qualifying examination is required for admission.
- A dissertation is required for the Doctor of Philosophy degree. Each student must develop a detailed written plan for the dissertation research.
- A minimum of 72 hours beyond the bachelor’s degree, excluding credit for the master’s thesis, is required. Of this, 24 hours must be 600 Doctoral Research and Dissertation.
- At least 24 hours of coursework numbered above 500 are required exclusive of doctoral research and dissertation. At least six of the 24 hours must be courses numbered above 600.
- A minimum of six hours of courses for graduate credit must be taken outside the Department of Food Science and Technology.
- All candidates must complete 601 (two hours) and are expected to attend 601 during their Doctor of Philosophy program.
- Each candidate must pass both written and oral comprehensive examinations prior to admission to candidacy. Major professors will advise candidates on competencies expected. A final oral examination is required that includes a defense of the dissertation and subject matter that the student’s committee considers appropriate.
MAJORS DEGREES
Forestry .............................................................................. MS
Wildlife and Fisheries Science ........................................... MS
Natural Resources ................................................................. PhD

Graduate study leading to the Master of Science with majors in forestry and in wildlife and fisheries science and the Doctor of Philosophy with a major in natural resources is offered by the Department of Forestry, Wildlife and Fisheries.

The mission of the Department of Forestry, Wildlife and Fisheries is to advance the management, utilization, and appreciation of natural resources in Tennessee, the region and beyond through programs in teaching, research and extension.

MASTERS OF SCIENCE
Forestry Major · Wildlife and Fisheries Science Major

ADMISSION
For admission, the student must have a bachelor’s degree from an accredited institution in forestry, wildlife, fisheries, or other natural resource area. Applicants must take the general Graduate Record Examination with minimum scores required. Graduate Rating Forms or letters of recommendation from three individuals familiar with the applicant’s academic ability are required. The department also has an application that must be submitted at the time of application to the Office of Graduate Admissions.

REQUIREMENTS
Both thesis and non-thesis options are available for the major in forestry; a thesis is required in the wildlife and fisheries science major.

Thesis Option
• Prior to research for the thesis, the student is required to develop a detailed written research proposal. Registration for six hours of thesis (Forestry 500 or Wildlife and Fisheries Science 500) is required.
• A graduate committee of no fewer than three faculty members must be selected by the second semester of residence. At least one member shall be from outside the department. In addition to the thesis requirement, a minimum of 24 hours of graduate coursework is required. This work must be approved by the student’s committee and no more than 10 hours of the minimum 30 can be below the 500 level. The committee may require additional coursework if the student’s progress or background indicates such need.
• All students are required to include Forestry 512 or Wildlife and Fisheries Science 512 Seminar, in their programs. This is required of each graduate student in residence fall semester.
• An oral examination covering the thesis and coursework is required.

Non-Thesis Option (Forestry major only)
• 35 hours of graduate coursework of which 23 must be at the 500 level or above is required.
• A graduate committee of no fewer than three faculty members will be selected. At least one member shall be from outside the department. The committee will meet and schedule the student’s program during the first semester in residence.
• Three hours of Forestry 511 are required.
• Nine hours of coursework in the department must be at the 500 level or above, exclusive of Forestry 511.
• Final comprehensive written and oral examinations shall be taken upon completion of no fewer than 28 hours of approved study.

DOCTOR OF PHILOSOPHY
Natural Resources Major

The doctoral program with a major in natural resources emphasizes interdisciplinary research approaches toward the understanding and management of natural resources in a broad context. Areas of study include forest, wildlife, and fisheries biology; ecosystem function and structure; natural resource economics and policy; human dimensions of natural resource management; natural resource organization administration and management; wood sciences; and multidisciplinary natural resources management.

ADMISSION
Applicants to the Doctor of Philosophy program normally should have completed a master’s degree prior to beginning the doctoral program. Specific admission requirements include
• a minimum grade point average of 3.0 on a 4.0 scale
• a minimum composite score from the general Graduate Record Examination on the verbal, quantitative, and analytical sections of 1650, with a minimum of 1100 on the verbal and quantitative sections
• a statement of professional goals, natural resource management philosophy, and reasons for applying to the program
• three letters of reference from individuals capable of evaluating the applicant’s potential for graduate work in interdisciplinary natural resource management

REQUIREMENTS
A candidate for the doctoral degree must complete 72 hours of coursework beyond the bachelor’s degree. Forty-eight hours must be in graduate coursework approved by the student’s doctoral committee. Up to 24 hours of master’s-level coursework may be applied to the 48-hour requirement. A minimum of six hours must be taken in university courses at the 600 level, exclusive of dissertation hours. Specific requirements are:
Research Methods and Analysis (nine credits in at least two of the subject areas)
• Research/Experimental Design
• Statistics/Econometrics/Biometrics
• GIS/Remote Sensing

Core Subject areas (33 credits to be determined by doctoral committee)
Professional Development (six credits)

- Teaching—All students will be expected to complete Forestry, Wildlife and Fisheries 601 and assist in teaching a course during their tenure in the program.

- Problem Solving—Forestry, Wildlife and Fisheries 610 will be required of all doctoral students. This course will include participation in an interdisciplinary team to address a significant national or regional natural resource issue.

- Professional Communications—All students will be required to complete Forestry, Wildlife and Fisheries 612 as part of their program of study. Part of the seminar requirement will consist of assisting in the development and conduct of Forestry, Wildlife and Fisheries 512.

Forestry, Wildlife and Fisheries 600 Doctoral Research and Dissertation (24 credits)

A doctoral committee consisting of at least four faculty members must be identified by the student and major professor. At least two of the committee members must be from the Department of Forestry, Wildlife and Fisheries and one member must be from an academic unit other than Forestry, Wildlife and Fisheries. Three of the committee members, including the major professor, must be approved by the Graduate Council to direct doctoral research. The committee should be formed during the first year of the student’s program.

All students are required to successfully complete an oral and written examination on all coursework completed as part of the Doctor of Philosophy requirements. The exam is scheduled when the student has completed all or nearly all of the coursework. The Doctor of Philosophy committee will determine the content, nature, and schedule of the comprehensive exam and certify the results.

During the first year, the student should develop a research prospectus that outlines the research problem to be addressed as part of his/her doctoral research. The prospectus is presented to the student’s committee and the committee will approve the research topic and approach.

All students are required to complete, present, and defend a dissertation. The student should provide each member of the committee a copy of the dissertation at least two weeks prior to the scheduled defense. All students are required to present a seminar on their dissertation as part of the degree requirements. The seminar can be part of the dissertation defense or presented before the formal defense.

Environmental Policy Minor

The department participates in a program designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Department of Economics for program description.

Department of PLANT SCIENCES

http://plantsciences.utk.edu/

G. Neil Rhodes, Head
Dennis R. West, Graduate Liaison

Professors

Albrecht, M.L. (Associate Dean), PhD ......................................................... Ohio State
Allen, F.L., PhD .................................................................................... Minnesota
Augé, R.M., PhD .................................................................................. Washington State
Bates, G.E., PhD .................................................................................... Georgia
Denton, H.P., PhD ................................................................. North Carolina State
Deyton, D.E., PhD ............................................................................. North Carolina State
Hayes, R.M., PhD ................................................................................. Illinois
Lockwood, D.W., PhD ............................................................................ Purdue
McDaniel, G.L., PhD ............................................................................ Iowa State
Miller, R.D., PhD .................................................................................. Kentucky
Mueller, T.C., PhD ................................................................................. Georgia
Rhodes, G.N., PhD ................................................................................. North Carolina State
Samples, T.J., PhD ............................................................................... Oklahoma State
Sams, C.E., PhD .................................................................................... Michigan State
Stewart, C.N., PhD (Racheffl Chair) ...................................................... Virginia Tech
West, D.R., PhD .................................................................................... Nebraska

Associate Professors

Chen, Feng, PhD .................................................................................. California (Davis)
Craig, C.C., PhD .................................................................................. Louisiana State
Garton, S., PhD .................................................................................... Minnesota
Kopsell, D.A., PhD ............................................................................... Georgia
McElroy, S., PhD .................................................................................. North Carolina State
Sorochan, J.C., PhD ............................................................................... Michigan State
Steekel, L.E., PhD .................................................................................. Illinois
Straw, R.A., PhD .................................................................................. Tennessee
Thompson, M.A., PhD ........................................................................... Tennessee
Zale, J.M., PhD ....................................................................................... Saskatchewan

Instructor

Flanagan, P.C., MS .................................................................................. Tennessee

Adjunct Faculty

Arelli, Prakash PhD................................................................................... Georgia
Brown-Faust, James E., PhD .................................................................. Michigan
Bunick, Gerald J., PhD ........................................................................... Pennsylvania
Conway, William S., PhD ....................................................................... New Hampshire
Karpinets, Tatiana V., PhD ....................................................................... Russia
Ott, R.J., MBA ...................................................................................... Georgia
Rivero, Raul E., ED.D ............................................................................... Tennessee
Sobek, Edward A., PhD ........................................................................... Texas
Tschaplinski, Timothy J., PhD ................................................................. Toronto
Wulfschlegler, Stan, PhD ......................................................................... Arkansas

Emeriti Faculty

Ashburn, E.L., PhD .................................................................................. Tennessee
Callahan, Lloyd, PhD ............................................................................... Rutgers
Coffey, D.L., PhD .................................................................................... Purdue
Conger, Bob V., PhD ............................................................................... Washington State
Flinchum, Wayne, PhD ............................................................................ Louisiana
Fribourg, H.A., PhD ............................................................................... Iowa State
Graham, Effin, PhD .................................................................................. Pennsylvania
Jared, John R., PhD .................................................................................. Tennessee
Reich, Vernon H., PhD ........................................................................... Iowa State
Reynolds, John H., PhD .......................................................................... Wisconsin
Sams, D.W., PhD .................................................................................... Minnesota
Wyatt, J.E., PhD .................................................................................... Florida

MAJORS

DEGREES

Plant Sciences ................................................................. MS
Plants, Soils, and Insects ...................................................... PhD
The Department of Plant Sciences offers two graduate degrees—the Master of Science with a major in plant sciences and the Doctor of Philosophy with a major in plants, soils, and insects. For additional information, please visit our departmental homepage. Inquiries may be directed to the Chair, Graduate Committee, Department of Plant Sciences, The University of Tennessee, Knoxville, Tennessee 37996-4561, or uthort@utk.edu.

MASTER OF SCIENCE PROGRAM

Plant Sciences Major

Both thesis and non-thesis options are available for the major in plant sciences, each guided by a graduate committee consisting of the major professor and two or more other faculty members. Studies are possible in a wide variety of commodities and subject areas, including fruits, vegetables, weeds, cereals, grains, turfgrass, woody ornamentals, and public horticulture. Students may specialize in one or more disciplines, including plant protection, molecular biology, breeding, genetics, biotechnology, physiology, ecology, culture and management.

ADMISSION

Students should have a bachelor’s degree from an accredited college or university, with evidence of ability to do work of graduate quality. Applicants are expected to have a minimum cumulative grade point average of 2.7 on a 4.0 scale.

Application must be made to both the Office of Graduate Admissions and the Department of Plant Sciences. The departmental application requires three letters of reference (or three Graduate Rating Forms) from persons capable of assessing the applicant’s suitability for graduate work in plant science, résumé, and a statement of professional goals and reasons for applying to the program. Applicants are also required to submit scores from the general Graduate Record Examination to Graduate Admissions (please send photocopy to department). Successful applicants will usually have a composite score on the verbal, mathematical and analytical sections of the Graduate Record Examination of at least 1400. Prior undergraduate course work in mathematics, biology and chemistry is recommended.

REQUIREMENTS

• Approval of the academic program by the master’s committee.
• Successful completion of 12 hours of course work in the major at the graduate level (400 or above), exclusive of Plant Sciences 500, 502, and 503. Two of these hours must be Plant Sciences 504. Six of these hours may be satisfied by Biochemistry and Cellular and Molecular Biology 404, 521, 522, Animal Science 571, Environmental and Soil Sciences 434, 444, 516, Ecology and Evolutionary Biology 414, 431, 520, 560, Information Sciences 560, Art 481, or Geography 439.
• Presentation of at least two departmental seminars.

Please see the Degree Program Requirements/Master’s Degrees section at the front of this catalog for additional information.

Thesis Option

• Satisfactory preparation of a written thesis proposal and its oral defense to the student’s committee.
• Successful completion of 30 hours of graduate credit, which must include six hours of 500. At least 14 of these hours must be numbered 501 or above.
• Preparation of a written thesis and its oral defense.

Non-Thesis Option

• Successful completion of 34 hours of graduate credit, which must include 2-4 hours of Plant Science 503. At least 22 of these hours must be at the 500 level or above.
• Completion of a project and preparation of a written report summarizing the project.
• Passing written and oral examinations covering the project and course work.

DOCTOR OF PHILOSOPHY

Plants, Soils, and Insects Major · Horticulture, Crop Sciences, Weed Biology, Plant Improvement

Concentrations

The Doctor of Philosophy with a major in plants, soils and insects, with concentrations in horticulture, crop sciences, weed biology, and plant improvement, is offered under a multi-departmental doctoral program. Three departments participate: Plant Sciences, Entomology and Plant Pathology, and the soils faculty in Biosystems Engineering and Environmental Sciences. Other concentrations within the Plants, Soils, and Insects major include environmental and soil sciences, entomology, plant pathology, integrated pest management and bioactive natural products. Please see the Plant Sciences homepage for additional information, http://plantsciences.utk.edu, or contact a faculty member in the area of interest.

Plants, Soils, and Insects Major include environmental and soil sciences, entomology, plant pathology, integrated pest management and bioactive natural products. Other concentrations within the Plants, Soils, and Insects major include environmental and soil sciences, entomology, plant pathology, integrated pest management and bioactive natural products. Please see the Plant Sciences homepage for additional information, http://plantsciences.utk.edu, or contact a faculty member in the area of interest.

Students may select a formal concentration as a focus of study but this is not a requirement. We recognize that modern research approaches in plant sciences often overlap. Students may specialize in one or more approaches, including plant biotechnology, molecular biology, breeding, genetics, physiology, ecology, culture and management. Research may feature fruits, vegetables, turfgrass, weeds, woody ornamentals, cereals, grains, fiber, public horticulture or model plant systems.

ADMISSION

Submit application, fee, official transcripts, and scores from the general portion of the Graduate Record Examination to the Graduate Admissions Office. In your application, indicate that you are applying to the Plants, Soils and Insects doctoral program. Submit resume, three letters of reference (or three Graduate Rating Forms), photocopy of Graduate Record Examination scores and a short statement of professional goals and reasons for applying to: Plant Sciences Doctor of Philosophy Program Coordinator, Department of Plant Sciences, 2431 Joe Johnson Drive, 252 Plant Sciences Building, The University of Tennessee, Knoxville, Tennessee 37996-4561. In your statement letter and application, please indicate your concentration of interest and intended major professor.
REQUIREMENTS

To obtain the doctorate, the student must meet the following requirements.

• The student and the major professor will select a minimum of three additional faculty, holding the rank of assistant professor or above, to serve on the student’s doctoral committee. The major professor and two committee members must be approved to direct doctoral research by the Graduate Council, and at least half of the committee must hold teaching appointments. At least one member of the committee must be from outside the department. The doctoral committee must be formalized by the end of the second semester of graduate study.

• Submission of an approved program of study by the end of the second semester of graduate study. A candidate for the doctoral degree must complete a minimum of 24 hours of graduate coursework numbered 503 or higher beyond the master’s degree. Candidates not having a master’s degree must complete a minimum of 48 hours of graduate coursework beyond the baccalaureate degree, 24 hours of which must be numbered 503 or higher. A minimum of 12 of the 24 hours, or 30 of the 48 hours, must be graded A-F. At least nine hours of the student’s coursework must be from outside the plants, soils, and insects major, and a minimum of six hours must be taken in University of Tennessee courses numbered 601 or higher. In addition, 24 hours of course 600 Doctoral Research and Dissertation are required.

• Satisfactory preparation of a written dissertation proposal and its oral defense to the student’s committee. This must be completed during the first two semesters of graduate study and before enrollment in 600.

• Passing both written and oral sections of the comprehensive examination. The candidate will be tested on his/her knowledge of the proposed dissertation and related fields.

• Presentation of at least two departmental seminars (two hours of Plant Sciences 504), in addition to an exit seminar (no credit).

• Satisfactory preparation of a written dissertation and its oral defense to the student’s doctoral committee.
The University of Tennessee Master of Architecture program received a full six-year accreditation as a result of its last NAAB accreditation review in 2002.

The graduate program in architecture defines architecture broadly as the creation of human habitats. Architecture at Tennessee is more than the design of individual buildings. Rather it is dedicated to the shaping of community in the fullest sense of the word. The curriculum reflects the program’s recognition that architecture is fundamentally shaped by environmental and cultural forces. As such, the humanities, social sciences, arts, and applied sciences are all brought to bear on the discipline of architecture. It is through design that such issues can be thoughtfully explored and given physical form. Thus design plays a central role in this comprehensive and creative process.

As a professional program, the college is committed to help students obtain the requisite knowledge and skills needed to enter and fully participate in the profession of architecture. At the same time, it attempts to maintain a wide vision and critically reach beyond the profession without losing contact with the realities of everyday architectural practice. Designed to be challenging and provocative, the program allows students the opportunity to develop discernment and judgment, enabling them to find their own voices as designers who are accountable contributors to the built environment.

The offices of the graduate program and college administration are located at 224B Art and Architecture Building.
School of ARCHITECTURE

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

Associate Professors
Davis, T.K., MArch ..........................................................Cornell
DeKay, M., MArch ............................................................Oregon
Debelius, C.A., MArch ......................................................Harvard
Fox, D., MArch .................................................................Cranbrook Academy of Art
Martella, W.E., BArch .......................................................California (Berkeley)
Moir-McClean, T., MArch ..................................................Michigan
Schimmenti, M., MArch .....................................................Florida

Assistant Professors
Ambroziak, B., MArch ......................................................Princeton
Dodds, G., PhD .................................................................Pennsylvania
Klinkhammer, B., Dip-Ing .................................................RWTH (Aachen)
Stach, E., Dipl-Ing .............................................................RWTH (Aachen)

MAJOR DEGREE
Architecture .................................................................MArch

MAJOR OF ARCHITECTURE PROGRAM

Architecture Major

The School of Architecture offers two tracks leading to the Master of Architecture degree. Track 1 is for students seeking the first-professional degree who already hold a bachelor’s degree or an advanced degree in another field. Track 2 is for students with an accredited first-professional degree who seek to develop an area of specialization. Contact the school for additional information.

ADMISSION

In addition to meeting the Graduate Council’s minimum requirements, the following specific admission requirements to the Master of Architecture program must be met.

• For Track 1 applicants, a bachelor’s degree with a 3.0 GPA from an accredited college or university is required. International applicants must have an equivalent four-year degree and 3.0 GPA. Candidates with a GPA less than 3.0 may be considered for conditional admission when evidence of exceptional promise is identified. Undergraduate work must include at least twelve semester hours of humanities, a basic understanding of physical principles, systems and analytical procedures and an understanding of mathematical principles and analytical procedures, as well as a general understanding of the use of computers. The school requires an essay and three letters of recommendation. A personal on-site interview is desirable but not mandatory. For those applicants from accredited 4+2 architecture programs, a portfolio is required in addition to the above requirements.

• For Track 2 applicants, a Bachelor of Architecture degree from an NAAB accredited program, or foreign equivalent is required. Candidates with a GPA less than 3.0 may be considered for conditional admission when evidence of exceptional promise is identified. Submission of a portfolio to Architecture to include an essay and three letters of recommendation are also required. A personal on-site interview is desirable but not mandatory.

• The general portion of the Graduate Record Examination is required of all applicants. Applicants should take the GRE at least one semester in advance of application for admission.

REQUIREMENTS

• Track 1 requires a minimum of 48 semester hours of undergraduate preparation and 60 semester hours of graduate coursework, taking approximately three and a half years of full-time study. A minimum of four hours of architectural electives or approved electives from another discipline must be taken at the 500 level or above.

• Track 2 requires a minimum of 30 semester hours of graduate coursework.

• Both tracks require six hours of Thesis 500 with a public presentation and oral defense of the thesis. Retention in the program is contingent upon evidence of satisfactory progress toward the degree. Student’s progress will be reviewed each semester by the Graduate Program Head. Any questions regarding progress will be reviewed by the Graduate Program Advisory Committee.

For further information, contact the School of Architecture.
The University of Tennessee began as a liberal arts institution. Before the turn of the century, less emphasis was placed on the liberal education. However, the liberal arts continued to thrive, emerging as a college in 1904. Thus, the College of Liberal Arts (now known as the College of Arts and Sciences) is one of the oldest established colleges in the university.

