Planning (College of Architecture and Planning)

MAJOR

Planning ........................................ M.S.P.

David A. Patterson, Acting Director

Professors:

Johnson, David A., Ph.D. .................. Cornell
Kenney, Joseph B., Ph.D. ............. North Carolina
Prochaska, J. M., M.U.P. ............... Michigan State
Shouse, Walter L. (Emeritus), M.C.P. .... Harvard
Spencer, James A. ( Liaison), M.C.P. . Ohio State

Associate Professors:

Bowen, George E., M.A., M.S.P. ... George Washington
Patterson, David, Ph.D. ............... Indiana

Assistant Professors:

Muchano, Mur, M.S.P. ................. Tennessee
Peine, J., Ph.D. ........................ Arizona
Zanetta, Maria C., Ph.D. .......... Ohio State

Lecturer:

Anderson, Annette, M.P.A. ........... Missouri (Kansas City)

The Graduate School of Planning offers a program of studies leading to the professional degree of Master of Science in Planning. The degree is the normal route for entry into professional positions in urban and regional planning or related positions. 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 Master of Science in Planning program is accredited by the Planning Accreditation Board (PAB), a joint undertaking of the American Institute of Certified Planners and the Association of Collegiate Schools of Planning.

THE MASTER’S PROGRAM

Admission Requirements

Applicants are to submit an application for admission to The Graduate School, two letters of reference from faculty familiar with their prior academic work, and a statement describing personal career objectives. If the applicant has prior work experience in planning, a reference letter should also be provided by the work supervisor. Graduate Record Examination scores are requested of all applicants whose undergraduate GPA is below 3.0. Other applicants are encouraged to submit them.

Degree Requirements

The M.S.P. requires completion of at least 48 hours of graduate credit, at least 30 of which must be in planning. The following courses are the core curriculum required of all students: 510, 511, 515, 520, 521, 523, 530, 531, 532, 540, and 545.

Students should plan to enter the program in the fall term to take the core courses in the proper sequence.

Each student is required to develop an area of concentrated competence beyond the core curriculum. After selecting the area of concentration, usually by the end of the second semester, the student takes a minimum number of courses or hours from a prescribed set of courses in the subject area. Further enhancement of the concentration is gained by taking additional elective courses in the subject and by focusing the thesis or major paper on the subject. Concentration courses are drawn from the planning curriculum and from other departments in the University. Concentrations are available in land use planning, information systems in planning, economic development planning, real estate development planning, transportation planning, environmental planning, historic preservation planning, and international planning.

Students have the latitude to propose an alternate specialization consisting of at least 9 hours of coursework, subject to approval of a faculty committee.

Each student is required to demonstrate competence in individual research. This may be done in one of two ways:

- Thesis Option—Complete a thesis for 6 hours credit.
- Non-Thesis Option—Complete a major study with acceptable documentation. To be eligible for the major study option, the student must have completed at least 12 hours of graduate coursework in planning with at least a 3.5 cumulative grade-point average. The student meeting these criteria may present a proposal to his/her committee for a major study that will include at least 6 hours of subsequent coursework. The proposal shall justify the selection of the topic, describe the approach to the study, and describe the nature of the final product. The topic will normally be expected to reinforce or complement the student’s concentration.

Student academic progress is monitored by the faculty. A student failing to maintain an acceptable grade-point average may be placed on probation or dismissed from the program.

ACADEMIC COMMON MARKET

An agreement among southern states for sharing graduate programs allows legal residents of some states to enroll in certain programs at UT Knoxville on an in-state tuition basis. The M.S.P. program is available to residents of the states of Arkansas, Kentucky, Mississippi, or West Virginia. Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

GRADUATE COURSES

401 The City in the U.S. (3) Development and character of U.S. cities. Contemporary issues and selected case studies. (Same as Urban Studies 401.)

402 Survey of Planning (3) History of city development and of planning; U.S. experience in urban and other levels of planning. State of the art, process, comprehensive plan, implementation devices. Planning issues in society. Not for credit for M.S.P. degree.

446 Housing (3) Nature and demand for housing in U.S. and abroad. U.S. experience, private market processes and public influences. Problems of change in housing supply, impact of new technology, and governmental programs to improve supply and quality of housing.

500 Thesis (1-15) P/NP only. E


502 Registration for Use of Facilities (3-15). Required when student uses University facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. S/NC only. E

510 Fundamentals of Planning (2) History of planning, structure and development of urban areas, operations of contemporary planning, trends and issues.

511 Graphic and Oral Communications in Planning (1)

515 Theory of Planning (2) Analysis of nature and objectives of planning process; role of planner and planning function in public decision-making. Prereq: 510 or consent of instructor.

520 Planning Research Methods (3) Research techniques in subject areas associated with city and regional planning. Research tools, data collection and analysis as basis for planning and decision making. Prereq: 521 or consent of instructor.

521 Computers in Planning (3) Basic computer concepts, hardware and software, use of mainframe and microcomputers in planning and government.

523 Statistics for Planners (3) Applications of basic descriptive and inferential classical and non-parametric techniques in planning research. Data organization and display, measures of location, dispersion and association; data transformations; some basic probability theory selected one and two sample tests; correlation and regression analysis. Prereq: 520 or consent of instructor.

526 Library Research for Planning (1) Survey of publications of interest to planners, resources and research techniques. Use of facilities and collections of library.

530 Planning Analysis and Forecasting (3) Methods of quantitative analysis and modeling in urban and regional studies. Population, employment, and economic base studies, forecasting techniques. Coreq: 520 or consent of instructor.

531 Urban and Regional Analysis (3) Past, present and possible future patterns of urban and regional structures drawing on contemporary theories, models, and empirical research.

532 Planning Methods (5) Preparation of comprehensive plans for urban areas or regions. Development of baseline data and forecasts, formulation of alternative plans and strategies, and development of plan implementation programs. Extensive laboratory experience. Prereq: 510, 520, 530 and 531 or consent of instructor.

537 Planning and Transportation (3) (Same as Civil Engineering 558.)

538 Urban and Site Design (3-4) Principles of design of residential subdivisions and some components of physical community, shopping centers, institutional complexes, central business districts. Problems of reviewing alternative designs against each other or written regulations. Extensive laboratory experience.

539 Planning for Historic Preservation (3) Planning for preservation, restoration and conservation of historic buildings, areas and sites as related to comprehensive planning process. National, state, and local government role in preservation, designation of sites, legislative needs, financing and administrative organizations.

540 Legal Aspects of Planning (3) Legal basis for planning and guiding community development. Legal tools of planning. Prereq: 510 or consent of instructor.

545 Planning and Property Development (2) Process of urban physical growth and change: functioning of private sector real estate development and its relationship to planning. Partnership roles of public and private sectors in urban development and redevelopment. Prereq: 510 or consent of instructor.

547 Negotiation (1) Methods, strategies, techniques and skills useful to planners in mediation, negotiation, and dispute resolution concerning urban planning and development.

548 Tourism Planning (3) Planning of tourist resources and programs within a geographic region. Tourism planning models. Relationships among tourists, tourism developments and planning of tourist attractions and services. Application of techniques in selected area.

549 Local Fiscal Planning and Capital Improvements (3) Fiscal planning and capital improvements programming in plan implementation. Tax and expenditure limitations, infrastructure financing, municipal bond market, alternative revenue sources: development fees, exactions, intergovernmental aid. Evaluation of fiscal policies.


551 State and Regional Planning (3) Theory and practice of planning at state, sub-state, and metropolitan levels.

552 Development Planning in the Third World (3) Seminar on urban and regional development in Third World nations. Population growth, settlement patterns, economic development, land framework of integrated resource management. (Same as Ecology 552.)

555 Environmental Planning (3) Role of planners and planning in maintenance of balance between nature and built environment. (Same as Ecology 555.)

560 Policy Analysis and Strategic Planning (3) Models of policy making process and role of strategic planning and applied decision making. Quantitative and qualitative approaches, evaluative research and program evaluation, and impact assessment.