The College of Arts and Sciences consists of a wide array of academic disciplines and interdisciplinary programs. 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. Faculty research and creative activity is
the foundation on which education in this college is built. As a result of that endeavor, the lives of students are enriched and the world’s body of knowledge grows.

The College of Arts and Sciences offers programs in twenty-seven academic disciplines leading to nine advanced degrees: Doctor of Audiology, Doctor of Philosophy, Master of Arts, Master of Fine Arts, Master of Mathematics, Master of Music, Master of Public Administration, Master of Science, Master of Science in Planning.

General Information

Foreign Study Courses

Foreign study courses offered in some departments of the college provide an opportunity to undertake independent study outside the United States. Prior to departure the student must have a plan of study approved by the department head and a supervising faculty member of the department concerned. Credit will be given only upon fulfilling all requirements set by the department and may vary from 1-15 hours. The maximum credit that may be applied toward a degree in the college is established in each individual case by the department in which the student is working.

Off-Campus Study

Recognizing that learning is not restricted to formal classroom situations, the college allows 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 involvement, or political campaigns. Credit per semester will vary from 1-15 hours. The maximum credit that may be applied toward a degree in the college is established in each individual case by the department in which the student is working.

Independent Study

Certain educational goals may best be met through independent study 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. Credit per semester will vary from 1-15 hours. The maximum credit which may be applied toward a degree in the college is established in each individual case by the department in which the student is working.

Department of ANTHROPOLOGY

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

Andrew Kramer, Head and Graduate Liaison

Professors

Bass, W.M. (Alumni Distinguished Service Professor), PhD ........Pennsylvania
Feulken, C.H. (Distinguished Professor), PhD .....................Indiana
Howell, B.J., PhD .................................................................Kentucky
Jantz, R.L., PhD .................................................................Kansai
Klippel, W.E., PhD .............................................................Missouri
Königsegg, L., PhD .............................................................Northwestern
Logan, M.H., PhD ............................................................Penn State
Schroedl, G.F., PhD .........................................................Washington State
Simen, J.F. (Distinguished Professor).
PhD..............................State University of New York (Binghamton)

Associate Professors

Anderson, D.G., PhD .........................................................Michigan
Kramer, A., PhD ..............................................................Michigan
Marks, M., PhD ...............................................................Tennessee

Assistant Professor

Harper, J.L., PhD ...............................................................Michigan

Research Director

Driskell, B.N., PhD .............................................................Kentucky

Associate Director

Sherwood, S., PhD ..............................................................Tennessee

Research Associate Professor

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

Research Assistant Professor and Curator

Frankenberg, S., PhD .......................................................Northwestern

Assistant Professors

Ahman, T.M., PhD .............................................................Tennessee
Elam, M., PhD .................................................................Missouri
Herrmann, N.P., PhD ........................................................Tennessee
Sichler, J.A., PhD .............................................................Tennessee
Vass, A.A., PhD ...............................................................Tennessee

Lecturer and Coordinator, Forensic Center

Jantz, L.M., PhD .................................................................Tennessee

Lecturers

Devlin, J.L., PhD ...............................................................Tennessee
Pendry, D.A., PhD ..........................................................Texas
Qirkko, H.N., PhD ............................................................Tennessee

Adjunct Professors

Bogard, J.S., PhD .............................................................Texas (Austin)
Dunnell, R., PhD ..............................................................Yale
Harrison, F.V., PhD ...........................................................Stanford
McCormick, W.F., MD .......................................................Tennessee
Smith, F.H., PhD ..............................................................Michigan
Stein, J.K., PhD .................................................................Minnesota

Adjunct Associate Professors

Goldberg, P., PhD .............................................................Michigan
Sullivan, L.P., PhD ..........................................................Wisconsin (Milwaukee)

Adjunct Professors

Crites, G.D., PhD .............................................................Tennessee
Dessel, J.P., PhD ...............................................................Arizona
Douglas, J.C., PhD ............................................................Houston
Klenk, R.M., PhD .............................................................Washington
Lev-Tov, J., PhD ...............................................................Tennessee
Polhemus, R.R., PhD ........................................................Tennessee
Riggs, B.H., PhD ..............................................................Tennessee
Simms, S.A., PhD .............................................................Tennessee
Van de Moortel, A., PhD ......................................................Bryn Mawr

MAJOR DEGREES

Anthropology .....................................................................MA, PhD

The Department of Anthropology offers both the Master of Arts and Doctor of Philosophy with a major in anthropology and concentrations in archaeology, biological anthropology, cultural anthropology, and zooarchaeology. A concentration in Mediterranean archaeology is available on the major’s level. Additional information on the anthropology graduate program may be obtained from the departmental brochure (see the department’s Web site) or by contacting the department.
MASTER OF ARTS
Anthropology Major

ADMISSION

Students wishing to enter the Master of Arts program with a major in anthropology should have an undergraduate GPA of 3.5 in the major, 3.3 overall, and hold a bachelor’s degree from an accredited university with a major in anthropology. Applicants with a major in a related field (biology, sociology, geology, classics or geography) will be considered only if they have a formal minor in anthropology or its equivalent (at least five upper-division anthropology courses).

In cooperation with the Classics and History Departments, the Department of Anthropology is able to offer a concentration in Mediterranean archaeology. Students who apply in this area should have completed appropriate undergraduate courses in archaeology or anthropology. An anthropology minor is preferred.

All prospective MA students must make formal application to the University of Tennessee, Knoxville, Graduate Admissions. Copies of the application form, transcripts, and GRE scores that are sent to graduate admissions should also be sent directly to the Department of Anthropology at the same time. In addition, the department requires a letter of intent from the applicant indicating career goals and reasons for selecting the University of Tennessee, Knoxville and three letters of recommendation and one sample of the prospective student’s written work (a class paper or research report). These materials should be sent directly to the Graduate Secretary, Department of Anthropology, South Stadium Hall 250, The University of Tennessee, Knoxville, Tennessee 37996-0720.

Graduate applications are considered once a year by the Graduate Committee. All application materials must be received in the department by January 15 for admission the following fall. Because of the structure of first-year studies, MA students should plan to begin their studies in the fall semester.

REQUIREMENTS

The program leading to the MA is a general curriculum that allows for concentration after completion of a core course sequence. Formal requirements include:

- Selection of an MA advisor. This should be done as soon as possible in the student’s program but must be done no later than the end of the first semester in residence. The department graduate secretary must be informed in writing of each student’s advisor.

- A minimum of 30 hours in graduate courses. Twenty-four hours must be in coursework graded A-F. Coursework must include three core classes taken in the first year:
  a. 510 Method and Theory in Cultural Anthropology
  b. 560 Theory in Archaeology
  c. 590 Method and Theory in Biological Anthropology

Additional coursework should be selected in consultation with the student’s advisor and must include one additional course from two anthropology concentrations besides the student’s primary concentration. At least 20 hours of coursework must be at the 500 level or higher. Students concentrating in Mediterranean archaeology, in consultation with their advisor, should select their additional 18 hours from courses offered in the Anthropology, History, or Classics departments.

- During the first year, comprehensive graduate evaluation examinations are required of all MA students and are based on the content of the core courses. These examinations are given during regularly-scheduled final periods in each core class and are graded by all faculty within the appropriate sub discipline for each course. At the end of the first year, all MA students are evaluated by the entire faculty and will either be retained or dropped from the program based on their first year’s performance and GEE scores.

- All MA students must attend the graduate section of the visiting lecturer program. To insure compliance with this requirement, each student is required to register for one credit hour of Anthropology 550 in the fall semester of each year and fulfill all requirements for the course as defined by the instructor. Materials covered by visiting lecturers may appear on the GEE.

- A graduate-level introductory statistics course, usually Statistics 537.

- In the second year of the program, students pursue their concentration area and undertake thesis research. Coursework will be determined through consultation with the student’s advisor and committee (composed of the advisor and at least one other member of the anthropology faculty along with other mutually-agreed upon members).

- Successful completion of the thesis and final oral examination. Normally, students will complete and defend their theses during the spring semester of their second year.

- Two copies of the thesis are required by the Office of Graduate Student Services. In addition, bound copies of the thesis are to be provided to the department and to all members of the student’s MA committee.

In addition to the requirements listed above, MA students have the option of completing a minor in statistics. The statistics minor requires nine hours of coursework, normally Statistics 537 and 538 plus one additional course from an approved list.

DOCTOR OF PHILOSOPHY
Anthropology Major

In addition to the Graduate Council requirements, requirements for the PhD with a major in anthropology, in the appropriate sequence of completion, are as follows.

ADMISSION

Admission to the PhD program is contingent upon completion of all requirements prior to that level. Master’s thesis candidates at the University of Tennessee, Knoxville, who are conditionally accepted into the PhD program can enroll as doctoral students the semester following conferral of the MA. Students holding master’s degrees from other institutions must apply by January 15 for admission the following fall and must begin their studies in the fall semester.

Admission to the PhD program is based upon the applicant’s academic record and credentials, but also on fit between an individual’s interest and faculty areas of research.
Applicants will not be admitted to the PhD program unless appropriate faculty members are available to chair and serve on the doctoral committee. Doctoral program applicants should communicate directly with the potential chairperson and two additional members of the anthropology faculty who will be asked to serve on the committee.

Applicants to the PhD program should meet the same academic standards as MA program applicants and furnish the same materials (see Admission under Master of Arts). Admission to the program requires either

- acceptance of a master’s in anthropology
- or
- acceptance of a master’s in another discipline with the provision that the student will follow the first-year program with entering MA students, i.e., complete the core courses (510, 560, 590) and pass the graduate evaluation examinations

REQUIREMENTS

Doctoral Committee

A doctoral committee is appointed following admission to the program. In consultation with this committee, the student defines the future program of studies. When the student and committee have agreed upon the specific fields of specialized competence over which the student will be examined, a brief delineation of the fields by the student, approved by the members of the committee, is presented to the department head and the student’s major professor. As early as possible, but no later than a full semester after admission to candidacy, the student shall formally present a written dissertation proposal to the department head and advisor.

Residence and Coursework

Every potential PhD candidate must complete two consecutive semesters of full-time residence prior to taking the doctoral comprehensive examination. The student must complete the minimum coursework requirements of the Graduate Council, including at least nine hours of 500- or 600-level courses outside of anthropology, chosen in consultation with the doctoral committee, particularly the outside member who represents the cognate area. Outside coursework may be taken in a single discipline or be distributed across two or more disciplines as appropriate to the individual’s program of study.

Statistics

Demonstration of competence in statistics by completing Statistics 537 and 538 with a grade of B or better is required.

Language

Students must demonstrate knowledge of one foreign language. This language should normally be French, German, Russian or Spanish, but another language may be substituted at the committee’s discretion. This requirement may be met by either

- successful performance on a language examination administered by the appropriate language department. A student electing this alternative should consult with the advisor
- or
- completion of the second semester of specialized reading courses for graduate students with a grade of B or better

The department does not accept completion of the intermediate (200 level) sequence of a language as a formal option for fulfilling the language requirement.

Doctoral Comprehensive Examination

Students must successfully complete a written and oral comprehensive exam.

- Comprehensive Written Examination—When the PhD aspirant has completed all of the foregoing requirements and is judged by the committee to be prepared in the field(s) of concentration, the student will be required to take a comprehensive written examination. The exam will consist of three sections and be given by the student’s committee. All three sections must be taken within seven consecutive days.
- Comprehensive Oral Examination—This examination follows shortly after successful completion of the comprehensive written exam. The major professor acts as chairperson of the committee.

Admission to Candidacy

Upon successful completion of the comprehensive exam and with the formal approval of the Dean of Graduate Studies, the student is admitted to candidacy for the PhD degree. The formal dissertation prospectus must be filed no later than one full semester after advancement to candidacy.

Dissertation Research

This period of research and writing will be under the direct guidance of the candidate’s major professor. The major professor will act as chairperson of the candidate’s committee. The candidate must earn a minimum of 24 hours in Anthropology 600 and maintain continuous registration until the dissertation is accepted. The option of presenting publishable papers as a dissertation is not a formal option for the Anthropology Department.

Defense of Dissertation Examination

When the dissertation has been tentatively accepted by the committee, a final oral examination will be held. The committee conducts the exam, which is ordinarily held as a colloquium in which the candidate will expound on the nature and significance of his/her contribution to anthropological knowledge as set forth in the dissertation.

School of ART

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

Paul Lee, Director
Tim Hiles, Associate Director
Tom Riesing, Graduate Liaison

Professors
Brakke, M., MFA .............................................................Yale
Goldenstein, M.B., MFA .....................................................Nebraska
Habel, D.M., PhD .............................................................Michigan
Lee, B., MFA .......................................................................Yale
The Master of Fine Arts is the terminal degree in studio art. It is offered in the concentration areas of ceramics, graphic design, drawing, media arts, painting, printmaking, and sculpture.

MASTER OF FINE ARTS

Art Major

ADMISSION

To become a candidate, the applicant must be admitted by the Office of Graduate Admissions and approved by the School of Art. In addition to the minimum admission requirements, the School of Art specifically requires the following:

- a detailed letter of intent including statement requesting assistantship, if desired
- three letters of recommendation from former professors or professionals in the field
- an undergraduate major in art or evidence of equivalent proficiency
- a portfolio to be evaluated by the faculty

Further information is available by writing to the School of Art.

REQUIREMENTS

A minimum of 60 hours to include

- Successful completion of 20 hours of studio in a concentration area. An inter-area program must be approved by the graduate faculty only after the second semester in residence. Ten hours of concentration must be in second year courses (512, 514, etc.).
- A minimum of nine hours of graduate level academic (non-studio) courses of which at least six hours are to be in art history.
- Eleven hours of electives which may consist of any combination of courses offered by the university for graduate credit.
- Art 599, Project in Lieu of Thesis (20 hours). A third year of semi-independent study. Student must have completed all other coursework prior to registration.

Four semesters (normally the first 40 hours) beyond the bachelor’s degree are required in residence. An exception is made for working professional designers who may complete their first 20 hours, with the permission of the faculty, on a part-time basis. Residence is defined by the School of Art as a minimum enrollment of six hours per semester and use of School of Art facilities so that students are available for discussion and criticism.

The candidate’s committee will consist of a minimum of 3 members and a maximum of six members and will be appointed prior to registration for 599. The committee must consist of one faculty member from the candidate’s concentration area (designated as chairperson) and a faculty member from outside the concentration area. The inclusion of an art history faculty member on each committee is encouraged.

Exhibition and oral examination: With the completion of all requirements for the MFA, the student must produce an exhibition and, in the presence of that work, must satisfactorily complete an oral examination.

Academic Standards

- First-year evaluation. At the end of the first two semesters in residence, the student must present a portfolio for evaluation by the faculty and receive permission to continue in the program.
- Second-year evaluation. With completion of all coursework, the student must present work for evaluation by the faculty and receive permission to register for Projects in Lieu of Thesis.
- If, in a review by the student’s major area faculty, the student’s progress is deemed insufficient, the faculty may recommend a work period without advancement toward the degree, probation with specific goals set for a specific time, or dismissal.

Art History Minor

A graduate minor in art history may be arranged during the student’s first semester of study with the consent of the student’s area instructors and the art history faculty. Students must complete a minimum of 12 hours in art history that is agreed upon by the art history faculty after review of previous undergraduate coursework. A reading knowledge of French, German, or Italian is a prerequisite, unless waived by the art history faculty. Graduate Council policy stipulates that a member from the minor unit must serve on the thesis committee.

Department of

AUDIOLOGY AND SPEECH PATHOLOGY

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

Ilia Schwarz, Head

Professors

Asp, C., PhD .................................................................Ohio State
Nabelek, A., PhD .........................................................Polish Academy of Sciences
Schwarz, I., PhD ............................................................Oregon

Associate Professors

Burchfield, S., PhD ...........................................................Michigan State
Erickson, M.L., PhD .........................................................Southern California
Hedrick, M., PhD .......................... Vanderbilt
Swanson, L., PhD .......................... Purdue
Thelin, J., PhD .............................. Iowa

**Assistant Professors**

Flipsen, P., PhD ............................ Wisconsin
Harkrider, M., PhD .......................... Texas
Horton-Ikard, R., PhD ........................ Wisconsin
Munoz, M., PhD .............................. Texas
Plyter, P., PhD .............................. Tennessee
Saltuklaroglu, T., PhD ........................ East Carolina
Von Hapsburg, D., PhD ........................ Texas

**Instructor**

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

**Adjunct Faculty**

Handel, S., PhD .............................. Johns Hopkins
Lipscomb, D., PhD .......................... Washington

**Clinical Director**

Michael, A., PhD .......................... Vanderbilt

**Clinical Faculty**

Barnes, V., MA .............................. Tennessee
Beeler, J., MA .............................. Tennessee
Buehler, V., MA .............................. Tennessee
Campbell, J., AuD .......................... Arizona School of Health Sciences
Crownoyer, J., MA .......................... Texas (Dallas)
Cutler, M., PhD .............................. Georgia
DeGennaro, A., MA .......................... Case Western
Donels, E., MA .............................. Tennessee
Dungan, J., AuD .............................. Tennessee
Hume, S., PhD .............................. Tennessee
Jenkins, K., MA .............................. Tennessee
Lewis, D., MA .............................. Tennessee
Mintz, B., MA ............................... Penn State
Plyter, E., AuD ............................... Arizona School of Health Sciences
Schuy, N., AuD .............................. Tennessee
Searfoss, M., MA .............................. Tennessee
Sheridan, C., MA .......................... Tennessee
Singletary, T., MS .......................... Colorado State
Thuman, S., MA .............................. Tennessee
Valentine, D., PhD .......................... Tennessee
Vantrease, C., MA .......................... Tennessee
Vaughn, T., MS ............................. Eastern Kentucky
Warb, T., MS ................................. East Tennessee State
Webb, P., MEd .............................. Florida
Yeager, K., AuD .............................. Tennessee

**MAJORS**

**DEGREES**

Audiology .............................. MA, AuD
Speech Pathology .......................... MA
Speech and Hearing Science .......................... PhD

**MASTER OF ARTS**

**Speech Pathology Major**

Admission to this graduate program is competitive. This graduate program is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association.

**REQUIREMENTS**

The master’s program in speech pathology is a two-year program and consists of the completion of 42 hours of academic content courses (including thesis) plus practicum. A minimum of three academic courses must be completed during all semesters (terms) except one. That is, students must take a minimum of nine hours of academic courses for at least four semesters or terms and six hours in the other semester or term.

The required courses are 506, 511, 518, 526, 539 or 541, 561, 582; at least two seminars from the following courses—522, 523, 531, 626, or 661; and at least 15 hours of elective courses. Undergraduate coursework may not be substituted for seminar courses. Students who have not completed an undergraduate course in each of the following three areas—speech sound disorders, voice disorders, and fluency disorders—must complete one graduate course in each of the three areas.

Students majoring in speech pathology may elect either the thesis or non-thesis option. The master’s program in speech pathology with thesis includes six hours of 500 credit in the preparation of an acceptable thesis representing original independent work, and a final oral examination. Students in the non-thesis option must pass a final written examination.

**Aural Habilitation Concentration**

Graduate students in both audiology and speech pathology may elect to pursue a concentration in the area of aural habilitation. Admission to the program is competitive and applications are available on the departmental website. The aural habilitation concentration requires:

- three semesters of clinical practicum in treatment of children who have hearing impairments totaling a minimum of 130 clock hours
- completion of six hours of graduate course work in language, audiology and/or aural habilitation in elective requirements for the MA or AuD

Specific requirements are outlined in the MA and AuD Graduate Handbooks as well as on the departmental Web site.

**MAJOR OF ARTS**

**Audiology Major**

Graduate study leading to the MA with a major in audiology is available only to those students accepted to and enrolled in the AuD program or the PhD program in speech and hearing sciences. This degree is awarded to students who desire a master’s degree as part of their progress toward a doctorate.

A student must be in good standing within the AuD or PhD program and must have completed a minimum of 58 credits of academic coursework at the 500 or 600 levels. Students must pass a qualifying examination or equivalent in their doctoral program and must earn a B or better in all courses that are to count toward the 58 credit hour total.