590 Practicum (3) Prereq: Consent of instructor. S/N or letter grade.

591 Special Topics (1-3) Prereq: Consent of instructor.

592 Readings in Planning (1-3) Prereq: Consent of instructor. May be repeated.

593 Problems in Planning (1-3) Prereq: Consent of instructor.

635 Environmental Assessment and Sustainable Development in Third World Countries (3) (Same as Ecology and Botany 635.)

Plant and Soil Science (College of Agricultural Sciences and Natural Resources)

MAJOR

Plant and Soil Science .................. M.S., Ph.D.

John E. Foss, Head

Professors:

Allen, Fred L., Ph.D. ................. Minnesota
Bell, Frank F. (Emeritus), Ph.D. .... Iowa State
Boswell, F. C. (Adjunct), Ph.D. ..... Penn State
Coffey, D. L., Ph.D. .................. Purdue
Conger, B. V. (Distinguished Prof.) .. Washington State
Duck, B. N., Ph.D. ................... Auburn
Foss, John E., Ph.D. .................. Minnesota
Friberg, Henry A., Ph.D. ......... Iowa State
Hayes, R. M., Ph.D. .................. Illinois
Howard, D. D., Ph.D. ............... Auburn
Josephson, L. M. (Emeritus), Ph.D. ...... Wisconsin
Lawis, R. J. (Emeritus), Ph.D. ........ NC State
Luxmore, R. J. (Adjunct) - California (Riverside)
Miller, R. D., Ph.D. ................. Kentucky
Mullins, C. A., Ph.D. ............... Tennessee
Parks, William L. (Emeritus), Ph.D. .... Purdue
Reynolds, John H., Ph.D. .......... Wisconsin
Sams, C. E., Ph.D. .................. Michigan State
Seitz, Lloyd F. (Emeritus), Ph.D. .... NC State
Skold, L. N. (Emeritus), M.S. ........ Kansas State
Springer, M. E. (Emeritus), Ph.D. ... California
Swingle, H. D. (Adjunct) ......... California
Tyrer, D. D., Ph.D. ................. Kentucky
West, D. R., Ph.D. ................. Nebraska

Assoc. Professors:

Ammons, J. T., Ph.D. ............... West Virginia
Dayton, D. E. (Liaison), Ph.D. ...... NC State
Krueger, W. A., Ph.D. .............. Illinois
Lee, S. Y. (Adjunct), Ph.D. .......... Wisconsin
Lessman, Gary M., Ph.D. .......... Michigan State
Logan, Joanne, Ph.D. .............. Nebraska
Reich, V. H., Ph.D. ............... Iowa State
Wright, J. E., Ph.D. .............. Florida

Assistant Professors:

Essington, M. E., Ph.D. .... California (Riverside)
Mueller, Thomas C., Ph.D. .......... Georgia
Mullen, D. M., Ph.D. .............. NC State
Newton, D. (Adjunct), M.S. ...... Kentucky
Wilson, G. V., Ph.D. ............. Arkansas

The Department of Plant and Soil Science offers graduate programs leading to the Master of Science and the Doctor of Philosophy. Concentrations for the graduate programs are offered in soil science, plant breeding and genetics, and crop physiology and ecology.

For further information, contact the department head.

THE MASTER'S PROGRAM

Thesis Option

This option requires writing a thesis based on original research. Six hours of 500 Thesis are required. Prior to conducting research, the student must develop a detailed written research plan. In addition to the thesis hours, a minimum of 24 hours of graduate coursework is required, of which at least 14 must be taken in courses numbered 501 and above. The student's advisory committee may require additional coursework if the student's progress or background indicates such need. Each student is required to take 1 hour of 501 and 1 hour of 503, and to present an exit seminar on the thesis research.

The student's advisory committee consists of the major professor, who acts as chairperson of the committee, and a minimum of two other faculty members. The advisory committee approves the student's research plan and coursework and conducts the final oral examination integrating the thesis and coursework.

A student having started on the thesis option is not eligible to transfer to the non-thesis option after the end of the first semester of graduate studies or after having received a Graduate Research Assistantship stipend for more than one semester. A student having started on the non-thesis option may transfer to the thesis option upon approval by a potential major professor and the Department Head.