**DOCTOR OF AUDIOLOGY**

**Audiology Major**

The Doctor of Audiology (AuD) program is designed to prepare individuals for professional careers in audiology. The degree program is clinically oriented, with primary emphasis on processes involved in hearing, vestibular function, and communication. The program is designed to meet the entry-level requirements for the practice of audiology established by the Council on Academic Accreditation of the American Speech-Language-Hearing Association. Students will be expected to demonstrate competencies in the following areas.
• prerequisite knowledge and skills for the practice of audiology
• foundations of practice for audiology
• prevention and identification of auditory, vestibular, and related communication disorders
• evaluation of auditory, vestibular, and related communication disorders
• treatment of auditory, vestibular, and related communication disorders

The program will normally consist of four calendar years of study beyond the baccalaureate degree with the first three years being devoted primarily to formal coursework, and the last year to a full-time externship in the practice of clinical audiology.

REQUIREMENTS

The program is a minimum of 112 hours, including a minimum of
• 67 hours of academic coursework at the 500- and 600-levels
• 3 hours of directed research in audiology, vestibular, or related communication disorders
• 24 hours of clinical practice in audiology
• 18 hours of externship in audiology
• a qualifying examination
• a comprehensive examination

Aural Habilitation Concentration
(see preceding section)

DOCTOR OF PHILOSOPHY
Speech and Hearing Science Major

The PhD program with a major in speech and hearing science seeks to develop individuals for professional careers in a variety of positions including research and college teaching in the concentration areas of speech and language pathology, audiology, speech-language science or hearing science. The degree program is research oriented with primary emphasis on processes involved in normal, or disordered speech, language, and hearing. Students will be expected to demonstrate their knowledge in areas related to the concentrated field of study. These areas include
• basic speech, hearing, or language processes
• basic speech, hearing, or language disorders or differences
• related disciplines providing insight into human communication processes
• technical skills in instrumentation and experimental design which enable the student to investigate problems pertaining to speech and hearing processes

REQUIREMENTS

The doctoral program requires successful completion of course work, research projects, a comprehensive examination and dissertation. The total program includes a minimum of 60 hours with a minimum of
• 6 hours in a research tool
• 6 hours in a cognate field outside the department
• 24 hours in the major area of study (six credits must be at the 600 level within the department). These will include
  a. a minimum of six hours on the topic of major interest
  b. a minimum of six hours earned through participation in two different research projects
  c. three hours of Audiology and Speech Pathology 611 (Experimental Design) course (or equivalent)
  d. three hours of Audiology and Speech Pathology 655 supervised teaching experience

To complete the doctoral program, students must prepare a dissertation and defend it successfully. Students must pass a comprehensive examination with both a written and an oral component before being advanced to candidacy. The doctoral program should be developed in the first year of study and is the responsibility of the student and the doctoral committee.

Department of
BIOCHEMISTRY AND CELLULAR AND MOLECULAR BIOLOGY
http://web.bio.utk.edu/bcmb/

Bruce D. McKee, Head and Graduate Liaison

Professors
Ganguly, R., PhD ..........................................................Nebraska
Hickok, L., PhD ..........................................................Massachusetts
Howell, E., PhD ..........................................................Lehigh
Joy, D. (Distinguished Scientist), PhD ...........................................Oxford (UK)
Kennedy, J., PhD ..........................................................Iowa
Koontz, J., PhD ..........................................................Kentucky
MacCabe, J., PhD ..........................................................California (Davis)
MeKee, B., PhD ..........................................................Michigan State
Mullin, B., PhD ..........................................................North Carolina State
Peterson, C., PhD ..........................................................Louisiana State
Roberts, D., PhD ..........................................................California (Davis)
Schwartz, O., PhD ..........................................................North Carolina State
Serpersu, E., PhD ..........................................................Hatecepe

Associate Professors
Bruce, B., PhD ..........................................................California (Berkeley)
Hall, J., PhD ..........................................................Illinois
Prosser, R., PhD ..........................................................Illinois

Assistant Professors
Dealwis, C., PhD ..........................................................London
Fernandez, E., PhD ..........................................................Loyola
Gao, H., PhD ..........................................................Harvard
Jain, N., PhD ..........................................................Brandeis
Kitazono, A., PhD ..........................................................Nagasaki (Japan)
Labrador, M., PhD ..........................................................Madrid (Spain)
Nebenführ, A., PhD ..........................................................Oregon State
Park, J., PhD ..........................................................Texas
Venkatachalam, S., PhD ..........................................................Ohio State
Von Amim, A., PhD ..........................................................East Anglia (UK)

Adjunct and Research Faculty
Allison, D., MS ..........................................................Tennessee
Georgiou, S., PhD ..........................................................Manchester
Hartman, F., PhD ..........................................................Tennessee
Klebig, M., PhD ..........................................................Tennessee
Liu, Yie, PhD ..........................................................Sweden
Mazure, P., PhD ..........................................................Harvard
O’Neill, H., PhD ..........................................................Dublin
MAJOR DEGREES
Biochemistry and Cellular and Molecular Biology .......... MS, PhD

ADMISSION
Applicants for graduate study are expected to have a background equivalent to that required of undergraduate majors in this department. This includes a knowledge of the basic principles of biochemistry, cell biology, genetics and physiology. Requirements for admission are:

- one year of general biology or the equivalent
- a minimum of 8 hours of approved biology courses beyond the introductory level and including the subject areas of genetics, cell biology and physiology
- two years of chemistry including one year of general chemistry and one year of Introductory Organic Chemistry with laboratory
- at least one semester of biochemistry
- one year of calculus
- two courses of physics
- Graduate Record Examination scores
- a minimum grade point average of 3.0 out of 4.0

Otherwise superior students, deficient in one or more of the above requirements, may be admitted at the discretion of the department’s Graduate Recruiting Committee.

MASTER OF SCIENCE
Biochemistry and Cellular and Molecular Biology Major

REQUIREMENTS
- Biochemistry and Cellular and Molecular Biology 511, 512, and 515, and 6 hours of 516.
- Completion of course requirements as determined by the candidate’s faculty committee.
- Achievement of a 3.0 or better GPA in all courses taken for graduate credit.
- Participation in 601 and 603 during the entire period of residence. Participation in at least one journal club chosen from among 605-608 for three semesters.
- Six hours of master’s research and a thesis.
- A final examination that covers both the thesis endeavor and the subject matter of the course requirements.

DOCTOR OF PHILOSOPHY
Biochemistry and Cellular and Molecular Biology Major

REQUIREMENTS
- Biochemistry and Cellular and Molecular Biology 511, 512, 515, and 6 hours of 516.
- At least two additional approved graduate courses in the life sciences or chemistry, or physics, or other physical science to be determined upon consultation with the mentor and the dissertation committee. No survey courses will be accepted.
- At least six hours of topics offered in 615 or its equivalent.
- Participation in 601 and 603 during the entire period of residence. Participation in at least one journal club chosen from among 605-608 for six semesters.
- Comprehensive examination, taken before the end of the third year of study.
- A dissertation reporting the results of original and significant research carried out during the term of candidacy.
- A final oral examination which will be concerned primarily with the student’s dissertation.

Petitioning for Master’s Degree
Students who have passed the comprehensive examination in the PhD program and have completed at least 30 hours of approved coursework for graduate credit, at least two-thirds of which must be at or above the 500 level, may petition the department for award of a master’s degree. The additional requirements for such a degree are:

- preparation of a research manuscript suitable for submission for publication in a major scientific journal and oral defense of that manuscript before an examining committee of three faculty members appointed by the head of the department, at least two of whom shall be members of the department or
- publication of at least one full-length paper in a major scientific journal as senior author

Department of CHEMISTRY
http://www.chem.utk.edu

Craig E. Barnes, Interim Head
Charles S. Feigler, Graduate Liaison

Professors
Adcock, J.L., PhD .................................................................Texas
Baker, D.C., PhD ..............................................................Ohio State
Barnes, C.E., PhD ..............................................................Stanford
Bartmess, J.E., PhD ..........................................................Northwestern
Compton, R.N., PhD .........................................................Tennessee
Cook, K.D., PhD ..............................................................Wisconsin
Feigler, C.S., PhD ..............................................................Colorado
Guiochon, G.A. (Distinguished Scientist, Science Alliance Center of Excellence), PhD .........................Université de Paris (France)
Kabalka, G.W. (Robert H. Cole Professor, Alumni Distinguished Service Professor), PhD .........................Purdue
Kovac, J.D., PhD ..............................................................Yale
Larese, J.Z., PhD ..............................................................Wesleyan
Magid, L.J., PhD ..............................................................Tennessee
Magid, R.M., PhD ..............................................................Yale
Mays, J.W. (Distinguished Scientist, Science Alliance Center of Excellence), PhD ........................................Akron
Pagni, R.M., PhD ..............................................................Wisconsin
Schweitzer G.K. (Alumni Distinguished Service Professor), PhD ........................................Illinois
Sepaniak, M.J., PhD ..............................................................Iowa State
Williams, T.F. (Alumni Distinguished Service Professor), PhD ........................................London (UK)
Woods, III, C., PhD ..............................................................North Carolina State
Xue, Z., PhD .................................................................UCLA
ADMISSION

Admission to the graduate program and a student’s course of study in graduate school are decided on a case-by-case basis, taking into consideration an applicant’s undergraduate record (traditionally including one year, each of general, analytical, organic, and physical chemistry, and one-half year of inorganic chemistry), performance on national graduate school tests, and departmental diagnostic exams. All applicants are required to take the general Graduate Record Examination.

MASTER OF SCIENCE

Chemistry Major

Concentrations

The department offers concentrations in six areas for the MS—analytical chemistry, environmental chemistry, inorganic chemistry, organic chemistry, polymer chemistry, and physical chemistry.

REQUIREMENTS

The requirements for the MS with a major in chemistry consist of the satisfactory completion of

- Research and a thesis to give 6 to 12 hours of graduate credit in Chemistry 500.
- Participation in seminar (Chemistry 501) during the entire period of graduate study, including the presentation of at least one seminar. (No more than 2 hours may be applied to the course requirements.)
- Prescribed courses based on performance on diagnostic examinations.
- Sufficient graduate course work in chemistry (at the 400 level or above) and/or a related field to make an overall total of 30 hours, including at least one of the following sequences: 510-511-512, three of 530-531-532-533, 550-551-552, 570-572-573 and 590-594-595. At least 14 hours of this graduate coursework must be at the 500 level or above.
- A final oral examination.

DOCTOR OF PHILOSOPHY

Chemistry Major

Concentrations

The department offers concentrations in eight areas for the PhD with a major in chemistry: analytical chemistry, chemical physics (in cooperation with the Department of Physics), environmental chemistry, inorganic chemistry, organic chemistry, physical chemistry, polymer chemistry, and theoretical chemistry.

REQUIREMENTS

The requirements for the PhD in chemistry (except for the chemical physics concentration) consist of the satisfactory completion of

- Research and a dissertation to give at least 24 hours of graduate credit in Chemistry 600. Registration must be continuous from the beginning of research.
- Participation in seminar (Chemistry 501) during the entire period of graduate study, including the presentation of at least one seminar.
- Prescribed courses based on performance on diagnostic examinations.
- Completion of the comprehensive examination series and defense of an original research proposal to give two hours of credit in Chemistry 601.
- Eighteen additional hours in courses at the 500 level or above including at least one course above 601 and one of the following sequences: 510-511-512, 530-531-532-533, 550-551-552-553-554, 570-571-572-573 and 590-594-595.
- A final oral examination.

The PhD program with a concentration in chemical physics is conducted jointly with the Department of Physics. Requirements depend on the choice of the major department. Chemistry departmental requirements include passing the above degree requirements in chemistry with concentration in physical chemistry plus six additional hours in physics at the 500 level or above. Three of the additional physics hours can be used to satisfy the 18 hours requirement listed above.
REQUIREMENTS

ADMISSION

Computer Science Major

MASTER OF SCIENCE

Computer Science Major

ADMISSION

Two semesters of calculus plus two additional semesters of college mathematics (e.g., linear algebra, differential equations, probability) and a course in formal languages as well as in systems programming are required for admission.

REQUIREMENTS

For the master’s degree, 30 hours of graduate credit are required, 24 of which must be 500 level or above. Computer Science 530, 560 and 580 or 581 are required for the degree.

Graduate courses taken outside the department are sometimes allowed but must be approved by the Graduate Committee before enrollment.

Thesis Option

The student must reach agreement on a thesis topic with a faculty advisor and must take six hours of 500 Thesis. Six hours of 500 Thesis may count in the 24-hour requirement at the 500 level or above.

Non-Thesis Option

The student must take coursework in an area to prepare for the non-thesis master’s examination. The student’s advisor must verify that an acceptable set of courses has been taken before the student may schedule the examination. Information concerning the examination is available in the departmental office.

Problems in Lieu of Thesis Option

The student must reach agreement on the problem topic with a faculty advisor and pass an oral exam on the problems before a committee of three or more faculty members, at least two of whom must be computer science faculty.

Computer Science Minor

The graduate minor consists of any two of the four core courses (530, 560, 580, 581) plus an additional three hours of graded computer science graduate-level courses at or above the 400 level.

DOCTOR OF PHILOSOPHY

Computer Science Major

ADMISSION

A student seeking admission to the PhD program is expected to meet the following requirements:

- The student should have three letters of recommendation sent directly to the department head from individuals capable of assessing the student’s potential for advanced work in computer science (for example, college teachers or employers for whom the student has worked after earning a bachelor’s degree). The department reserves the right to contact these individuals or other knowledgeable people if additional information is deemed necessary or desirable.
- The student is expected to have taken the GRE verbal and quantitative general test within the past three years and to have these scores sent to the Office of Graduate Admissions.
- The student should satisfy the same background requirements as for the master’s program. See the departmental brochure for details.

REQUIREMENTS

Original research reported in a dissertation of high quality is emphasized. The minimum hour requirements are 24 hours of course 600 Doctoral Research and Dissertation and 24 hours of graduate courses beyond the equivalent of a master’s degree (i.e., beyond 30 graduate credit hours) graded A-F. Computer Science 530, 560 and 580 or 581 are
required for the degree. At least six hours of 600-level graded courses must be taken in computer science at the University of Tennessee, Knoxville. The student’s advisor and committee will establish the specific course requirements. The comprehensive examination consists of a departmental written examination and a subsequent oral examination conducted by the student’s committee.

Department of EARTH AND PLANETARY SCIENCES

http://geoweb.gge.utk.edu/

Claudia I. Mora, Head
Larry D. McKay, Graduate Liaison

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

Associate Professors
Clark, G.M., PhD .................................................................Penn State
Perfect, E., PhD .................................................................Cornell

Assistant Professors
Kah, L.C., PhD .................................................................Harvard
Moersch, J.E., PhD .............................................................Cornell
Uhle, M., PhD .................................................................Virginia

MAJOR DEGREES

Geology ....................................................................................MS, PhD

The Department of Earth and Planetary Sciences offers both the Master of Science and Doctor of Philosophy with a major in geology. Persons interested in these programs should contact the Director of Graduate Admissions in the department.

ADMISSION

For admission, an applicant must provide transcripts of previous university work, two rating forms or letters of recommendation, and GRE scores (general). Students are not normally admitted under non-degree status.

Prerequisite for both degrees is a Bachelor’s degree, including coursework in mineralogy, optical mineralogy, petrology, stratigraphy, paleontology, structural geology, and field geology. One year each of coursework in calculus and chemistry and one year of coursework in biology, physics, or statistics are also required. Applicants lacking any of these may be admitted, but the deficiencies must be removed within the first year without graduate credit. Substitutions may also be allowed.

MASTER OF SCIENCE

Geology Major

REQUIREMENTS

The department offers the thesis option in the master’s program. Graduation requires successful oral defense of a written thesis and a minimum 3.0 GPA in all graduate coursework.

Course requirements are a minimum of 30 hours, including

- 6 hours of Thesis 500.
- Registration in 595 during the first two years in residence. Two hours may be counted toward the 30-hour minimum. This requirement may be waived in unusual circumstances.
- 16 hours of geology courses, with at least 14 hours at the 500 or 600 level, including at least one course from any three of the following five groups
  1. 410, 460, 475, 480, 530, 563, 565, 568.
  2. 420, 421, 450, 545, 546, 550, 556, 557
  3. 470, 570, 572, 575, 576.
  5. Any 400- or 500-level courses with graduate credit from related departments (allied sciences, mathematics, and engineering), selected with approval of the advisor.
- 8 hours of additional graduate coursework.

DOCTOR OF PHILOSOPHY

Geology Major

The prerequisite for the PhD program, in addition to that for the MS program, is either a master’s degree with a major in geology or a bachelor’s degree plus completion of 24 hours of graded coursework with at least one course from any three of the groups listed in group 3 above. These courses may be taken while completing other course requirements.

REQUIREMENTS

Graduation requires passing a comprehensive examination, taken no later than the end of the second year, completion of all course requirements with a minimum 3.0 GPA, completion of the language requirement, and successful oral defense of the dissertation.

The comprehensive examination includes both written and oral parts in which the candidate will be tested on his/her knowledge of the area concerning the proposed dissertation and of related fields. The candidate is expected to be conversant in a wide field of geological sciences.

A minimum of 24 hours of graded coursework beyond the master’s degree is required in addition to the 24 hours of Dissertation 600. The coursework includes the sum of nine hours of 600-level geology courses, nine hours of 500-level or higher geology courses, and six hours of additional graduate courses. Extra departmental coursework is encouraged.

The student must demonstrate a reading knowledge of a foreign language in which there is a body of geologic literature, as approved by the student’s dissertation committee. The foreign language requirement may be waived for PhD students whose native language is not English and who have demonstrated mastery of the English language, as determined by the student’s dissertation committee.
Department of
ECOLOGY AND EVOLUTIONARY BIOLOGY

http://eeb.bio.utk.edu/

Christine R.B. Boake, Head
Arthur C. Echternacht, Associate Head
Gary F. McCracken, Graduate Liaison

Professors
Boake, C.R.B., PhD .................................................. Cornell
Burghardt, G.M., PhD ............................................. Chicago
Echternacht, A.C., PhD .......................................... Kansas
Etier, D.A., PhD ..................................................... Minnesota
Gavilletts, S., PhD ....................................................... Davis
Greenberg, N.B., PhD ......................................... Rutgers
Gross, L.J., PhD ............................................................. Cornell
Harriss, III, W.R., PhD ........................................ Tennessee
Hallam, T.G., PhD .................................................... Missouri
Hughes, K., PhD ....................................................... Utah
McCranken, G.R., PhD ........................................... Arizona
Petersen, R. (Distinguished Professor), PhD .......... Columbia
Riechert, S.E., PhD .................................................... Wisconsin
Sayler, G.S., PhD ...................................................... Idaho
Schilling, E., PhD ........................................................... Indiana
Schultz, T.W., PhD ...................................................... Tennessee
Simberloff, D. (Gore Hunger Chair of Excellence), PhD .......... Harvard

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

Assistant Professors
Butler, M., PhD ......................................................... Washington (St. Louis)
Fordyce, J.A., PhD .................................................... Davis
Gilchrist, M., PhD ..................................................... Duke
Near, T.J., PhD ........................................................... Illinois
Sanders, N.J., PhD .................................................... Stanford
Williams, J., PhD ........................................................ Georgia

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

Shared faculty are drawn from other university departments, the Oak Ridge National Laboratory, the United States Geological Survey, and the Tennessee Valley Authority.

MAJOR DEGREES
Ecology and Evolutionary Biology ......................... MS, PhD

The Department of Ecology and Evolutionary Biology administers an interdisciplinary graduate program which offers the Master of Science and Doctor of Philosophy degrees with a major in ecology and evolutionary biology and concentrations in behavior, ecology (including mathematical ecology) and evolutionary biology.

ADMISSION

Applications are accepted once a year. The deadline for receipt of all application materials is 6 January for those applicants wishing to enroll in the following fall or spring semesters. Applications incomplete as of that date, or received after that date, will not be considered. Applicants are expected to have an academic background consistent with a bachelor’s degree in one of the life sciences. They are expected to have completed a minimum of one year of general biology, two years of chemistry including one year of general chemistry, one year of physics, and one year of college-level calculus. Occasionally, applicants who are highly qualified otherwise but lack one of these courses or course sequences will be admitted with the expectation that the deficiency will be made up within the first year of graduate study. Applicants are required to submit scores from the general Graduate Record Examination (GRE) and successful applicants will usually have a composite score on the verbal, mathematical and analytical sections of the GRE of at least 1850. Submission of scores on appropriate (e.g., biology, mathematics) advanced GRE examinations is recommended but not required. Applicants are also expected to have an overall grade-point average of at least 3.0, and 3.0 or above for all science and mathematics courses, on a 4.0 scale (successful applicants will usually have grade-point averages well above these minima).

Application must be made to both the Office of Graduate Admissions and the department. The departmental application requires three letters of reference from persons capable of assessing the applicant’s suitability for graduate work in biology and a statement of professional goals and reasons for applying to this program. Applicants for the doctoral degree are expected to have made prior contact with potential research advisors in the department’s graduate program and this approach is recommended for applicants for the master’s degree program as well. Inquiries should be directed to the Chair, Graduate Committee, Department of Ecology and Evolutionary Biology, The University of Tennessee, Knoxville, Tennessee 37996-1610.

MASTER OF SCIENCE
Ecology and Evolutionary Biology Major

REQUIREMENTS

In addition to general requirements of the Graduate Council, aspirants for the Master of Science are expected to (1) during the first semester in residence, take a prescriptive diagnostic examination covering major concepts in ecology and evolutionary biology. The examination may be taken twice and must be passed before the student is admitted to candidacy; (2) complete course requirements as determined by the department and the student’s faculty dissertation research committee; and (3) satisfactorily complete and defend a research thesis.

DOCTOR OF PHILOSOPHY
Ecology and Evolutionary Biology Major

REQUIREMENTS

In addition to general requirements of the Graduate Council, aspirants for the Doctor of Philosophy degree are expected to

- Take a prescriptive diagnostic examination covering major concepts in ecology and evolutionary biology. The examination may be taken twice and must be passed before the student is admitted to candidacy.
- Complete course requirements as determined by the department and the student’s faculty dissertation research committee.
- Pass a written and oral comprehensive examination designed to test for adequate knowledge in those areas essential to the student’s research program.
...complete and defend a dissertation.

The department does not require a reading knowledge of a foreign language, but this may be imposed by the student's faculty dissertation research committee. If so, the student has the option of demonstrating reading knowledge of the prescribed language by either (a) passing the official reading examination given by the language department or (b) earning a grade of at least a B in the second semester of a special language reading course for graduate students.

Environmental Policy Minor

The department participates in a program designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Department of Economics for program description.

Department of ENGLISH

http://web.utm.edu/~english/

John P. Zomchick, Head
Misty G. Anderson, Graduate Liaison

Professors

Atwill, J.M., PhD .......................................................Purdue
Carroll, D.A. (J. Douglas Bruce Professor), PhD ..............North Carolina
Cox, D.R., PhD ..............................................................Missouri
Dumas, B.K., PhD .....................................................Arkansas
Dunn, A.R., PhD ..........................................................Washington
Enser, A.R., Ph.D ......................................................Indiana
Finneran, R. J. (John C. Hodges Professor), PhD ...............North Carolina
Garner, Jr., S.B. (Young Professor), PhD .........................Princeton
Goslee, D.F., PhD ............................................................Yale
Goslee, N.M. (Alumni Distinguished and Young Professor), PhD ......Yale
Heffernan, T.J.A. (Curry Professor), Ph.D .........................Cambridge
Kallet, M. (John C. Hodges Teaching Professor), Ph.D ................Rutgers
Keene, M.L., Ph.D .......................................................Texas
Leggett, B.J. (Humanities Professor), Ph.D .........................Florida
Leki, I., PhD .................................................................Illinois
Liuza, R.M., PhD .........................................................Yale
Lofaro, M.A. (Young Professor), Ph.D ...............................Maryland
Luprecht, M.A., Ph.D ..................................................Florida
Maland, C, PhD ..........................................................Michigan
Papke, M.E., PhD .......................................................McGill (Canada)
Smith, A., Ph.D ..............................................................Houston
Stillman, R.E., Ph.D ....................................................Pennsylvania
Wier, A., MFA ..........................................................Bowling Green
Zomchick, J.P., Ph.D ....................................................Columbia

Associate Professors

Anderson, M.G, PhD ................................................Vanderbilt
Elias, A.J., PhD ............................................................Penn State
Hirtz, R., Ph.D ...........................................................Rensselaer Polytechnic Institute
Howes, L.L., Ph.D .......................................................Columbia
Jennings, L.D., Ph.D ...................................................North Carolina
Knight, M., MFA ........................................................Virginia
Reiff, M.J., Ph.D .........................................................Kansas

Assistant Professors

Abraham, M., Ph.D ....................................................Purdue
Billone, A.C., Ph.D ..................................................Princeton
Coleman, D.D., Ph.D ..................................................Stanford
Fishman, J.M., Ph.D ..................................................Stanford
Haddox, T.F., Ph.D ................................................Vanderbilt
Hirschfeld, H.A., Ph.D ................................................Duke
Ilard, D., Ph.D ..............................................................Wisconsin
Schoenbach, L.M., Ph.D .............................................Virginia
Seshagiri, U., Ph.D .....................................................Illinois
Thaggert, M., Ph.D ...................................................(California) Berkeley

Lecturers

Aaij, M.P., Ph.D ......................................................Alabama
Barrow, R., Ph.D .....................................................Iowa
Burton, J.C., Ph.D ...........................................State University of New York (Stony Brook)
Capps, S.E., Ph.D .....................................................Pennsylvania
Christie, P.P., Ph.D ..................................................Tennessee
Dziuban, E.K., MA ............................................................Tennessee
Forsythe, M.L., MA ....................................................Tennessee
Hardwig, M.R., Ph.D ..................................................Tennessee
Hardwig, W.J., Ph.D ..................................................Florida
Harris, S.C., Ph.D .......................................................Tennessee
Havens, K.L., Ph.D .....................................................Tennessee
Hussein, A., Ph.D .....................................................Tennessee
Knox, L., MA ..............................................................Indiana
Kriete, L.M., Ph.D ......................................................Washington (St. Louis)
Larsen, W.B., Ph.D ....................................................Tennessee
McCue, K., MA ..........................................................Tennessee
McDowell, M.R., MA ..................................................Tennessee
McKinstry, D.K., Ph.D ..................................................Tennessee
Melton-Summer, S.E., Ph.D ........................................Tennessee
Meredith, E.G., MA ......................................................Tennessee
Morgan, T., Ph.D ......................................................State University of New York (Buffalo)
Palmer, H.M., MA .....................................................Tennessee
Pearson, F.M., MA .....................................................Tennessee
Peavler, J.L., MA ..........................................................Tennessee
Preston, N.H., Ph.D .....................................................Tennessee
Renfroe, M.M., Ph.D ....................................................Tennessee
Robertson, K.C., MA .....................................................Tennessee
Senasi, D.M., Ph.D .....................................................Alabama
Sheffield, C.L., MA .....................................................Radford
Spirko, R.L., Ph.D ......................................................North Carolina
Stafford, A.A., Ph.D ..................................................Pittsburgh
Wilhelm, R., Ph.D .....................................................Tennessee
Yost, R., MA ..............................................................Tennessee

Permanent Part-Time Lecturer

Berry, L.C., MA ..........................................................Tennessee

Writing Center Director

Benson, K.F., EdD .........................................................Tennessee

MAJOR DEGREES

English .....................................................................MA, PhD

The Department of English offers the Master of Arts and the Doctor of Philosophy degrees with a major in English. Thesis and non-thesis options are available for the MA, as well as a special concentration in writing. The department also offers a creative writing dissertation option in the doctoral program.

Detailed information about the master’s and doctoral programs, and about individual graduate courses, may be obtained by writing the Director of Graduate Studies in English, 306 McClung Tower. A prospective student may contact the department for application forms and procedures or may download them from the departmental graduate Web site at http://web.utm.edu/~english/graduate.php. For additional information, please visit the graduate Web site through the College of Arts and Sciences home page at www.artssci.utk.edu.

The Department of English does not accept students in non-degree or provisional status. A student who wishes to enter the department must apply in degree-seeking status for his/her application to receive consideration for admission to any graduate program in English.
MASTER OF ARTS
English Major

REQUIREMENTS
A minimum of 24 hours in English beyond the BA to include six hours at the 600 level; 12 additional hours at the 500-600 level (Only three hours of 593 Independent Study may be applied toward the MA); and six hours for graduate credit at any level, including the 400 level. In this coursework, students must maintain at least a 3.0 GPA.

Thesis Option
Written under the direction of a faculty member of the department and approved by a committee of two other faculty members. Six hours of credit will be given.

Non-Thesis Option
Six hours of additional courses at the 500-600 level, making a total of 30 hours of required coursework.

Language Requirement
Evidence of proficiency in one foreign language, to be fulfilled in one of the following ways.
• completion of the second year of a language at college level with a grade of C or better
• completion of French 302 or German 332 at the University of Tennessee, Knoxville, with a grade of B or better
• passing of the regular PhD foreign language examination as currently administered at the University of Tennessee, Knoxville

Final Examination
A candidate presenting a thesis must pass a one-hour oral examination; a candidate presenting a creative project must pass a ninety-minute oral examination. The examination consists of a short thesis defense, but chiefly of questions covering the general history of English and American literature, not merely the coursework taken. A reading list of primary works designed to help the student prepare for these questions is available in the office of the Director of Graduate Studies in English.

A non-thesis student must pass a written examination, followed by a one-hour oral examination, both consisting of the same sort of questions as the examination taken by the thesis student.

Residence Requirement
There is no residence requirement for the MA, but students should attempt to pursue a full-time program whenever possible.

Writing Concentration
The master’s program with writing concentration is intended for those students who plan to do free-lance or creative writing, specialize in teaching writing courses at the college level, work as professional editors or writers in business or industry, or pursue doctoral studies.

REQUIREMENTS
The requirements for the writing concentration are the same as those for the thesis option above with the following exceptions:

Coursework
Writing students may substitute two 400-level writing courses for two 500-level courses. Students must take at least nine hours in writing and nine in literature, the remaining six to be selected from any English courses at the proper level. Of the courses in writing, at least three hours must be taken at the 500 level; additional 500-level courses are strongly recommended.

Writing Project
One of the following writing projects for six hours of credit
• a thesis, using research to analyze some aspect of writing or rhetorical theory
• a creative project, such as a collection of poems or short stories, a short novel, a play, or a creative work of non-fiction prose

The nature and length of each project will be determined by the Director of Graduate Studies after consulting with the student and the project director. In addition to the director, two other Department of English faculty members will supervise and approve the project; at least one should be from the literature faculty.

Final Examination
The reading list may be modified by the MA examining committee, meeting as a body with the student, to reflect the candidate’s particular writing emphasis. However, most of the oral examination should focus upon the literature outlined in the original reading list.

DOCTOR OF PHILOSOPHY
English Major

REQUIREMENTS
A student must successfully complete a program of study, normally six full semesters as outlined below, approved by the candidate’s committee or the Director of Graduate Studies in English.

Coursework
At least 54 hours beyond the BA (of which at least 24 hours must be beyond the MA) to include at least 21 hours at the 600 level; at least 15 hours at the 500 level or above (only three hours of 593 Independent Study may be applied toward the MA and three after the MA); a three-hour course in teaching composition; and 15 additional hours at any level approved for graduate credit (including a maximum of 12 hours at the 400 level if approved by the Director of Graduate Studies).

Up to six of these additional hours may be taken in some cognate field or fields such as history, philosophy, and French. These courses must be drawn from those approved for graduate credit. All other coursework must be in the English department. In this coursework, students must normally maintain a 3.5 GPA.
Dissertation

Twenty-four hours of dissertation. These represent the research for and writing of the dissertation. The research and dissertation will be directed by a faculty member of the department and approved by a doctoral committee of three or four other faculty members.

Language Requirement

A language requirement met in one of the following ways.

- Two languages approved by the Director of Graduate Studies in English. The requirement for each language may be fulfilled by (a) completion of French 302 or German 332 with a grade of B or better; (b) completion at the University of Tennessee, Knoxville, of any two courses on the 300 level or above in the foreign language or literature with at least a grade of B in each course; (c) passing of the regular PhD foreign language examination as currently administered at the University of Tennessee, Knoxville.

- One modern language approved by the Director of Graduate Studies in English. This requirement must be fulfilled by a passing grade on the language examination given by the University of Tennessee, Knoxville, and completion of two courses given in the foreign language at the 400 level or above, at least one course to be at the 500- or 600-level. A minimum grade of B must be received in each course.

- One modern language approved by the Director of Graduate Studies in English and intensive study of the English language. This requirement must be fulfilled by completion of (a), (b), or (c) for one foreign language; and completion of six hours in English language courses with grades of B or better, at least three of which must be from English 508 or 509 History of the English Language (offered in alternate years only). For the other three hours, the student may either complete the history of the language sequence or choose one other course in language taught in the Department of English at the 500- or 600-level and approved by the Director of Graduate Studies in English. These courses will not count toward the minimum number of courses for the PhD, and anyone electing this language option may not take the comprehensive examination in linguistics.

Examinations

- A four-hour qualifying examination taken before the end of the first year of PhD coursework. This examination is given three times a year with the MA written examination.

- A comprehensive written examination which may be divided as the department directs; see the English Department graduate student Web site. The comprehensive examination is given twice a year, normally in March and September. Before a student may take it, he/she must have completed all coursework required. A student must also have met all requirements for foreign languages before beginning the first part of the examination.

Dissertation Defense

A one-hour examination on the dissertation and other related areas.

Residence Requirement

Two consecutive semesters as a full-time student. For students not on teaching assistantships, full-time consists of nine or more hours of coursework and/or dissertation hours each semester. For students on assistantships, full-time consists of at least six hours of courses and/or dissertation hours and three hours of teaching each semester.

Department of GEOGRAPHY

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

Bruce A. Ralston, Head
Sidney R. Jumper, Graduate Liaison

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

Associate Professors
Orvis, K., PhD .............................................................. California (Berkeley)

Assistant Professors
Drever, A., PhD .............................................................. California (Los Angeles)
Grissino-Mayer, H., PhD ................................................ Arizona

Adjunct Faculty
Blasing, T.J., PhD .............................................................. Wisconsin
Brown, M.A., PhD ........................................................ Ohio State
Gripshover, M.M., PhD ................................................... Tennessee
Harrison, G., PhD ........................................................... Tennessee
Liu, C., PhD ................................................................. Tennessee
McKeown, R., PhD ........................................................ Oregon
Tankersley, R.D., PhD ................................................... Tennessee
Washington-Allen, R., PhD ........................................... Utah State
Wilbanks, T.J., PhD ....................................................... Syracuse

MAJOR DEGREES

Geography ................................................................. MS, PhD

The department offers the Master of Science and Doctor of Philosophy degrees. The master’s degree emphasizes development of professional competence as a geographer and offers opportunities to gain substantial depth in a concentration or a major technique. An emphasis in geographic information science is available for students who have appropriate backgrounds in mathematics and computer science. The doctoral program is for those who have demonstrated proficiency in conducting independent research. The department is particularly well-qualified to direct graduate work in location analysis, transportation geography, urban and rural geography, cultural ecology, and the geography of the natural environment (especially biogeography and geomorphology). The faculty is qualified to direct students from a variety of approaches ranging from historical and humanistic to rigorously analytic and GIS-based.
MASTER OF SCIENCE PROGRAM
Geography Major

REQUIREMENTS

The department offers the thesis and non-thesis options for the Master of Science. Both options require a minimum of 30 hours beyond the completion of a sound undergraduate major program. The MS program requires students to have background in quantitative methods equivalent to the course content of Geography 415, and some familiarity with key themes and approaches in both physical and human geography. At least two-thirds of the total hours in the degree program must be at or above the 500 level and must include 501 (at each offering during residency), 504, and three hours at the 600 level. In the thesis option, six hours must be Thesis 500. A final examination is required in both programs.

DOCTOR OF PHILOSOPHY
Geography Major

The doctorate is a research degree and is granted only to those who demonstrate proficiency in conducting independent research. Students must have a broad foundation and understanding of the discipline; these should have been achieved in a comprehensive master’s program.

REQUIREMENTS

Course requirements for the degree shall be determined by the student’s faculty committee in accordance with specific interests and needs. The program must include 504, 515, 599, 9 hours of 600-level seminars, and (at each offering during residency) 501. A minimum of nine hours must be earned in collateral fields, with courses selected for their relevance to the special fields. PhD students whose master’s level work was in a field other than geography and for whom the master’s area remains close to their PhD specialty areas may petition to substitute geography units in courses outside of their specialty areas for up to three of the nine required outside units. Competency in quantitative methods and basic human and physical geography is required. Additional tools, including languages, will be required as appropriate to the student’s areas of research specialization.

Examinations required for admission to candidacy include a written comprehensive examination, comprised of two written examinations in which the student will be tested on his/her knowledge of two special fields, and related areas of geography; an oral examination on the student’s program, the special fields and related areas, and the dissertation proposal. All parts of the written comprehensive examination should be taken within the same semester.

Environmental Policy Minor

The department participates in a program designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Department of Economics for program description.
REQUIREMENTS

Complete 510 and a 600-level research seminar normally during the fall and spring semesters of the first year in the graduate program. Complete 521 in preparation for the MA examination. As many as nine related hours may be taken outside the department. As many as nine graduate credits taken elsewhere may be applied toward the MA degree. Except by prior approval of the Director of Graduate Studies, a student’s coursework must be at the 500 level or above.

Thesis Option

24 hours of coursework and six hours of Thesis 500 for a total of 30 hours are required. Thesis students are required to select one MA field and write a thesis. At the end of the program the thesis student will take a two-hour oral examination on both the thesis and the field.

Non-Thesis Option

A total of 30 hours of coursework is required. At least six hours must be completed in each of two MA fields. The primary field is examined by a two-hour written followed within one week by a one-hour oral examination with the single grade of pass/fail given at the conclusion of the oral examination. No examination is given on the secondary field.

Master of Arts Fields

- United States (colonial to present)
- Premodern Europe
- Modern Europe
- Asia
- Retention and Termination

A 3.0 overall grade point average is required to remain in good standing. MA students must take the MA examination no later than the semester following the completion of 30 hours. A student who fails the MA examination must repeat the examination no later than the following semester. A student who fails the examination a second time or does not take the examination will likewise be dropped from the program.

DOCTOR OF PHILOSOPHY

History Major

ADMISSION

- Successful completion of the MA degree from an accredited institution.
- Acceptable scores on the Graduate Record Examination (general).

REQUIREMENTS

Before being admitted to doctoral candidacy, a student must

- Complete History 510 at the University of Tennessee, Knoxville (may be waived for comparable experience elsewhere).
- Spend two consecutive semesters in residence.
- Complete nine hours in one group I doctoral field. There is no minimum hours requirement for a group II field. Complete nine hours in one group III field, including the appropriate 511, 512, or 513 course and two additional courses at the 500 level. The group III field must be in a different geographic area from the group II field. Courses taken to fulfill MA degrees may be counted toward all field requirements.
- Fulfill the foreign language requirement.
- Complete two 600-level research seminars. (One must be completed at the University of Tennessee, Knoxville.) Students who have completed a master’s thesis must complete only one research seminar (must be taken at the University of Tennessee, Knoxville), and History 621.
- Maintain a 3.0 overall grade-point average in graduate work attempted.
- Complete 24 hours of graduate coursework (21 hours graded A-F) at the University of Tennessee, Knoxville, beyond that required for the MA. Up to six hours may be taken outside of the department.
- Except by prior approval of the Director of Graduate Studies, a student’s coursework must be at the 500 level or above.

Language Requirements

Students must demonstrate competence in one foreign language through coursework or examination. The student’s doctoral committee may specify any other languages or research tools, such as statistics, essential for the student’s preparation. The foreign language requirement must be fulfilled before taking the comprehensive examination.

Group III (Teaching Field) Examination

This is a one-hour oral exam which must be completed at any time before the comprehensive examination is taken. If a student fails this, he or she may retake the exam one time only and must do so the following semester.

Comprehensive Examination

The comprehensive examination consists of a written exam (group I) and an oral exam (group II) and must be taken no later than the semester following the semester in which the student completes the residence, course work, and language requirements (summer excluded). Failure to take the comprehensive examination within the required time will be counted as a failure on the examination. No student will be permitted to take the comprehensive examination unless he or she has passed the group III examination (see above) and has an overall grade point average of at least 3.0. Qualified students will be examined in one field selected from the group I list below and one field selected from the group II list below. The two exams are taken in the same semester. The group I is an eight-hour written exam. It must be passed before the group II can be taken. The group II is a two-hour oral exam. A student who fails either exam must repeat it the following semester (summer excluded). A second failure on either exam will cause the student to be dropped from the History graduate program. A student who does not repeat a failed exam within the required time will likewise be dropped from the program.
Admission to Candidacy

Upon successful completion of the above requirements, a doctoral student may be admitted to candidacy.