Non-Thesis Option

A student desiring the non-thesis option should declare this intention at the beginning of the first semester of graduate studies, and must declare it before the beginning of the second semester. In lieu of thesis, students are required to complete 3 hours of 593 for satisfactory participation in a single research program for a period of 12 weeks and the writing of an original, creative and well-written report, both to be conducted by the major professor and approved by the advisory committee. In addition to 3 hours of 593, a minimum of 30 hours of graduate coursework is required, of which at least 20 must be taken in courses numbered 501 or above, for a total of 33 hours.

The student's advisory committee may require additional coursework if the student's progress or background indicates such need. Each student is required to take 1 hour of 501 and 2 hours of 503.

The student's advisory committee consists of the major professor, who acts as chairperson of the committee, and a minimum of two other faculty members. The advisory committee approves the student's coursework and the report on participation in a research program for 593. Students are required to take a written comprehensive examination integrating the coursework.

THE DOCTORAL PROGRAM

A minimum of 72 hours beyond the Bachelor's degree, exclusive of credit for Thesis 500, is required. Of this number, 24 hours must be Doctoral Research and Dissertation 600. A minimum of 26 hours must be completed in courses numbered above 500 exclusive of doctoral research and dissertation, of which 6 hours must be in courses numbered above 600. A
minimum of 9 hours of graduate course work taken during the doctoral program must be outside the department in one or more cognate areas.

The student and the major professor identify a doctoral committee composed of at least four faculty members holding the rank of assistant professor or above, three of whom, including the chair, must be Graduate Council to direct doctoral research. At least one member must be from outside the department. The committee must approve all coursework applied toward the degree, certify the student's mastery of the major field and any cognate fields, direct the research, and recommend the dissertation for approval and acceptance by The Graduate School.

GRADUATE COURSES

411 Soil Microbiology (3) Soil microbial populations and role in soil ecosystem, microbial transformation of inorganic and organic compounds, decomposition of residues, and dynamics of soil organic matter. Prerequisite: Introduction to Soil Science and Introduction to Organic Biochemistry or Organic Chemistry or consent of instructor. 2 hrs and 1 lab. F, S

412 Soil Genesis, Classification, and Mapping (3) Soil generation and formation; observation and description of morphology of agricultural and forest soils; chemical and physical properties, classification, mapping. Two Saturday field trips. Prerequisites: 210 or consent of instructor. 2 hrs and 1 lab. S

413 Soil Chemistry (3) Principles concerning structure and chemical properties of soil materials; colloidal fractions as related to exchange, chemical equilibria, soil acidity, oxidation-reduction, weathering, nutrient availability and waste disposal. Prerequisites: 311 or consent of instructor. F

414 Soil, Land Use, and the Environment (3) Soil as environmental component and soil properties affecting land use. Soil and resource in development planning; consideration of nonengineering aspects of site selection for land use, soil survey and resource data in land use, recognition and prevention of soil pollution. Prerequisites: 210 or consent of instructor. S, A

415 Soil Hydrology (3) Physical relationships among solid, liquid, and gaseous phases of soil system. Relationships of soil properties to processes in soils. Prerequisites: Introduction to Soil Science. 2 hrs and 1 lab. F, A

431 Crop Physiology and Ecology (3) Principles of plant physiology and ecology as applied to crop production. Effects of environmental factors on physiological processes. Prerequisites: 220, Botany 231., 2 hrs and 1 lab. F, A

432 Bioclimatology (3) Solar energy budget; interactions between global, regional, and local climates and biological and geological systems; quantification of macro- and microclimates; microclimates and their modification; automated weather station data collection and analysis; biological responses to climate change; variations in climate and their effects on biological systems. Prerequisites: 1 yr physical or biological science, junior standing: 2 hrs and 1 lab. F

433 Agricultural Pesticides (3) Regulation of pesticide development, manufacture, transportation, marketing, and use. Structure, mode of action, degradation and environmental impact of pesticides used in agriculture, forestry, and related areas. Prerequisite: 1 yr biological sciences and 1 semester chemistry. 2 hrs and 1 lab. S

434 Postharvest Biology and Technology (3) Principles, methods, and techniques related to maintenance of quality of horticultural commodities. Postharvest handling, storing, and processing; quality evaluation and biological and physiological mechanisms related to maturation, ripening, and senescence. Graduate credit requires a short lab project in addition to regular class assignments. Two Saturday field trips. Prerequisite: 1 yr biological science. 2 hrs and 1 lab.