Doctoral Fields

Group I: Premodern Europe; Modern Europe; United States (colonial to present)

Group II: To be defined by the student’s doctoral committee from within one of the following fields

- United States—Colonial and Early Republic; 19th century; 20th century; Regional; Military and Foreign Relations; Social and Cultural; American Political
- European—Medieval; Early Modern; Modern; Political and Diplomatic; Intellectual and Cultural; Social and Economic National Fields

Group III (Examined Teaching Field): World History; Western Civilization; U.S. Civilization

Dissertation and Defense

Original research forms the basis for the dissertation. Doctoral candidates must register for a minimum of three hours of 600 Dissertation Research each semester and must complete 24 hours of dissertation credit. A final oral defense is given on the dissertation in its historical context. The program must be completed within eight years from admission as a potential candidate.

INTERDISCIPLINARY PROGRAMS

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

The College of Arts and Sciences offers a series of interdisciplinary undergraduate majors and minors through its interdisciplinary programs. These programs include African and African-American studies, American studies, Asian studies, cinema studies, comparative literature, environmental studies, global studies, Latin American studies, legal studies, Judaic studies, linguistics, medieval studies, urban studies and women’s studies.

Certain courses within these programs are available for graduate credit as listed below. See the Undergraduate Catalog for program descriptions and directors.

Linguistics

Chair
Hona Leki, English

Graduate Certificate in Linguistics

The linguistics program offers a graduate certificate designed to meet the needs of individuals wishing to apply linguistics in various professional fields. It draws upon the strengths of faculty members in applied linguistics, sociolinguistics, and theoretical linguistics. The requirements focus upon the central aspects of the discipline of linguistics and aim to develop students’ basic knowledge and skills in the central aspects of the discipline.

Upon successful completion of this program, students should have an understanding of the basic theoretical concepts and approaches of the discipline and have gained experience in the use of analytic and research techniques. It is also designed to meet the specific needs of those students who are preparing to teach foreign language at the high school/junior college level and/or to obtain advanced level proficiency in linguistics and cultural knowledge.

Prospective candidates for the certificate may take up to six hours of certificate classes before making application for admission to the certificate program. Once admitted to the program they must maintain a GPA of at least 3.0. Application to the certificate program must be made to the Chair of the Interdisciplinary Linguistics Program by submitting a letter of application and copies of undergraduate transcripts (and graduate transcripts, if applicable). A minimum of eighteen credit hours is required; all courses must be selected in consultation with a program advisor, who must approve all courses for individual students prior to their being taken, except that, as noted above, up to six credit hours may be accepted from candidates upon admission. Students will satisfy the requirements of the certificate program by selecting eighteen hours from the following lists, provided that those courses are selected in consultation with a program advisor, who approves their selection. A certificate cannot be earned without program approval by the advisor.

REQUIREMENTS

- At least one of the following courses: French 512, German 512, Spanish 512, Linguistics 423, 425.
- Additional courses from the following list for a total of fifteen credit hours: Audiology and Speech Pathology 506, 601, 652, English 508, 509, 680, French 421, 422, 510, German 510, 541, 631, 632, Linguistics 400, 411, 426, 429, 435, 471, 472, 474, 476, 477, 485, 490, 575, Spanish 421, 531, Psychology 400, 543, 617, Statistics 531. Other courses may, where appropriate, be substituted for the courses listed above with the permission of the Chair of the Linguistics Program.
- A three-credit hour capstone project, normally the preparation of a paper for presentation at a professional conference or for publication in a journal, planned and completed in consultation with a program advisor.

Medieval Studies

Chair
Robert Bast, History

Graduate Certificate in Medieval Studies

The medieval studies program offers a graduate certificate enabling students with an interest in medieval topics to acquire a broad foundation in the interdisciplinary approaches to medieval research and to begin putting these approaches into practice. For students earning MA or PhDs in traditional disciplines, the program will augment their training and may make them more attractive candidates for academic positions.

Prospective candidates for the certificate may take up to six hours of certificate classes before making application for admission to the certificate program. Once admitted to the program they must maintain a GPA of at least 3.0. Application to the certificate program must be made to the Chair of the Medieval Studies Program by submitting a letter of application and copies of undergraduate transcripts (and graduate transcripts, if applicable). A minimum of fifteen credit hours is required; all courses must be selected in consultation with a program advisor, who must approve all
courses for individual students prior to their being taken, except that, as noted above, up to six credit hours may be accepted from candidates upon admission. Students will satisfy the requirements of the certificate program by selecting fifteen hours from the following lists, provided that those courses are selected in consultation with a program advisor, who approves their selection. A certificate cannot be earned without program approval by the advisor.

**REQUIREMENTS**

- Medieval Studies 510.
- 12 additional hours chosen from at least two disciplines. A minimum of six hours must be taken in one discipline. Students may choose from the following courses: Art History 425, 431, 441, 451, 571, English 401, 402, 508, 513, 514, 610, 611, 620, 621, French 410, 429, 540, German 541, History 531, Italian 401, 402, Spanish 531, 532, Philosophy 520, 620, Political Science 475. Topics and special topics courses, where appropriate, may be substituted for any of the above courses with the permission of the Chair of the Medieval Studies Program.
- Demonstration of competency in reading medieval Latin, either by earning an A or B in Classics 435, or by passing the University of Toronto’s MA Medieval Latin exam, given on campus in fall and spring semesters. Where appropriate, students may substitute competency in reading medieval Greek, Hebrew, or Arabic. The chair of Medieval Studies, in conjunction with the Medieval Studies committee, will establish standards for determining competency in these languages as need arises.
- A non-credit capstone project, usually a paper. The paper should be interdisciplinary in its approach to its topic and may be an outgrowth of a seminar paper in another course. This capstone paper must be presented to an audience of Medieval Studies committee members and other interested faculty and graduate students before the certificate is granted.

**Women’s Studies**

Chair
Cheryl Brown Travis, Psychology

**Graduate Certificate in Women’s Studies**

The women’s studies program offers a graduate certificate, enabling students to develop critical thinking about the economic, social, and legal factors influencing women’s roles in contemporary and historical societies, and to evaluate those roles in the widest possible perspectives. Students may examine representations of women in the arts and the media, evaluate how science and medicine view women as objects of study, and study how women work as practitioners and researchers in these fields.

The program is designed to provide a supplementary perspective for students already enrolled in graduate programs, to provide an entry into graduate study for those who are exploring a number of disciplinary approaches, to provide enrichment for members of the community who have a bachelor’s or an advanced degree, and to develop skills for professionals in various fields.

Prospective candidates for the certificate may take up to six hours of certificate classes before making application for admission to the certificate program. Once admitted to the program they must maintain a GPA of at least 3.0. Application to the certificate program must be made to the Chair of the Women’s Studies Program by submitting a letter of application and copies of undergraduate transcripts (and graduate transcripts, if applicable). A minimum of fifteen credit hours is required; all courses must be selected in consultation with a program advisor, who must approve all courses for individual students prior to their being taken, except that, as noted above, up to six credit hours may be accepted from candidates upon admission. Students will satisfy the requirements of the certificate program by selecting fifteen hours from the following lists, provided that those courses are selected in consultation with a program advisor, who approves their selection. A certificate cannot be earned without program approval by the advisor.

**REQUIREMENTS**

- Women’s Studies 510.
- 12 additional hours, drawn from at least two different disciplines. For students enrolled in an MA program, no more than two of the certificate courses may be drawn from that program or the department in which the MA program is housed. Students are encouraged to select from courses at the 500 level and above. Students may choose from the following list: Anthropology 517, English 584, Health 420, 520, Public Health 585, Law 549, 562, 958, Women’s Studies 400, 410, 422, 425, 434, 466, 469, 476, 483, 510, 593.
- A capstone experience such as presenting research results to a professional group, submitting a work for publication, arranging an exhibit, or presenting a performance to a group approved by the individual advisor and the chair of Women’s Studies.

**LIFE SCIENCES**

(Interdepartmental)

Otto J. Schwarz, Chair

**MAJOR DEGREES**

<table>
<thead>
<tr>
<th>Degree</th>
<th>Life Sciences</th>
<th>MS, PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Genome Science and Technology</strong></td>
<td>The University of Tennessee-Oak Ridge National Laboratory Graduate School of Genome Science and Technology (GST) is a unique and multidisciplinary program for full time graduate study leading to the Master of Science</td>
<td></td>
</tr>
</tbody>
</table>

The program leading to the Master of Science and Doctor of Philosophy with a major in life sciences are interdepartmental and intercollegiate and are designed to augment offerings of individual departments in two concentrations: genome science and technology, and plant physiology and genetics. Students interested in these areas should contact either the Life Sciences chairperson or the director of the area of interest. Each concentration is administered separately and has unique admission requirements.
Plant Physiology and Genetics Concentration

Otto J. Schwarz, Director

This program provides the opportunity for intensive training and research experience in areas transcending the usual boundaries of botany, biochemistry, and agricultural plant sciences. Solutions of problems concerning the interactions of physiology and genetics in applied and fundamental aspects of plant science are the focus.

Admission requirements are a BA with a major in a biological, behavioral, or physical science; GRE (general) score; three letters of recommendation; and coursework including a year of calculus (differential and integral), one year of chemistry and a year of physics. Specific course deficiencies may be corrected during the first year.

Required courses are Life Sciences 510; Botany 521, 522; Biochemistry and Cellular and Molecular Biology 511, 512; Plant Sciences 471 or Ecology and Evolutionary Biology 560; Microbiology 410. The master’s degree requires a minimum of 30 hours of study approved by the student’s committee, a thesis, and an oral examination. The minimum requirements for the doctoral degree include at least six hours above the 600 level, 24 hours of course 600, courses approved by the student’s committee, a comprehensive examination, a doctoral dissertation, and a defense of dissertation.
MAJOR DEGREES

Mathematics ............................................. MMath, MS, PhD

The Mathematics Department has three graduate degrees—the Master of Mathematics degree, intended primarily for teachers; the Master of Science degree, designed to prepare students for industrial employment and for teaching; and the Doctor of Philosophy degree, designed to prepare students for industrial employment and for college and university teaching and research. Contact the department office for additional information.

A student offering mathematics as a minor for the master’s degree is required to obtain at least six hours of resident graduate credit in courses numbered above 400 and approved by both the major department and the Department of Mathematics.

For additional information, please visit the graduate Web site on the Department of Mathematics’ homepage at www.math.utk.edu.

MASTER OF MATHEMATICS

Mathematics Major

Before admission to the Master of Mathematics program, the applicant must have either (a) certification for teaching secondary mathematics in at least one state, or (b) three years of elementary school, secondary school, or community college teaching experience. Applicants must have successfully completed one year of calculus (141-142 or equivalent) and a course in matrix algebra (251 or equivalent).

REQUIREMENTS

The following requirements must be met.

- Complete 30 hours of coursework of which 21 must be at the 500 level. The coursework must include 504, 505, 506, 507, and 6 hours in 509. At most, six hours may be taken outside the Department of Mathematics (selected in consultation with the advisor).
- Pass a final examination upon completion of all coursework.

In exceptional circumstances, part of admission requirement (b) might be satisfied concurrently with coursework. Normally, Master of Mathematics degree students will start the program by taking 504 during the summer.

DOCTOR OF PHILOSOPHY

Mathematics Major

REQUIREMENTS

For the PhD program in Mathematics, the student must meet the following requirements in addition to those of the Graduate Council.

Applied Mathematics Concentration

Requirements

For this concentration, available under the thesis or the non-thesis option, the student must complete the following.

- prerequisite courses—Numerical Algorithms 371 or Numerical Analysis 471 or Numerical Algebra 472; Methods in Applied Mathematics 512 or both Differential Equations II 431 and Partial Differential Equations 435; Honors Advanced Calculus 447-448 or Advanced Calculus I, II 445-446; Matrix Algebra II 453
- one hour of Seminar in Applied Mathematics 519 or Seminar in Mathematical Ecology 589
• Demonstrate competency in Advanced Calculus and Linear Algebra by either a satisfactory performance on a Diagnostic Examination or by passing the appropriate 400-level course with a grade of B or better by the end of the student's first year of graduate school. The appropriate course for advanced calculus is the 447-448 sequence and for linear algebra is the 457-458 sequence or 453.
• Satisfy either the standard program or the interdisciplinary mathematical ecology/evolution concentration. A student intending to work in mathematical ecology/evolution may complete either, but is encouraged to complete the interdisciplinary mathematical ecology/evolution concentration.
• Take at least two different one-semester research seminars and 599.
• Pass an examination in the field of specialization after requirements in bullets 1-3 have been met. This examination will be given by a committee appointed by the department head. A student may take this examination at most twice.
• Pass a one-year, 600-level sequence in mathematics outside the student's area of specialization. The sequence selected to fulfill this requirement must be approved by the department head and the student's doctoral committee.

These requirements must be completed no later than the start of the student's seventh year (as a mathematics graduate student at UT).

**Standard Program**

A student must pass written examinations on two of the following year-long sequences: algebra (551-552), analysis (545-546), computational and applied mathematics (571-572), differential equations (535-536), stochastics (521-522), and topology-geometry (561-562). A student must pass one examination by the middle of his/her third year and both examinations by the middle of his/her fourth year. A student may not take any examinations after four failures.

In addition to the two year-long sequences chosen for the written examinations, a student must take two other one-semester 500-level courses from the following list grouped by examination area: algebra (551-552, 555-556), analysis (545-546, 547), computational and applied mathematics (571-572, 574, 575, 577, 578), differential equations (513-514, 515-516, 531-532, 535-536, 537-538, 581-582, 585), stochastics (521-522, 523-524, 525-526), and topology-geometry (561-562, 567-568). These four courses must contain a year-long sequence in an area different from the two written examinations and at least two areas different from the two written examinations. A grade of B or better is required in each of these courses, with at least a B+ in two of the courses.

**Mathematical Ecology/Evolution Concentration**

A student must pass written examinations on mathematical ecology (581-582) and one of the following year-long sequences: analysis (545-546), computational and applied mathematics (571-572), differential equations (535-536), and stochastics (523-524). A student must pass one examination by the middle of his/her third year and both examinations by the middle of his/her fourth year. A student cannot take any examinations after four failures.

In addition to the two year-long sequences chosen for the written examinations, a student must take four other one-semester 500-level courses from the following list grouped by examination area: analysis (545-546, 547), computational and applied mathematics (571-572, 574, 575, 577, 578), differential equations (513-514, 515-516, 531-532, 535-536, 537-538, 581-582, 585), stochastics (521-522, 523-524, 525-526), and mathematical ecology/evolution (583, Ecology and Evolution Biology 509, 511, 512, 514). For the purposes of this requirement, the following pairs of Ecology and Evolutionary Biology courses count as a one-semester course: 509/514, 511/514, and 512/514.

These four courses must contain a year-long sequence in an area different from the two written examinations and at least two areas different from the two written examinations. A grade of B or better is required in each of the four courses, with at least a B+ in two of the courses.

---

**Department of MICROBIOLOGY**

**http://web.bio.utk.edu/micro/**

**Jeffrey M. Becker, Head**
**Pamela Small, Graduate Liaison**

**Professors**
Becker, J.M., PhD ..............................................Cincinnati
Brian, D.A., PhD/DVM ...........................................Michigan State
Moore, R.N., PhD ....................................................Texas (Austin)
Riggsby, W.S., PhD .....................................................Yale
Rouse, B.T., PhD ......................................................Guelph (Canada)
BVSc
Sayler, G.S., PhD ........................................................Idaho
Small, P.L.C., PhD .....................................................Stanford
White, D.C. (Distinguished Scientist),
MD .................................................................Tufts
PhD .................................................................Rockefeller

**Associate Professor**
Wilhelm, S., PhD ..................................................Western Ontario

**Assistant Professors**
Buchan, A., PhD ......................................................Yale
Reynolds, T., PhD .......................................................Vanderbilt
Sangster, M.Y., PhD ...........................................Western Australia (Perth)
Sparer, T.E., PhD ......................................................Emory University School of Medicine
Zinser, F., PhD ........................................................Harvard

**Research Assistant Professors**
Fleming, J., PhD ..........................................................Tennessee
Hauser, M., PhD ......................................................California (Irvine)
Kumaraguru, U., PhD ................................................Madras (India)
Layton, A.C., PhD .....................................................Purdue
Lee, B-K, PhD ........................................................Tennessee
Pfitzner, S., PhD ......................................................Florida State
Ripp, S., PhD ............................................................Oklahoma State
Sanseverino, J., PhD ..............................................Lehigh

**MAJOR DEGREES**

**Microbiology..........................................................MS, PhD**

The Department of Microbiology offers both the Master of Science and Doctor of Philosophy. Students have the option of selecting from a variety of graduate research programs. For a departmental brochure, contact the department head.
ADMISSION

Students are expected to have completed an undergraduate program with a 3.0 or better GPA on a 4.0 system. Included in the undergraduate course credits should be (1) a full year of general biological science; (2) one year of calculus; (3) two years of chemistry, including one year of organic; (4) one year of physics; and (5) an introductory course in microbiology. In many cases, deficiencies in requirements may be removed by taking appropriate courses during the first year of graduate study. The department also requires the general portion of the Graduate Record Examination. A satisfactory score on each part is 550 or higher with rare exceptions. Three letters of recommendation should be submitted by current or former faculty members.

Each new graduate student meets with an advisory committee chaired by the departmental Director of Graduate Studies to plan a program of study for the first one or two semesters until a research advisor is selected. All first-year students participate in a laboratory rotation program during the first semester of study. This program allows the student to adjust smoothly to the research programs of the department, to develop a background of research procedures and concepts, and to facilitate the selection of a research professor. Usually the student selects a research professor toward the end of the laboratory rotation period. The major professor assists in the selection of and carrying out of a suitable research program and in the naming of a thesis or dissertation committee.

MASTER OF SCIENCE

Microbiology Major

The program leading to the MS is designed to provide the student with broad basic knowledge, to permit the acquisition of technical competence in the fundamentals of research, and to encourage creative and independent thinking.

REQUIREMENTS

Two to three calendar years are usually needed for the course of study that has the following requirements.

- 30 hours including six thesis credits
- a 3.0 GPA in all courses taken for graduate credit after 12 hours of credit have been earned in courses graded on the A-F system
- a 3.0 GPA in courses taken in the department
- a complete course sequence in biochemistry or molecular biology
- presentation of a research thesis and its oral defense

DOCTOR OF PHILOSOPHY

Microbiology Major

The program leading to the PhD is designed to develop the student’s ability to pursue independent and original research in microbiology and allied fields, to teach both oral and written communication of the results of research to the scientific community, and to train effective teachers. Students may enter the program after receiving either a bachelor’s or master’s degree. Students who enter with a bachelor’s degree usually receive the PhD after four or five years; those with the master’s degree usually take three or four years to complete the degree.

REQUIREMENTS

Departmental requirements are

- a 3.0 GPA in all courses taken for graduate credit after 12 hours of credit have been earned in courses graded on the A-F scale
- a 3.0 GPA in courses taken in the department
- satisfactory performance in at least one semester as a teaching assistant
- one semester of physical chemistry
- one course in statistics
- two semesters of biochemistry or molecular biology
- satisfactory performance in a comprehensive examination that must be attempted before the end of the fifth semester in the program and passed before admission to candidacy
- the presentation of a research dissertation and its oral defense

Department of
MODERN FOREIGN LANGUAGES AND LITERATURES

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

Chauncey J. Mellor, Interim Head
Stefanie Ohnesorge, Graduate Liaison

Professors
Brady, P., (Shumway Chair of Excellence), PhD ................................................................. Université de Paris (Sorbonne)
Brizio-Skow, F., PhD ........................................................................................................ Washington
Campion, E.J., PhD ................................................................................................................. Yale
Creeeff, B., PhD ................................................................................................................ California (Davis)
DeMaria, S., PhD ................................................................................................................ Wisconsin
Handelsman, M.H. (Distinguished Professor), PhD ___________________________________ Florida
Hodges C.R. (Associate Dean), PhD ................................................................................ Chicago
Holmlund, C., PhD ................................................................................................................ Wisconsin
Levy, K.D., PhD .................................................................................................................. Kentucky
Mellor, C.J., PhD ................................................................................................................... Chicago
Rivera-Rodas, O., PhD ........................................................................................................ California (Davis)
Romeiser, J.B., PhD .............................................................................................................. Vanderbilt
Young, D.J., PhD .................................................................................................................. Texas

Associate Professors
Beauvais, M., PhD ................................................................................................................ Texas
Blackwell, S.H., PhD ......................................................................................................... Indiana
Essif, L., PhD ...................................................................................................................... Brown
Hoeyng, P., PhD ................................................................................................................... Wisconsin
Kaplan, G., PhD ................................................................................................................ Pennsylvania
LaCure, J., PhD .................................................................................................................... Indiana
Lee, D. E., PhD .................................................................................................................... Stanford
McAlpin, M.K., PhD ........................................................................................................... Columbia
Ohnesorge, S., PhD ............................................................................................................ McGill (Canada)
Pervukhina, N.K., PhD ........................................................................................................ Bryn Mawr
Silva-Filho, E., PhD ............................................................................................................ North Carolina

Assistant Professors
Arnold, M.N., PhD .............................................................................................................. Texas
Ayo, A., PhD ......................................................................................................................... Arizona
Berwald, O., PhD ................................................................................................................ North Carolina
Cano, L., PhD ....................................................................................................................... Penn State
Cruz-Cámara, N., PhD .................................................................................................... State University of New York (Buffalo)
Duke, D., PhD ......................................................................................................................... Pittsburgh
Gimmel, M., PhD ................................................................................................................ Indiana
Gregory, A., PhD ................................................................................................................ Texas
He, D., PhD ......................................................................................................................... British Columbia
The Department of Modern Foreign Languages and Literatures offers graduate programs leading to the Master of Arts degree with majors in French, German and Spanish, and the Doctor of Philosophy degree with a major in modern foreign languages. Inquiries should be addressed to the head of the department.