453 Principles of Plant Breeding (3) Genetic principles and techniques used in crop improvement. Prerequisite: Biology 220 or equivalent. 2 hrs and 1 lab. S

471 Statistics for Biological Research (3) Application of statistics to interpretation of biological research. Notation, descriptive statistics, probability distributions, confidence intervals, t- and chi-square tests, analysis of variance, mean separation procedures, linear regression and correlation. Prerequisites: Mathematics 121 or equivalent. F

500 Thesis (1-15) P/NP only. E

501 Seminar Preparation (1) Application of speaking, writing, and organizational skills in preparation and presentation of scientific material to both scientific and general audiences. Preparation of abstracts for scientific presentations. Required of all entering graduate students during the first year of graduate study. F, Sp

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester. Prerequisite: University facility permit and/or faculty line before degree is completed. May not be used toward degree requirements. Maximum 15 hrs. E

503 Seminar (1) Presentations and discussion of current scientific material. Maximum 15 hrs. F, Sp

511 Advanced Soil Fertility (3) Concepts of soil chemistry as related to nutrient movement and adsorption by plant roots. Fertilizer use efficiency as measured by plant response factors. Prerequisite: Calculus III, 415, or consent of instructor. F, S, A

512 Pedology (3) Physical and chemical weathering processes, factors of soil formation, soil forming processes. Prerequisite: 412 or consent of instructor. 2 hrs and 1 lab. F, A

514 Advanced Soil Physics (3) Theory and mathematical modeling of heat, water, and solute transport in unsaturated soil; influence of soil structure, mineralogy, and topography on water and solute movement. Prerequisites: 413. 2 hrs and 1 lab. S, A

515 Advanced Plant Genetics (3) Discovery of genetics: controlling elements, induced mutations, genome organization, polyplody, tetraploidy, inheritance, chromosomal inheritance, apomixis, incompatibility systems, and genetic engineering of higher plants. Prerequisite: Biology 220. F, A

531 Crop Physiology and Ecology (3) Principles of plant physiology and ecology as applied to crop production. Effects of environmental factors on physiological processes. Prerequisites: 220, Botany 231., 2 hrs and 1 lab. F, A

532 Advanced Crop Ecology (3) General and specific relations among environmental factors, crop organisms, and agricultural systems; quantification of macro- and microclimatic influences on crop growth; world climates, crop distribution and productivity, human cultures, and the environment. Prerequisite: 471 or equivalent: 43 hrs and 1 lab. F, A

551 Advanced Plant Genetics (3) Discovery of genetics: controlling elements, induced mutations, genome organization, polyplody, tetraploidy, inheritance, chromosomal inheritance, apomixis, incompatibility systems, and genetic engineering of higher plants. Prerequisite: Biology 220. F, A

571 Design and Analysis of Biological Research (3) Same as Animal Science 571.

583 Special Problems in Plant and Soil Science (1-3) May be repeated. Maximum 6 hrs. E

600 Doctoral Research and Dissertation (3-15) P/NP only. E

601 Special Topics in Soil Science (1-3) Thermodynamics of surface properties, soil mineralogy, soil chemical, soil fertility, water movement and use by plants, soil structure, soil thermal properties, interaction in the soil-plant environment. May be repeated. Maximum 6 hrs. E

603 Special Topics in Crop Physiology and Ecology (1-3) Micromole manipulation of agroecosystems, crop dormancy, and responses to stress, physiology of crop growth and reproduction. Prerequisites: Calculus III, 415, or consent of instructor. In addition to regular class assignments. Two Saturday field trips. Prerequisite: 1 yr biological science. 2 hrs and 1 lab.

605 Special Topics in Plant Breeding and Genetics (1-3) Genetics by environment interactions. Principles of quantitative parameters, mutation, chromosome dynamics, polyplody, genetic engineering, interspecific hybridization, linkage, screening methods, genome organization. May be repeated. Maximum 6 hrs. E

613 Advanced Soil Chemistry (3) Surface and colloid chemistry of soil minerals; reactions in inorganic soils; soil fertility determinants; surface complexation and soil colloidal stability. Prerequisites: 413 or consent of instructor. F, Sp

631 Advanced Crop Physiology (3) Principles of uptake, translocation, mode of action and rate of metabolism of chemicals and plant growth regulators and their effects on plant morphology, metabolic systems, and enzyme activities. Practical aspects and current commercial uses of plant growth regulators. Prerequisites: Botany 220 and 572. F, S

653 Plant Growth Control and Herbicide Action (3) Principles of uptake, translocation, mode of action and rate of metabolism of chemicals and plant growth regulators and their effects on plant morphology, metabolic systems, and enzyme activities. Practical aspects and current commercial uses of plant growth regulators. Prerequisites: Botany 220 and 572. F, S

671 Advanced Research Planning (3) Development of agricultural research proposals utilizing prescribed resources and emphasizing experimental design and statistical techniques. Prerequisite: Animal Science 571. F

Political Science (College of Arts and Sciences)

MAJORS

Political Science.......................... M.A., Ph.D.

Public Administration.......................... M.P.A., J.D., M.P.A.

Michael Gant, Head

Professors:

Carlisle, D. H. (Emeritus), Ph.D........................... North Carolina

Cunningham, Robert B., Ph.D........................... Indiana

Fitzgerald, Michael R., Ph.D........................... Oklahoma

Gant, Michael M., Ph.D........................... Michigan State

Germing, Robert A., Ph.D........................... New York

Iredell, Vernon R., Ph.D........................... Chicago

Lyons, William, Ph.D........................... Oklahoma

Peters, John, Ph.D........................... Utah

Plaa, Hyram, Ph.D........................... Robinson, Nelson M. (Emeritus), Ph.D........................... Syracuse

Peterson, Robert L., Ph.D.......................... Ph.D........................... Florida

Pettit, T. Alexander, Ph.D........................... Ohio State

Potoczak, Richard, Ph.D........................... Pennsylvania

Wong, Thomas D., Ph.D........................... Iowa

Welborn, David, Ph.D........................... Texas

Wright, Richard, Ph.D........................... Illinois

Assistant Professors:

Evans, Gill C., Ph.D........................... Columbus

Potoczak, Richard, Ph.D........................... Tifton

Scheb, John M., Ph.D........................... University of Florida

Smith, T. Alexander, Ph.D........................... Tennessee

Stephens, Otis H. (Distinguished Prof.), Ph.D........................... Pennsylvania

Ungs, Thomas D., Ph.D........................... California

Ungs, Thomas D., Ph.D........................... Wisconsin (Milwaukee)

Peters, Robert L., Ph.D........................... Yale

Assistant Professors:

Houston, David, Ph.D........................... SUNY (Binghamton)

Nownes, Anthony, Ph.D........................... Kansas

Richardson, Lillard, Ph.D........................... Texas
The Department of Political Science offers the M.A., M.P.A., and Ph.D. The Department also offers a dual program with the College of Law. Inquiries concerning all programs should be directed to the departmental office.

ADMISSION REQUIREMENTS

Three departmental recommendation forms must be submitted to The Graduate School, 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.

THE MASTER OF ARTS PROGRAM

A Bachelor's degree or its equivalent is required for admission. Normally an 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 part of the GRE is normally required.

Students pursuing the Master of Arts degree may follow one of two options:

1. Core - 21 hours.
   b. Analytical skills (6 hours). 512 Quantitative Political Analysis; 514 Research and Methodology in Public Administration.
   c. Management skills (6 hours). 560 Public Budgeting; and either 562 Public Management or 564 Human Resources Management in Public Administration.

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

3. Recommended internship with a public agency - 6 hours.

Internships are arranged in consultation with the coordinator of the M.P.A. program.