**MAJORS**

<table>
<thead>
<tr>
<th>MAJOR</th>
<th>DEGREES</th>
</tr>
</thead>
<tbody>
<tr>
<td>French</td>
<td>MA</td>
</tr>
<tr>
<td>German</td>
<td>MA</td>
</tr>
<tr>
<td>Spanish</td>
<td>MA</td>
</tr>
<tr>
<td>Modern Foreign Languages</td>
<td>PhD</td>
</tr>
</tbody>
</table>

**MAJOR OF ARTS**

**French Major**

**Thesis Option**

- Completion of a minimum of 24 hours in coursework plus at least six hours in course 500 Thesis. French 501 is required. A maximum of six hours may be taken at the 400 level, the rest at the 500 level, and under certain conditions the student may take 600-level seminars. If the student chooses to have a minor (such as Italian or Portuguese), at least 24 hours (including six hours of thesis) must be taken in the major, six in the minor.
- A thesis, with a minimum of six hours in course 500.
- A written examination covering the coursework and selected items from a master reading list.
- A final oral examination covering the thesis.

**Non-Thesis Option**

- Completion of at least 30 hours, with a maximum of nine at the 400 level, the rest at the 500 level, including French 501. Under certain conditions, the student may take 600-level seminars. If the student chooses to have a minor (such as Italian or Portuguese), at least 24 hours must be taken in the major, six in the minor.
- A research paper from a course, which the candidate substantially expands with the approval of the committee.
- A written examination covering the coursework and selected items from a master reading list.
- A final oral examination to discuss the research paper.

**German Major**

**Thesis Option**

The minimum requirements are 24 hours of coursework and 6 hours of Thesis 500. German 510 and 519-520 are required, as are three courses on German literature or culture, one of which may be at the 400 level. In addition, students must take three further courses, only one of which may be chosen from 411-412 or 485. All graduate teaching assistants should take 512, and other candidates may take 512 or any other course above 500. A maximum of three 400-level courses may be counted toward the 24 hours of course credit. All MA candidates must sit for a standardized language examination, such as the Zentrale Mittelstufenprüfung. Students who are interested in future PhD-level study are strongly advised to choose the thesis option.

**Non-Thesis Option**

The minimum requirements are 30 hours of coursework, including at least one 600-level course, for which a seminar paper is required. German 510 and 519-520 are required, as are three courses on German literature or culture, one of which may be at the 400 level. In addition, students must take three further courses, only one of which may be chosen from 411-412 or 485. All graduate teaching assistants should take 512, and other candidates may take 512 or any other 500-level course. A maximum of three 400-level courses may be counted toward the 30 hours of coursework. A common written exam over the designated reading list is required, as is a standardized language exam, such as the Zentrale Mittelstufenprüfung. Each non-thesis MA candidate will have a committee of three faculty members in German to whom the student will submit a dossier consisting of the seminar paper and one paper previously submitted in a graduate course. The length and type of the papers is described in greater detail in the Manual for Graduate Students in German.

**Spanish Major**

**Thesis Option**

- Completion of a minimum of 24 hours in coursework plus at least six hours in course 500 Thesis. Spanish 550 is required. A maximum of six hours may be taken at the 400 level, the rest at the 500 level, and under certain conditions the student may take 600-level seminars. If the student chooses to have a minor (such as Italian or Portuguese), at least 24 hours (including six hours of thesis) must be taken in the major, six in the minor.
- A thesis, with a minimum of six hours in course 500.
- A written examination covering the coursework and selected items from a master reading list.
- A final oral examination covering the thesis.

**Non-Thesis Option**

- Completion of at least 30 hours, with a maximum of six at the 400 level, the rest at the 500 level, including Spanish 550. Under certain conditions, the student may take 600-level seminars. If the student chooses to have a minor (such as Italian or Portuguese), at least 24 hours must be taken in the major, six in the minor.
- Three term papers that have been accepted by the student's advisory committee.
- A written examination covering the coursework and selected items from a master reading list.
- A final oral examination covering the thesis.

**DOCTOR OF PHILOSOPHY**

**Modern Foreign Languages Major**

The PhD with a major in modern foreign languages requires advanced training in a major language and either a second language or applied linguistics.
ADMISSION

Applicants must have completed a BA in either French, German or Spanish to be accepted into this program. Both graduates of institutions in the United States and those with undergraduate degrees from institutions outside the United States must have a grade point average of at least 3.0. Consideration will also be given to applicants who do not have an undergraduate degree in one of the three foreign languages but do have the equivalent of an undergraduate major in one of them.

REQUIREMENTS

Candidates must complete a minimum of 63 hours of coursework beyond the bachelor’s degree in addition to 24 hours of doctoral research and dissertation.

For candidates with French or Spanish as a first concentration, two tracks are available.

- **Track I.** The coursework for Track I must be distributed as follows: at least 39 hours in the first concentration; at least 18 hours in the second concentration; and at least six hours in a cognate field or in either the first or second concentration as approved by the student’s graduate committee.

- **Track II.** The coursework for Track II must be distributed in this way: at least 45 hours in the first concentration; at least 12 hours in the second concentration; and at least six hours in a cognate field or in either the first or second concentration as approved by the student’s graduate committee. Because Track II students will have taken 12 graduate hours instead of 18 hours in the second concentration, they will normally not be eligible to teach that field at institutions which follow SACS guidelines for college foreign language teaching.

The coursework for all concentrations must be distributed as follows

- **First Concentration: German.** A minimum of 39 hours of German courses beyond the bachelor’s degree, distributed as follows:
  - **400 level:** A maximum of six hours of 400-level classes taken for the MA may be applied.
  - **500 level:** A minimum of 21 hours must be taken. These must include German 512, 519, 520, and 560. Thesis hours are excluded. If 512 is used as part of a second concentration in applied linguistics, another course must be substituted in the first concentration.
  - **600 level:** A minimum of 12 hours must be taken, exclusive of dissertation hours.

- **First Concentration: French or Spanish.** A minimum of either 39 (Track I) or 45 (Track II) hours of French or Spanish courses beyond the bachelor’s degree, distributed as follows:
  - **400 level:** A maximum of six hours of 400-level classes taken for the MA may be applied.
  - **500 level:** A minimum of 21 (Track I) or 27 (Track II) hours must be taken. These must include French 512, 519, 584 or Spanish 512 and 550. Thesis hours are excluded. If 512 is used as part of a second concentration in applied linguistics, another course must be substituted in the first concentration.
  - **600 level:** A minimum of 12 hours must be taken, exclusive of dissertation hours.

- **Second Concentration.** A minimum of 18 (German or Track I) or 12 (Track II) hours beyond the bachelor’s degree, taken in the field of applied linguistics or in a second language, either French, German, Italian, Portuguese (Track II only), Russian or Spanish. For Track I and German, 12 of these hours must be at the 500 level or above. For Track II, 3 of these hours must be at the 500 level or above.

- **French students choosing applied linguistics.** Must take French 421 or 429; 425; 512; and nine (Track I) or three (Track II) hours of appropriate electives in English or French. German students choosing applied linguistics must take German 425, 435 or 510, 512, three hours of German linguistics, such as 426, 436, 631, or 632, and six hours of linguistics electives in English or German. Spanish students choosing applied linguistics must take Spanish 421 or 429; 425; 512; and nine (Track I) or three (Track II) hours of appropriate electives in English or Spanish. The student’s graduate advisor must approve the electives chosen.

- **Cognate Field.** Six hours in graduate courses numbered 400 and above in a field outside the department or language family of the first concentration but related to the student’s principal area of research. Students choosing applied linguistics as a second concentration are strongly urged to take their cognate work in a second language. With the consent of the student’s graduate committee, the six hours in the cognate field may be substituted by six hours in either the first or second concentration.

- **Additional requirements.** For any languages taken as a first or second concentration, a student must demonstrate competence by taking a test. The test will include reading, writing, listening, and speaking, and should be completed by the time the student reaches 40 hours of study beyond the bachelor’s degree. Standardized examinations that may be used for this purpose include applicable portions of either the National Teachers Examination, the MLA Examination for Teachers and Advanced Students, or the proficiency standards of the United States Foreign Service Institute (FSI).

For students choosing applied linguistics as an area of second concentration, reading competence in a second language is required. Competence will be determined by translation of a text from the foreign language into English, the test to be administered by the department.

A comprehensive examination on the language and literature of the first and second concentrations must be passed before the student may be admitted to candidacy. The candidate is required to defend his/her dissertation in an oral examination. Central emphasis is put on the doctoral dissertation as a final test of the candidate’s scholarly qualifications.

Graduate Teaching Assistants with a second concentration in another language should have the opportunity and will be strongly encouraged to instruct in the languages of both their first and second concentration, subject to staffing needs.

Doctoral students are strongly encouraged to reside and study abroad and will be assisted in identifying potential sources of financial support (e.g., Fulbright, McClure, Rotary fellowships).
School of
MUSIC

http://www.music.utk.edu

Roger L. Stephens, Director
Angela L. Batey, Associate Director for Graduate Studies

Professors
Brock, J.P., MM .............................................................................Alabama
Coker, J., MA ...............................................................................Sam Houston
Jacobs, K.A., DMA .....................................................................Texas
Leach, C.F., DM .........................................................................Northwestern
MacMorran, W.S., MM .............................................................Wisconsin
McClelland, D.K., MA ..............................................................Columbia
Moore, M.C., PhD ...................................................................Michigan
Northington, D.B., DMA ............................................................Yale
Pederson, D.M., PhD ...............................................................Iowa
Sousa, G.D., PhD ........................................................................Ohio State
Secrist, P., MM ...............................................................................Yale
Stutzenberger, D.R., DMA ..........................................................Maryland
Werner, W., MM ...........................................................................Tennessee
Vincent, L., MM .............................................................................Tennessee
Massiee-Legg, A., MM ...............................................................Ohio
Lee, A., MM ...................................................................................Ohio
Hart-Reilly, K., BM .......................................................................Texas
Dunne-Sousa, D., PhD ................................................................Ohio State
Carlson, J., PhD ...........................................................................Duke

Part-time Lecturers
McCollough, S., MM ...............................................................Tennessee
Skoog, A., MA ............................................................................Stephen F. Austin
Powell, E., DMA .........................................................................North Texas
Fellenbaum, J., MM .................................................................Northwestern
Zelmanovich, M., MA .................................................................Lvov
Wentzel, A.N., MM ...................................................................Southern California
Smith, C., BM .............................................................................State University of New York
Murphy, B.A., PhD .......................................................................Ohio State
Hough, D.H., MM .........................................................................Tennessee
Gay, L.C., PhD ............................................................................Columbia
Roys, D., PhD ...............................................................................Kent State
Searle, S.R., MM ............................................................................Tennessee
Smith, C., BM ..............................................................................State University of New York
Sperl, G.R., MM ............................................................................Indiana
Stephens, MB, MA, MM .............................................................Ohio State
Brunell, D., DM ...........................................................................Indiana
Carter, P.Z., MM ..........................................................................Colorado
Freeman, C., MPA .........................................................................Oklahoma City

Associate Professors
Adams, F., MM ...........................................................................Tennessee
Baldwin, W., DMA ...........................................................................Maryland
Batey, A.L., DMA ........................................................................South Carolina
Binder, S., DM ...........................................................................Florida State
Boling, M., MM .............................................................................Tennessee
Brown, G.D., MM .........................................................................Memphis
Brunell, D., DM ...........................................................................Indiana
Carter, P.Z., MM ..........................................................................Colorado
Freeman, C., MPA .........................................................................Oklahoma City
Gay, L.C., PhD ............................................................................Columbia
Hough, D.H., MM .........................................................................Tennessee
Murphy, B.A., PhD .......................................................................Ohio State
Roys, D., PhD ...............................................................................Kent State
Searle, S.R., MM ............................................................................Tennessee
Smith, C., BM ..............................................................................State University of New York
Sperl, G.R., MM ............................................................................Indiana
Stephens, MB, MA, MM .............................................................Ohio State
Wentzel, A.N., MM ...................................................................Southern California
Zelmanovich, M., MA .................................................................Lvov

Assistant Professors
Al-Tae, N., PhD .............................................................................California (Los Angeles)
Brown, S., MM ...............................................................................Rice
Carlson, R.G., PhD ........................................................................North Carolina (Chapel Hill)
Ewell, P., PhD ...............................................................................Yale
Fellenbaum, J., MM ........................................................................Northwestern
Hawthorne, W.W., PhD ...............................................................Cincinnati
Lee, C., DM .................................................................................Florida State
Powell, E., DMA ...........................................................................North Texas
Ryder, D., DMA ...........................................................................Iowa
Skoog, A., MA ................................................................................Stephen F. Austin

Lecturers
Brown, K., BA ...............................................................................Tennessee
Holloway, H., BM ........................................................................Tennessee
McCollough, S., MM .................................................................Tennessee

Mission Statement

The School of Music provides specialized training in music to prepare students for professional work or advanced study; for teaching music in the elementary and secondary schools, and in higher education; and for general cultural enrichment.

The curriculum of the School of Music, therefore, is designed to present the learning of music as an integrated whole. Solo and ensemble performance, theoretical and historical studies, concert attendance, and electives both within and outside the school are intended to provide a balanced education. The school also provides general music studies and performance.

MASTER OF MUSIC

Music Major

The School of Music offers the Master of Music degree with concentrations in accompanying, choral conducting, composition, instrumental conducting, jazz, music education, music theory (with an optional emphasis in music technology), musicology, performance (organ, piano, strings, voice, winds, and percussion), and pedagogy (piano or vocal).

Applicants must have completed an undergraduate degree that is approximately equivalent in music requirements to degrees conferred by the University of Tennessee, Knoxville, with a major appropriate to the applicant’s prospective area of concentration on the master’s level.

Applicants who plan to pursue the concentration in performance or music education are required to audition for the appropriate area faculty. Applicants for admission to the program in composition must submit scores and tape recordings of representative works. Applicants for the concentration in jazz must audition in jazz improvisation and jazz piano proficiency and interview with members of the faculty in this area. Other applicants are required to have an interview with members of the faculty of the prospective area of concentration.

All entering master’s degree students are required to take Diagnostic Examinations in music theory, ear-training, and music history/literature. These examinations are given by the School of Music at the beginning of each semester.

Requirements

A minimum of 33 hours of coursework is required for the Master of Music degree. These hours are specifically distributed according to the area of concentration. All concentrations require coursework in music bibliography, music history/literature and music theory and allow for elective courses. Specific curricula are available from the school. All concentrations require a written and oral final examination.

A thesis is required of students in composition, musicology, and music theory. A graduate recital or performance project is given in lieu of thesis by students with concentrations in performance, pedagogy, jazz, accompanying, choral conducting, and instrumental conducting.

The concentration in music education is designed for persons who hold a bachelor’s degree in music or music education and certification to teach music in the public schools. Both thesis and non-thesis options are available.
The Department of Philosophy offers graduate study leading to the Master of Arts and Doctor of Philosophy. The MA program includes thesis and non-thesis options and offers a concentration in medical ethics and in religious studies. The PhD program also has a concentration in medical ethics. Detailed information may be obtained from the Director of Graduate Studies in the Department of Religious Studies.

MAJOR DEGREES

Philosophy ................................................................. MA, PhD

The course requirements for an MA with thesis are 30 hours, including six hours in Philosophy 500. Of non-thesis hours, at least two-thirds must be in courses at or above the 500 level. No philosophy course numbered under 400 may be taken for graduate credit. There are no particular courses that MA students are required to take. The nature of the student’s coursework should be determined in consultation with the student’s faculty committee.

Non-Thesis Option

The non-thesis MA requires 30 hours of coursework of which at least two-thirds must be in courses at or above the 500 level. Students seeking the non-thesis option must also pass a final written examination on all work offered for the degree. An additional oral examination may be required. As a part of the master’s degree, and in addition to a final comprehensive examination, a culminating (capstone) experience is expected.

Examples of culminating experiences include presenting a paper at a refereed national or regional philosophy conference, or presenting a paper at a departmental colloquium.

DOCTOR OF PHILOSOPHY

Philosophy Major

REQUIREMENTS

Students must hold an MA with a major in philosophy or an equivalent degree when entering the PhD program. Thirty-three hours of coursework beyond the MA are required, of which six hours will be in courses numbered above 600. See the Philosophy Department Graduate Student Handbook for specific course requirements.

Students must demonstrate a reading knowledge of one foreign language, normally a living language in which there exists a significant body of philosophical literature. (In special circumstances relating to the area of dissertation research, the Graduate Committee may approve a language not satisfying these conditions.) This may be done by passing the doctoral language examination given by the appropriate department, if available, or by passing French 302 or German 332 with a B or better. Bi- or multilingual (normally, foreign) students, whose native language (other than English) is one in which there is a significant body of philosophical literature, are exempted from the foreign language requirement. Students receiving the PhD with concentration in medical ethics are also exempted.

Department of

PHYSICS AND ASTRONOMY

http://www.phys.utk.edu/

Soren P. Sorensen, Head
Marianne Breinig, Director of Graduate Program
Chia C. Shih, Graduate Liaison

Professors

Barnes, F.E. (Joint Faculty), PhD ........................................... California
Bingham, C.K., PhD .............................................................. Tennessee
Blass, W.E., PhD ................................................................. Michigan State
Breining, M.J., PhD .............................................................. Oregon
Callicott, T.A., PhD ............................................................. Pennsylvania
Childers, R.W., PhD ............................................................ Vanderbilt
Compton, R.N., PhD ............................................................ Tennessee
Cramer, H.W. (UTSI), PhD .................................................... Yale
Dagotto, E.R. (Distinguished Professor), PhD ...................... Bariloche (Argentina)
Duckett, K.E., PhD ............................................................. Tennessee
Eguiluz, A.G. (Joint Faculty), PhD ........................................ Brown
Elston, S.B., PhD ................................................................. Massachusetts
Georgi, S., PhD ............................................................... Manchester (UK)
Greene, G.L. (Joint Faculty), PhD ......................................... Harvard
Guidry, M.W., PhD .......................................................... Tennessee
Handler, T., PhD ............................................................... Rutgers
Kamynskhov, I., PhD ........................................................... ITEP (Russia)
Levin, J.C., PhD ................................................................. Oregon
Lewis, J.W.L. (Distinguished Professor, UTSI), PhD .............. Mississippi
Macek, J. (Distinguished Professor), PhD ......................... Rensselaer Polytechnic Institute
Moreo, A. (Joint Faculty), PhD ............................................. Bariloche (Argentina)
Nagaweicz, W., PhD ......................................................... Warsaw
Painter, L.R., PhD ............................................................. Tennessee
Pegg, D.J., PhD ................................................................. New Hampshire
Plummer, E.W. (Distinguished Professor), PhD ................. Cornell
Quinn, J.J. (Lincoln Chair), PhD ......................................... Maryland
MAJOR DEGREES

Physics ................................................................. MS, PhD

Graduate programs leading to the Master of Science and Doctor of Philosophy are offered in a number of concentration areas: astrophysics; atomic, molecular, optical and low-temperature physics; biophysics; chemical physics; condensed matter and surface physics; elementary particle physics; geophysics (master’s only); health physics (master’s only); mathematical and computational physics; nuclear and relativistic heavy ion physics; and theoretical physics.

Departmental graduate programs leading to the MS and the PhD are also available at the University of Tennessee Space Institute, Tullahoma, where opportunities for study and research are available in laser applications, quantum and applied optics, laser spectroscopy, fluid physics, medical physics, computational physics, and theoretical physics. For additional information, contact the department head.

ADMISSION

A student who enrolls in graduate study with the intention of attaining an advanced degree in physics will have completed an undergraduate major in physics or its equivalent. Physics 311-312, 321, 361, 431-432, 421, 461, and 411-412 constitute the minimum courses prerequisite to graduate study.

A student who intends to present physics as a graduate minor will have completed an undergraduate minor in physics or its equivalent. Physics 311 and 431-432 constitute the minimum coursework prerequisite to a minor in physics.

In addition to meeting the Graduate Council’s minimum requirements, applicants are strongly encouraged to submit scores from the Graduate Record Examination (general and subject).

All first-year graduate students are required, for advising purposes only, to take a diagnostic examination in undergraduate physics during the fall semester registration period.

MAJOR OF SCIENCE

Physics Major

REQUIREMENTS

Thesis Option

The course requirements include 24 hours of physics courses of which at least 12 hours are taken from Physics 511-512 or 513-514, 521-522, 531-532, 541-542, 571-572, 573. Each candidate must present an acceptable thesis, six hours of 500, and pass an oral examination on course material and thesis.

Geophysics concentration: The department offers an MS thesis program with a concentration in geophysics. Program requirements are: 12 hours from Physics 513-514, 521-522, 531-532, 541-542, 571-572, 573; a minimum of 12 additional hours in geology, geophysics, and/or physics, as approved by the student’s committee; and the presentation of an acceptable thesis, six hours of Physics 500, and the passing of an oral examination on course material and thesis.

Project Option

The course requirements include a minimum of 30 hours of graduate credit in courses composed of Physics 506, 511-512; six hours from Physics 593, 594 for a Project in Lieu of Thesis; nine hours from general physics: 411-412, 421, 431-432, 461-462, 507, 508, 521-522, 531-532, 541-542, 555, 571-572, 573 (at least three hours above the 500 level); and six hours from a single minor field outside of the physics department, such as computer science, mathematics, engineering, chemistry, biology, education, business, or law.

The candidate must pass an oral examination on course material and on the project representing the culmination of an original research project completed by the student. A written report must be approved and accepted by the Physics Graduate Committee and the department head. An electronic version of the written report must also be submitted to the permanent electronic archive of the Physics Department available to the Internet.

Non-Thesis Option

Students seeking the non-thesis option must apply to the department’s graduate committee for permission to enroll under this program. The requirements are the satisfactory completion of 30 hours of coursework composed of 18 hours from Physics 511-512 or 513-514, 521-522, 531-532, 541-542, 571-572, 573; six hours in a minor field; and 6 hours from other courses numbered above 400 (preferably of advanced laboratory nature.) At least 20 hours must be taken at the 500-level or above. In addition, the candidate must pass a written examination administered by his/her committee.

DOCTOR OF PHILOSOPHY

Physics Major

REQUIREMENTS

All students are expected to take the graduate core curriculum in physics consisting of the following courses—Physics 521-522, 531, 541, 551, and 571. Students concentrating in chemical physics may substitute Chemistry 572 for Physics 551, and should complete at least six hours from Chemistry 530, 540, 570, 571, 573, 595, 630, 670, and 690.
Students must take a minimum of 15 hours of 600-level courses, with six of these hours in their concentration area. Physics 601-602 are normally required of students concentrating in atomic physics; Physics 621-622 of students in nuclear physics; Physics 626-627 of students in elementary particle physics (and/or Physics 611-612 for students concentrating in theoretical elementary particle physics); Physics 615-616 of students in astrophysics and cosmology; and Physics 671-672 of students in condensed matter and surface physics.

To be admitted to PhD candidacy students must (a) fulfill all general requirements by the Graduate Council; (b) pass the qualifying examination; (c) have at least a 3.0 GPA on the graduate core curriculum in physics; (d) form a doctoral committee; and (e) pass the comprehensive examination.

The qualifying examination is designed to test the student’s general knowledge of the fundamentals of physics. The performance needed to pass this examination corresponds to a master’s command of the material typically included in the undergraduate physics major curriculum. The qualifying examination should be passed after the student’s first year of study. Based on the student’s performance on (a) the qualifying examinations; (b) the coursework; (c) the GRE scores; and (d) optional research participation, the faculty will decide if the student will be allowed to continue in the PhD program.

Students are required to find a research advisor and form a doctoral committee before the end of the second year of study. This committee is responsible for advising the student and monitoring his/her progress toward the doctoral degree.

The comprehensive examination is designed to test the student on (a) specific knowledge and skills in the areas essential to the student’s research program; (b) capability to successfully complete the doctoral dissertation; and (c) general knowledge of the graduate core curriculum. The most essential component of this examination is the presentation and defense of an original research proposal. The comprehensive examination must be passed before the end of the second year of study. It contains both a written and an oral component and is conducted by the student’s doctoral committee and an additional faculty member appointed by the department head.

The dissertation topic will be chosen with reference to one of the fields in which research facilities can be made available either at the University of Tennessee laboratories in Knoxville; the University of Tennessee Space Institute at Tullahoma, Tennessee; the Oak Ridge National Laboratory, Oak Ridge, Tennessee; or at other research facilities used by the university faculty.

**Department of POLITICAL SCIENCE**

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

David L. Feldman, Head
Robert Gorman, Graduate Coordinator

**Professors**

Cunningham, R.B., PhD .........................................................Indiana
Feldman, D.L., PhD .................................................................Missouri
Fitzgerald, M.R., PhD .............................................................Oklahoma
Folz, D.H., PhD .......................................................................Tennessee
Freeland, P.K., PhD .............................................................Wisconsin (Milwaukee)
Gant, M.M., PhD .................................................................Michigan State
Gorman, R., PhD .................................................................New York

Lyons, W., PhD .................................................................Oklahoma
Scheb, J.M., PhD .................................................................Florida
Stephens, Jr., O.H. (Alumni Distinguished Service Professor),
PhD ...................................................................................Johns Hopkins
Torn, B., PhD .................................................................Northwestern
Zhong, Y., PhD .................................................................Kentucky

**Associate Professors**

Houston, D.J., PhD ........................................State University of New York (Binghamton)
Nowness, A.J., PhD .................................................................Kansas

**Assistant Professors**

Carrioli, M., PhD .................................................................Connecticut
Carcieri, M., PhD .................................................................California (Santa Barbara)
Carroll, D., PhD .................................................................Wisconsin (Milwaukee)
Down, I., PhD .................................................................North Carolina
Jepson, E., PhD .................................................................Wisconsin
Morgan, A., PhD .................................................................Georgetown

**MAJORS DEGREES**

Political Science .....................................................................MA, PhD
Public Administration..................................................................MBA, JD-MBA

The Department of Political Science offers the Master of Arts, Master of Policy Administration, Master of Science in Planning, and Doctor of Philosophy. The department also offers a dual program with the College of Law. Inquiries concerning all programs should be directed to the departmental office.

**ADMISSION**

Three departmental recommendation forms must be submitted to the Office of Graduate Admissions, at least two of which must be completed by instructors at the institution most recently attended. In addition, scores on the general portion of the Graduate Record Examination must be submitted.

**MAJOR OF ARTS**

**Political Science Major**

**ADMISSION**

A bachelor’s degree or its equivalent is required for admission. Normally an overall average of 3.0 is also required together with an average of 3.2 in the last two years of political science or social science. In addition, a composite score of at least 1100 on the verbal and quantitative parts of the GRE is normally required.

**REQUIREMENTS**

**Thesis Option (30 hours)**

Coursework, preparation of a thesis, and an oral examination on coursework and the thesis, is required. At least 12 of these hours must be in political science, with six in the field of methodology (Political Science 510 and either 511 or 512). Six hours may be earned through thesis credit.

**Non-Thesis Option (36 hours)**

Coursework, plus a written comprehensive examination on all coursework is required. At least 12 of these hours must be in political science, with six in the field of methodology (Political Science 510 and either 511 or 512), and three hours in the 600-level research seminar in the student’s first field of interest.
MASTER OF PUBLIC ADMINISTRATION

Public Administration Major

The MPA program is intended to prepare students for public service careers by acquainting them with management principles, analytical tools, and the ethical dilemmas they will face as public administrators. It consists of a total of 39 hours, including a core program, an elective specialization and a recommended internship.

ADMISSION

Applicants for admission to the program must have a bachelor’s degree or its equivalent. Normally, an overall average of 3.0 and an average of 3.2 in the last two years of political science or social science courses is required. In addition, a composite score of 1100 on the verbal and quantitative parts of the GRE is desired.

Students must demonstrate proficiency in the use of software applications for the personal computer. This requirement can be fulfilled by achieving a satisfactory grade in Political Science 596, Workshops in Computer Applications. Exceptions to this requirement will be considered on an individual basis.

REQUIREMENTS

The MPA is a non-thesis program requiring 39 hours. Specific requirements include the following:

- **Core Curriculum (24 hours)**
  - *General Perspectives (9 hours):* 550 Public Administration; 552 Organizational Theory; and any one of the following: 442 Administrative Law; 539 State and Local Government; 540 Public Law; 548 Public Policy Process; 558 Politics of Administration; or 566 Ethics, Values, and Morality in Public Administration.
  - *Analytical skills (6 hours):* 512 Quantitative Political Analysis; 514 Research and Methodology in Public Administration.
  - *Management skills (9 hours):* 560 Public Budgeting and Finance; and any two of the following: 562 Public Management; 564 Human Resources Management; 556 Policy Analysis.

- **Specialization (9 hours):** A specialization is designed by the student in consultation with the coordinator of the MPA program. Possible specializations include general government, public health, budgeting and finance, planning, natural resources, program evaluation, criminal justice, public relations, personnel, and others.

- **Recommended Internship (6 hours):** Internships are arranged in consultation with the coordinator of the MPA program.

- **Final Examination:** A written final examination, which may be followed by an oral examination, is required.

Dual JD-MPA

The College of Law and the Department of Political Science in the College of Arts and Sciences offer a coordinated dual degree program leading to the conferral of both the Doctor of Jurisprudence and Master of Public Administration degrees. In this program, a student may earn the MPA and JD in about four years rather than the five years that otherwise would be required. Students pursuing the dual degree program should plan to be enrolled in coursework or an internship for one summer term in addition to taking normal course loads for four academic years.

ADMISSION

Applicants for the JD-MPA program must make separate application to, and be independently accepted by, the College of Law for the JD and the Department of Political Science and the Office of Graduate Admissions for the MPA degree. Applicants must also be accepted by the dual degree committee. All applicants must submit a Law School Admission Test (LSAT) score. An applicant’s LSAT score may be substituted for the Graduate Record Examination (GRE) score, which is normally required for admission to the MPA program. Application may be made prior to or after matriculation in either the JD or the MPA program, but application to the dual program must be made prior to entry into the last 29 hours required for the JD and prior to entry into the last 15 hours required for the MPA.

REQUIREMENTS

A dual degree candidate must satisfy the requirements for both the JD and the MPA degrees, as well as the requirements for the dual program. The College of Law will award a maximum of 9 hours of credit toward the JD degree for successful completion of approved graduate level courses (500 or 600 level) offered in the Department of Political Science. The MPA program will award a maximum of 9 hours of credit toward the MPA degree for successful completion of approved courses offered in the College of Law. All courses for which such cross-credit is awarded must be approved by the JD-MPA coordinators in the College of Law and the Department of Political Science. All candidates for the dual degree must successfully complete Administrative Law (Law 821). An internship is strongly recommended for students in the dual degree program, as it is for all MPA candidates, but an internship is not required.

During the first two years in the dual program, students will spend one academic year completing the required first year of the College of Law curriculum and one academic year taking courses solely in the MPA program. During those first two years, students may not take courses in the opposite area, without the approval of the JD-MPA coordinators in both academic units. In the third and fourth years, students are strongly encouraged to take both law and political science courses each semester.

Dual degree students who withdraw from the program before completion of the requirements for both degrees will not receive credit toward either the JD or the MPA degree for courses taken in the other program except as such courses qualify for credit without regard to the dual program.

Awarding of Grades

For grade recording purposes in the College of Law and the Department of Political Science, grades awarded in courses in the other unit will be converted to either Satisfactory or No Credit and will not be computed in determining a student’s GPA or class standing. The College of Law will award a grade of Satisfactory for an approved MPA course in which the student earns a grade of B or higher and a grade of No Credit for any lower grade. The Political
Science Department will award a grade of Satisfactory for an approved law course in which the student earns a grade of 2.3 or higher and a grade of No Credit for any lower grade. The official academic record of the student maintained by the Office of the University Registrar shall show the actual grade assigned by the instructor without conversion.

MASTER OF SCIENCE IN PLANNING
Planning Major

The Master of Science in Planning (MSP) degree is the normal route for entry into professional positions in urban and regional planning or related fields. Graduates are candidates for positions in regional, city, county, and metropolitan planning agencies; in local, state, and federal agencies concerned with physical, economic, and administrative planning; in private business and organizations dealing with development problems; and in private consulting. The Planning Accreditation Board, a joint undertaking of the American Institute of Certified Planners and the Association of Collegiate Schools of Planning, accredits the MSP program.

ADMISSION

Applicants for admission to the program must have a bachelor’s degree or its equivalent. Normally, an overall grade point average of 3.0 and an average of 3.2 in the last two years of undergraduate courses are required. In addition, a composite score of 1100 on the verbal and quantitative parts of the GRE is desired. Students must demonstrate proficiency in the use of software applications for the personal computer, as well as in statistics. Taking an undergraduate statistics course can satisfy the latter. Achieving a satisfactory grade in Political Science 596 can fulfill the software applications requirement. Exceptions to this requirement will be considered on an individual basis.

REQUIREMENTS

The MSP is a non-thesis program requiring 43 credit hours. Specific requirements include the following:

- **Core Curriculum (28 hours):** 514, 546, 560, 581, 582, 583, 584, 585, 589, and 596 (1 credit). Students should plan to enter the program in the fall term to take core courses in the proper sequence.
- **Concentration (9 hours):** Each student must choose a concentration from the following: environmental planning, transportation planning, land use, urban design, and real estate development/economic development. Concentration courses are drawn from a prescribed set in the subject area from the department’s curriculum and from other departments in the university. Students may also design their own concentration in consultation with the coordinator of the MSP degree program.
- **Recommended Internship (6 hours):** Internships are arranged in consultation with the coordinator of the MSP degree program.
- **Comprehensive Exam:** Each student must pass a final comprehensive exam. Successful completion of a comprehensive exam is required before graduation. The exam will normally be taken after completion of the core requirements in the second year. Based on the material generally used by the American Institute of Certified planners (AICP), this requirement provides an additional capstone experience as well as preparation for meeting AICP professional certification requirements.

DOCTOR OF PHILOSOPHY
Political Science Major

The PhD program prepares students for careers in college teaching, as well as careers in other occupations related to service in the public or private sectors.

ADMISSION

Applicants for admission to the program should normally have completed a master’s degree in political science or a related field with a 3.5 GPA and have earned a composite score of at least 1100 on the verbal and quantitative parts of the Graduate Record Examination.

REQUIREMENTS

Doctoral students admitted to the program must complete 84 hours beyond the bachelor’s degree, including 24 hours of coursework beyond the master’s degree, graded A-F. In addition, students must satisfactorily pass written comprehensive examinations in two broad subfields of political science, and must pass a final oral examination on the dissertation.

In addition, students must satisfy a research tool requirement. Usually, students meet this requirement by completing 12 hours of coursework numbered above 500 in empirical theory and research methodology. However, if a student’s advisor and program committee certify that competency in a foreign language is a more appropriate research tool, a foreign language can be used instead.

In addition to the total hours required for the degree, the following requirements must also be met:

- at least 69 hours must be in political science courses
- at least 54 hours in political science must be in courses numbered above 500
- completion of Political Science 510, 511, and 512
- completion of at least three courses or seminars at the University of Tennessee, Knoxville, in each of the two broad subfields in which the students take examinations
- completion of at least one course or seminar in each of the five broad subfields available for graduate instruction in the department
- at least six hours must be earned in political science courses numbered above 600
- a total of 24 hours must be earned by writing the dissertation

Environmental Policy Minor

The department houses a program designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy.


Department of Psychology

http://psychology.utk.edu

James E. Lawler, Head
Debra R. Baldwin, Liaison
Frederick T.L. Leong, Liaison
Robert G Wahler, Liaison

Professors
Burgardt, G.M. (Alumni Distinguished Professor), PhD .................Chicago
Handler, L., PhD .................................................................Michigan State
Hector, M., PhD .................................................................Michigan State
Jones, W.H., PhD .................................................................Oklahoma State
Lawler, J.E., PhD .................................................................North Carolina
Leong, F.T.L., PhD .................................................................Maryland
Lounsbury, J.W., PhD ............................................................Michigan State
Malone, J.C., PhD .................................................................Duke
Nash, M.R., PhD .................................................................Ohio
Row, K.A.L., PhD .................................................................North Carolina
Samejima, F., PhD .................................................................Kejo (Japan)
Saudargas, R.A. PhD .............................................................Florida State
Sundstrom, E.D., PhD ...........................................................Utah
Travis, C.B., PhD .................................................................California (Davis)
Wahler, R.G., PhD .................................................................Washington

Associate Professors
Baldwin, D., PhD .................................................................Kent State
Gordon, K., PhD .................................................................North Carolina
Hutchens, T., PhD .................................................................Georgia
McIntyre, A., PhD .................................................................Yale
Morgan, W.G., PhD ..............................................................Tennessee
Welsh, D.F., PhD .................................................................Massachusetts

Assistant Professors
Freeberg, T.M., PhD .............................................................Indiana
Gaertner, L., PhD .................................................................North Carolina
Hopko, D., PhD .................................................................West Virginia
Levy, J., PhD .................................................................Indiana
MacFie, J., PhD .................................................................Rochester
Olson, M., PhD .................................................................Indiana

MAJOR DEGREES
Psychology .................................................................MA, PhD

MASTER OF ARTS
Psychology Major

Graduate study leading to the Master of Arts with a major in psychology is available and a concentration in experimental psychology. This program is appropriate for students who desire a master’s degree as part of their progress toward a doctorate or for those who wish to complement a degree in a different field.

ADMISSION

Any student with a BA or BS may apply to the Department of Psychology for admission to the master’s program. All students must also submit scores from the Graduate Record Examination (general and subject).

MAJOR ADVISOR AND COMMITTEE

Initially, the Director of Experimental Psychology will advise the student. As soon as possible, the student must select an advisor and obtain his or her approval for registration. Subsequently, the advisor and student will select two additional faculty members to comprise the student’s master’s committee. Final committee approval comes from the Graduate Dean, upon recommendation by the department head.

REQUIREMENTS

All students must complete 32 hours of graduate level courses in psychology. These hours must include 515, 521-522, or Statistics 531-532 or an equivalent sequence; 565 or 420; six hours of Thesis 500; and twelve hours of 500- or 600-level foundation courses; plus additional graduate level hours to reach the 32-hour requirement. Students must earn a grade of B or better in all courses that are to count toward the 32-hour total. Students must also propose, conduct and successfully defend an original piece of research in the form of a master’s thesis.

DOCTOR OF PHILOSOPHY
Psychology Major

A student with a BA or BS may apply to the Department of Psychology for admission to the doctoral program with a concentration in experimental psychology or clinical psychology. All students must submit scores from the Graduate Record Examination (general and subject).

Experimental Psychology Concentration

The PhD program in psychology with a concentration in experimental psychology is designed to allow students to select from a variety of specializations oriented toward careers in research, teaching, and application of psychology in academic, institutional, or industrial settings. The program is flexible, individualized, and emphasizes a professional apprenticeship model of training.

REQUIREMENTS

- Twelve hours of statistics and research (521-522 or Statistics 531-532 or equivalent and six additional hours in research methods or design).
- Fifteen hours in experimental psychology (565 or equivalent and four courses from the following—510, 511 or 512, 531, 543, 546 or 547, 550, 560, and 570 or 571).
- Six hours of research practicum (509).
- Psychology 528—preparation for college teaching.
- Two 600-level graduate seminars.
- Six hours of graduate level courses outside the Psychology Department.
- Pre-dissertation research project involving the collection of original data or the original analysis of existing data, reported in publishable form and accepted by the student’s advisory committee.
- Comprehensive examination, determined and evaluated by the student’s doctoral committee. This examination is comprised of an integrative review or theoretical paper and an oral exam or additional questions.
- Twenty-four hours of dissertation research (600).
- An original piece of research in the form of a doctoral dissertation, proposed, conducted, and defended.
**Clinical Psychology Concentration**

This program is designed to lay the groundwork for a career as a clinical psychologist capable of working in both academic and applied settings. The program emphasizes the theoretical foundations of psychology as well as supervised experience oriented toward the development of practical skills. The program embodies a model of clinical psychology in which practice and research are integrated.

**REQUIREMENTS**

After forming the doctoral committee, each student must pass a comprehensive examination administered and evaluated by the committee. Clinical program students must complete a pre-dissertation research project by the end of the second year.

The comprehensive examination is organized around a research case study of one client who has been assessed and/or treated by the student in the departmental psychological clinic. In addition to the case presentation, the paper presents the student’s comprehensive review of relevant research and theory as a context for procedure, results, and discussion of the case. All doctoral students must complete a minimum of 78 hours of graduate level courses, including courses required by their program; at least six hours in courses outside of psychology; and at least 24 hours of dissertation research (Psychology 600). Finally, students must complete an acceptable doctoral dissertation and conduct a satisfactory oral defense of the dissertation.

Requirements are as follows:

- Apprenticeship with one faculty member during the first year, two days each week.
- Pre-dissertation research project completed before forming a doctoral supervisory committee, reported in written form acceptable to two members of the faculty or, if reviewed and accepted for publication or external presentation, by one member of the faculty.
- Supervised clinical placement two days (16 hours) each week during the second year, and the following option during the third and fourth years: (a) continued two day clinical placement in the third and fourth years; (b) teaching assistantship in the department in either the third or fourth year and two day clinical placement in the other year.
- Satisfactory completion of listed courses (or equivalents) in the following sixteen categories.
  1. Foundations of Psychology: Biological Factors, Perception, Learning, Thinking, Motivation (513)
  2. Interviewing and Observation (558) and Laboratory (559)
  3. Research Practicum (509) (4 hours)
  4. Life-Span Development (512) or Developmental Psychology (511)
  5. Personality: Theory and Research (570) and Developmental Psychopathology (597)
  6. History and Systems of Psychology (565)
  7. Research Questions and Designs (580)
  8. Psychological Assessment I and II (594-595) and Laboratory (596)
  9. Analysis of Variance for Social Sciences (521) and Multiple Regression for Social Sciences (522)
  10. Social Psychology (550)
  11. Field Placement in Clinical Psychology (695) (18 hours)
  12. Clinical Psychopathology (599)
  13. Psychometrics (555) or Applied Psychological Measurement (557)
  14. Ethical Issues in Professional Psychology (598)
  15. Psychodynamic Psychotherapy I and II (670-671) and Laboratory (673) (4 hours)
  16. Doctoral Research and Dissertation (600) (24 hours)

  - Students who choose a teaching assistantship in the third or fourth year must have satisfactorily completed 528 College Teaching in Psychology.
  - Satisfactory completion of a one-year clinical internship at a site approved by the program.

**Counseling Psychology Concentration**

The counseling psychology program is based upon the scientist-practitioner model of training which stresses both research and practice. It is designed to enable students to become behavioral scientists, skilled in psychological research and its application. Students are trained to work with people who have generally integrated or intact personalities, to focus on these individuals’ strengths and assets, and to use relatively brief interventions to further enhance these strengths or to remediate deficiencies within them. While working with others, counseling psychologists tend to focus on the interactions of the personal, educational and vocational environments of the individuals, groups, families and organizations with whom they work.

**REQUIREMENTS**

The counseling psychology program consists of a minimum of 107 hours of graduate credit. This includes 83 hours of coursework and 24 hours of dissertation research (see below).

Students are assigned a temporary faculty advisor upon admission to the program. By the end of their first calendar year students are expected to have selected an advisory committee. Prior to taking their comprehensive examinations, students must form and meet with their doctoral committee, present an acceptable program of study to the doctoral committee, and have their research competency approved by the program’s research review committee. The examinations cover the counseling psychology core and the student’s cognate.

In addition to approving a student’s program of study, the doctoral committee approves the student’s dissertation proposal and verifies that the student’s dissertation is acceptable for the doctoral degree. The doctoral dissertation is original research that is theoretically based and psychological in nature. It must fulfill the requirements and procedures as stated in the University of Tennessee, Knoxville, Graduate Catalog, current edition. The following are required of all students.

- Students must accumulate a minimum of 600 hours in practicum experience. Students are required to have three semesters of individual practicum and one semester of group practicum. Practicum sites include the University of Tennessee, Knoxville, Counseling Center, community agencies, the University of Tennessee, Knoxville, Career Resources Center, and area schools. Opportunities for additional practicum experiences exist in the community.
• In addition to course work, students must demonstrate competency in research methodology and academic scholarship prior to the doctoral committee’s approval of the student’s dissertation proposal. The research project is to be initiated after the student has entered the counseling psychology program.
• Satisfactory completion of the following curriculum.
  A. Psychological Foundations—minimum of 21 hours
  1. History and Systems of Psychology
  2. Biological Bases of Behavior
  3. Cognitive-Affective Bases of Behavior
  4. Social Basis of Behavior
  5. Individual Behavior—minimum of six hours
  6. Life Span or Developmental Psychology
  B. Quantitative and Research Skills—minimum of 15 hours
  1. Statistics—minimum of six hours
  2. Qualitative Research—minimum of three hours
  3. Research Design—minimum of three hours
  Directed Research
  C. Counseling Psychology Core—minimum of 39 hours
  1. Prepracticum in Career Development
  2. Vocational Theory and Practice
  3. Practicum—minimum of nine hours
  4. Foundations of Counseling Psychology—minimum of six hours
  5. Cross-cultural Counseling
  6. Ethical, Legal and Professional Issues in Psychology
  7. Assessment—minimum of six hours
  8. Group Counseling
  9. Supervision
  D. Departmental Seminar
• Students are also required to complete a 2000-hour internship prior to graduation. In consultation with the student and the student’s doctoral committee chair, the Training Director approves the internship site, which must meet APA Guidelines.
• Students who wish to have experiences as a teaching assistant must first satisfactorily complete department’s teaching practicum course.

Department of
RELIGIOUS STUDIES
http://web.utk.edu/~religion
Gilya G. Schmidt, Head
James L. Fitzgerald, Graduate Liaison

Professors
Fitzgerald, J.L., PhD ...........................................Chicago
Hackett, R.J.J., PhD ............................................Aberdeen
Levering, M.L., PhD ..........................................Harvard
Reynolds, C.H., PhD ..........................................Harvard
Schmidt, G.G, PhD ............................................Pittsburgh

Associate Professors
Gwynne, R.W., PhD ............................................Washington
Hodges, J.O., PhD ...........................................Chicago
Hulsether, M.D., PhD .........................................Minnesota

Assistant Professors
Jacobs, R., PhD .................................................Northwestern
Shepardson, C.C., PhD ......................................Duke
Stiebert, J., PhD ..................................................Glasgow

Adjunct Faculty
Heffernan, T.J.A., PhD .........................................Cambridge

A Master of Arts with a major in philosophy and a concentration in religious studies is available. Contact the department for details of this program. Graduate courses in religious studies provide opportunity for students in a variety of disciplines to pursue work in religious studies as a graduate concentration.

Department of
SOCIOLOGY
http://web.utk.edu/~utsocdep/
R. Scott Frey, Head
Sherry Cable, Graduate Liaison

Professors
Frey, R.S., PhD ..................................................Colorado State
Hastings, D.W., PhD ...........................................Massachusetts
Jalata, A., PhD ...........................................State University of New York (Binghamton)
Shover, N.E., PhD ................................................Illinois (Urbana)

Associate Professors
Cable, S., PhD ..................................................Penn State
Dahms, H., PhD ..............................................New School for Social Research
Jones, R.E., PhD ................................................Washington State
Kurth, S.B., PhD ..............................................Illinois (Chicago)
Shefner, J., PhD .................................................California (Davis)

Assistant Professors
Bui, H., PhD ..................................................Michigan State
Gulick, J., PhD ..............................................California (Santa Cruz)
Presser, L., PhD .................................................Cincinnati

MAJOR DEGREES
Sociology..........................................................MA, PhD

The Sociology Department offers graduate study leading to the Master of Arts and the Doctor of Philosophy. The MA program includes a thesis and non-thesis option.

The graduate program has concentrations in criminology, environmental sociology, and political economy. The criminology concentration includes 505, 551, 653 and 655. The environmental sociology concentration includes 560, 661 and 665. The political economy concentration includes 504, 540, 541, 543, 644, and 645.

Both the master’s and the doctoral program allow for the construction of individualized programs of study. Detailed information may be obtained from the Programs and Curriculum Committee in Sociology. New students are admitted in fall semester only and applications must be received by the Graduate Student Services Office by February 1.

ADMISSION
• Acceptable scores on the general Graduate Record Examination (verbal, quantitative, and analytical) are required.
• Three letters of recommendation (forms may be obtained from the department).
• Completion of the appropriate previous degree (baccalaureate, preferably with a major in one of the social sciences, for the MA program; master’s degree in one of the social sciences for the doctoral program).

**MASTER OF ARTS**

**Sociology Major**

**REQUIREMENTS**

**Thesis Option**

A minimum of 30 hours beyond the baccalaureate degree, including 24 hours of coursework and 6 hours of Thesis 500, is required. Students must complete Sociology 521, 531, Statistics 531, and one foundation course (504, 505, or 560). At or near the end of all coursework, the student must take an oral examination on course material and thesis. The examination will be administered by the student’s committee.

**Non-Thesis Option**

A minimum of 30 hours of coursework is required, including Sociology 521, 531, Statistics 531, and one of the following: 504, 505, or 560. Sociology 534, 622, and Statistics 532 are recommended. A student’s plan of study should follow one of these approaches.

- **Plan 1:** 6 hours in one of the department’s concentrations and six hours in a second area, including areas outside the department, subject to the approval of the student’s committee.
- **Plan 2:** 12 hours in a special area of study approved by the student’s committee and the department’s Programs and Curriculum Committee. Students are encouraged to prepare a paper synthesizing their knowledge of the concentration(s). Students who incorporate supervised field experience in their programs are encouraged to prepare a report based on those experiences that demonstrates their understanding of research, theory, and report writing. All students must take final written and oral examinations that include questions on their general coursework in theory and methods and on their special areas of study.

Subject to approval by the student’s committee, up to 12 hours may be taken in courses outside the department for either program. Sociology courses at the 400 level may also be taken with the approval of the student’s committee.

**DOCTOR OF PHILOSOPHY**

**Sociology Major**

**REQUIREMENTS**

Twenty-four hours of coursework beyond the master’s degree are required (exclusive of Satisfactory/No Credit credits). Twelve hours of course credit in Sociology at the 600 level are required. Students who enter the program without the courses required for the MA (521, 531, Statistics 531) or their equivalents must take them as remedial work which does not apply to their residence. Students must complete Sociology 622; 534, 633, or 636; and Statistics 532 or another advanced course in statistics. Completion of nine hours in each of two concentrations is encouraged. A student who cannot achieve his/her educational goals within the department’s concentrations may construct an individualized course of study subject to the approval of the student’s doctoral committee and the Curriculum Committee. Sociology courses at the 400 level may not be taken without the consent of the student’s advisor and the Curriculum Committee. Six hours may be taken in related fields without petitioning for approval. The student’s program may include a minor or cognate field.

**Comprehensive Examinations**

Written examinations in four areas are required (sociological theory, research methodology, and two substantive areas). Doctoral students are eligible to take the theory and methodology examinations whenever offered. Substantive examinations may be taken upon completion of theory and methodology examinations. Detailed information on examinations and examination options may be obtained from the department.

**Dissertation and Final Examination**

A dissertation based on original research must be completed (24 hours). The candidate must pass an oral defense of the dissertation, including the theory and methodology related to the research, in accordance with the deadlines specified by Graduate Student Services.

**Environmental Policy Minor**

The department participates in a program designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Department of Economics for program description.

**Gerontology Minor**

Graduate students in the Department of Sociology may pursue a specialized minor in gerontology. This interdepartmental/interdisciplinary minor gives the student an opportunity for combining the knowledge about aging in American society with his/her major concentration.

**Department of THEATRE**

http://theatre.utk.edu

Bill Black, Interim Head

**Professors**

Black, W.R., MFA .................................................................Illinois
Custer, M., MFA ...............................................................Wisconsin

**Associate Professors**

Diamond, J., MA ...............................................................New York
Gould, B.K.A., MFA .........................................................Catholic
Van den Berg, K., PhD .....................................................Indiana
Weber, T., MFA .................................................................Alabama

**Assistant Professors**

Champelli, J., MFA ............................................................Penn State
Sams, J. MS .................................................................Penn State
Yeager, K., BFA ...............................................................Penn State

**MAJOR DEGREE**

Theatre .................................................................MFA
The Department of Theatre offers the Master of Fine Arts degree with a major in theatre and concentrations in costume design, lighting design, scene design, performance, and dramaturgy. Not all areas of concentration accept applicants every year.

UT Theatre maintains an active presence on the international theatre scene through the engagement of distinguished guest artists, touring to foreign theatre festivals, participation in international conferences, and other educational initiatives. Applicants must have completed undergraduate degrees approximately equivalent in requirements to those specified for degrees conferred by the University of Tennessee, Knoxville.

ADMISSION

Three letters of recommendation and interviews with appropriate faculty are required of all applicants. Applicants for admission to the MFA design/technical theatre programs must submit samples of their work. Auditions are required of MFA degree performance applicants.

For detailed information about the graduate program, contact the Director of Graduate Studies, Department of Theatre.

MASTER OF FINE ARTS

Theatre Major

REQUIREMENTS

At least 60 hours, 40 of which must be at the 500 level or above, are required for the Master of Fine Arts with a major in theatre, which is normally to be completed in three consecutive years of full time residence. Theatre 501 is required the first year of residence. Three additional hours at the 500 level are required from history, literature, or dramaturgy. Students in the MFA degree program are evaluated annually by juried performance or portfolio submission. Continuation in the program is with the approval of the faculty committee for the MFA degree program. Theatre 599 (Projects in Lieu of Thesis) and an oral defense of the project must be completed satisfactorily before the degree is conferred.

In addition to the core requirements listed above, each area of concentration has specific requirements:

Design Concentration

Required courses are at least 12 hours of Theatre 580 (Design Seminar) and at least six hours in the projects courses. Theatre 503 (Elements of Design for Theatre) is required in the first year of residence.

Dramaturgy Concentration

Required courses include Theatre 430, 510 (9 hours), 512, 585 (12 hours), 6 hours in theory and literary criticism, plus electives from music, film, art, and business. Dramaturgy students must also satisfy a foreign language requirement (proficiency in one language or reading knowledge of two).

Performance Concentration

At least 12 hours each of 520 (Master Class in Performance Acting); 523 (Master Class in Performance: Movement); and 525 (Master Class in Performance: Voice). Coursework in this concentration is conducted in a conservatory environment. In the third year, students are expected to intern with either the resident professional Clarence Brown Theatre Company or another regional professional theatre.

Requirements for a Second Master’s Degree

Students admitted to the MFA program who have already earned a master’s or a doctoral degree may apply up to 12 credit hours from the previous graduate program to the MFA degree with approval of the student’s committee, the Dean of the College of Arts and Sciences, and the Dean of Graduate Studies.

Any such credits applied from a previous graduate program would be from courses that are directly relevant to the student’s MFA curriculum and must have been earned within the time limit (six years) established for completion of the MFA.
Interdisciplinary partnerships are encouraged among academic units in the college, with other university academic units and with the private sector, enhancing the process of inquiry and critical thinking which is crucial to total quality management.

The College of Business Administration is fully accredited by the American Assembly of Collegiate Schools of Business and is associated with other leading graduate schools of business as a member of the Graduate Management Admission Council.

The College of Business Administration offers programs leading to five advanced degrees—the Doctor of Philosophy with majors in business administration, economics, industrial and organization psychology, and management science; the Master of Arts with a major in economics; the Master of Science with majors in human resource development, management science, and statistics; the Master of Accountancy; and the Master of Business Administration.

A limited number of teaching and other assistantships that require from 10 to 20 hours of service per week are available through the departments of the college. Remuneration includes remission of fees and tuition as well as a monthly stipend. Awards are generally made on the basis of scholarship and performance on the appropriate (GMAT or GRE) admission test. Application forms may be obtained in any of the departments. Information on college-administered fellowships is available from the appropriate department or office.

Applications must be received by March 1 for consideration of assistantships and fellowships to be awarded for the following fall term.

http://bus.utk.edu/
Academic Standards
A graduate student in the College of Business Administration whose grade point average falls below 3.0 will be placed on probation. A student on probation will be dropped from the program unless his/her cumulative grade point average is 3.0 or higher at the end of the probationary period. The probationary period is defined as the next semester’s coursework as established by the degree program.

MASTER OF BUSINESS ADMINISTRATION
Business Administration Major
Two tracks are available for the MBA: the regular, full-time program and the executive program.

The full-time MBA is for students seeking a full-time, weekday program that follows the traditional academic format. The nature of this program precludes students from simultaneously working full-time outside of school. In addition to the regular full-time program, there are two full-time dual-degree programs: the JD-MBA with the College of Law and the MS-MBA with the College of Engineering. Descriptions of these dual-degree programs follow the description of the executive tracks of the MBA.

For students who wish to continue working full-time while they earn their MBA degree, there are three programs within the executive track of the MBA. In these programs, students carry a full academic course load in addition to their full-time jobs. Each of these programs is designed to serve a different group of students. Descriptions of the MBA programs in the executive track follow the description of the regular, full-time program.

To obtain an MBA application, contact the MBA Program Office, 527 Stokely Management Center, College of Business Administration, The University of Tennessee, Knoxville, Tennessee 37996-0552, Phone (865) 974-5033; e-mail: mba@utk.edu. The application may also be downloaded from the Web site at http://mba.bus.utk.edu. For the executive programs, contact the Center for Executive Education, 708 Stokely Management Center, College of Business Administration, The University of Tennessee, Knoxville, Tennessee 37996-0575; Phone (865) 974-5001.

Full-Time MBA
The full-time MBA program is designed for students with undergraduate degrees in a wide variety of fields, including the social and natural sciences, the humanities, and professional fields such as engineering, business, agriculture, and architecture. In addition, most students in this program should have two or more years of work experience beyond their undergraduate degree(s). The MBA program is a 17-month program with students beginning in late July of each year and graduating in December of the following year. During the summer between the second and third semesters, students must complete an internship with a company using those skills acquired during the first year of the MBA program.

The MBA program consists of a common core (29 hours) and a selection of concentration and elective courses (15 hours). The first-year core develops a general management foundation upon which specialization is developed in the concentration area.

The objective of the 17-month program is to develop leaders able to enhance the success of their organizations. Specific emphasis is placed upon competency in the area of integrated value chain management. This managerial perspective acknowledges that an organization’s success is strongly related to its ability to function effectively and efficiently within a larger network of allied businesses. Managers must understand how to integrate business functions within their organizations, as well as across the other organizations within their value chain. Integrated value chain management rests upon a foundation including: supply chain management, information management, resource management, and customer relationship management. In addition, students will pursue concentrations and careers in a variety of areas, including finance, logistics, marketing, and operations management.

ADMISSION
Applications are accepted for fall semester only. The application deadline for fall semester is March 1. Applications by United States citizens and permanent residents received after March 1 will be considered as space allows.

To be considered for admission, the applicant’s file must be complete. A completed file includes the Application for Graduate Admission, transcripts of prior college work, the MBA program application, two completed applicant recommendation forms, and the Graduate Management Admission Test (GMAT) score report. The first items should reach the Office of Graduate Admissions one month before the MBA application deadline to allow for processing. Additional information is required by Graduate Admissions for international students.

For admission to the MBA program, consideration is given to (1) applicant’s academic record with particular attention to the last two years of undergraduate work and previous graduate studies; (2) scores on the GMAT and the Test of English as a Foreign Language (TOEFL) for those whose native language is not English; (3) work experience and other activities that demonstrate potential for leadership; and (4) recommendations from professors and work supervisors. The admission decision is based on all factors that make up the total application; therefore, there is no automatic cut-off for either grade point averages or GMAT scores. However, admission preference will be given to applicants with full-time work experience after obtaining the undergraduate degree.

Prerequisites
There are no specific course prerequisites for admission. However, undergraduate courses and work experience should demonstrate ability with both qualitative and quantitative work.

REQUIREMENTS

MBA Core
The MBA core (29 hours total) consists of a three-hour foundations course taken during the three weeks prior to the beginning of fall semester, a 15-hour core course and a 1-hour career development course taken in the first semester (fall 1), a nine-hour core course taken in the second semester (spring 1), and a 1-hour capstone in the third semester (fall 2). The topics introduced within these courses follow three major themes. The first theme covers what every manager needs to know, and includes such functional topics as finance, strategy, decision tools, environmental analysis, and leadership skills development. The second theme focuses on functions involved in the flows of product, information, and