4. A written final examination, which may be followed by an oral examination, is required.

DUAL J.D.-M.P.A. PROGRAM

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 conferment of both the Doctor of Jurisprudence and Master of Public Administration degrees. In this program, a student may earn the M.P.A. and J.D. degrees 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 J.D.-M.P.A. program must make separate application to, and be independently accepted by, the College of Law for the J.D. degree and the Department of Political Science and The Graduate School for the M.P.A. 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 M.P.A. program. Application may be made prior to or after matriculation in either the J.D. or the M.P.A. program, but application to the dual program must be made prior to entry into the last 29 semester hours required for the J.D. degree and prior to entry into the last 15 hours required for the M.P.A. degree.

Curriculum

A dual degree candidate must satisfy the requirements for both the J.D. and the M.P.A. degrees, as well as the requirements for the dual program. The College of Law will award a maximum of 9 semester hours of credit toward the J.D. degree for successful completion of approved graduate-level courses (500 or 600 level) offered in the Department of Political Science. The M.P.A. program will award a maximum of 9 semester hours of credit toward the M.P.A. 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 J.D.-M.P.A. coordinators in the College of Law and the Department of Political Science. All candidates for the dual degree must successfully complete Administrative Law (Law 820) and are encouraged to take Local Government (Law 824). An internship is strongly recommended for students in the dual degree program, as it is for all M.P.A. 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 two years of the College of Law curriculum and one academic year taking courses solely in the M.P.A. program. During those first two years, students may not take courses in the opposite area, without the approval of the J.D.-M.P.A. 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 be awarded credit toward either the J.D. or the M.P.A. 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 M.P.A. 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 Registrar of the University shall show the actual grade assigned by the instructor without conversion.

THE DOCTORAL PROGRAM

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

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, must successfully pass written comprehensive examinations in three 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 a course or course work. Students may also use graduate credit for 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:

1. At least 69 hours must be in political science courses.
2. At least 54 hours in political science must be in courses numbered above 500.
3. Completion of Political Science 510, 511, and 512.
4. Completion of at least three courses or seminars at UTK in each of the three broad subfields in which the student takes examinations.
5. Completion of at least one course or seminar in each of six broad subfields available for graduate instruction in the department.
6. At least 6 hours must be earned in political science courses numbered above 600.
7. A total of 24 hours must be earned by writing the dissertation.

MINOR IN ENVIRONMENTAL POLICY

The department participates in a program designed to give master's level graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Economics for program description.

GRADUATE COURSES

430 United States Constitutional Law: Sources of Power and Restraint (3) Analysis of judicial review, constitutional powers of President and Congress, federalism, sources of regulatory authority, and constitutional protection of political and economic rights.
431 U.S. Constitutional Law: Civil Rights and Liberties (3) Analysis of current issues in civil rights and liberties including affirmative action, equal protection, privacy and rights of accused.
442 Administrative Law (3) Legal dimensions of administrative law, and constitutional controls over administrators.
452 Black African Politics (3) Recent evolution and current political environment of Black African nations. (Same as Afro-American Studies 452.)
454 Government and Politics of China and Japan (3) Examination of the political setting, structure and political processes in China and Japan.
455 Latin American Government and Politics (3) Selected topics on Latin American political dynamics, consideration of leading theoretical explanations. (Same as Latin American Studies 455.)
459 Government and Politics of the Soviet Union (3) Origins and development of Soviet political system, and study of selected policy areas.
461 Policy Making in Democracies (3) Comparative approach to theory and process of making public policy.
463 Contemporary Middle East Politics (3) Governments and movements in Middle East, their characteristics, bases, and interrelationships.
470 International Law (3) Nature and development of international law and compliance. Function of international law in context of international conflict.
475 Ancient and Medieval Political Thought (3) Survey of major western political thinkers from Socrates to Marsilio of Padua.
476 Modern Political Thought (3) Survey of major western political thinker from Machiavelli to Marx.
500 Thesis (1-15) P/NP only. E
502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time being used is completed. May not be used toward degree requirements. May be repeated. S/NC only. E
510 Scope and Methods in Political Science (3) Procedures of analysis in political science.
511 Research Design (3) Methods for planning and executing research, from case studies to experimental designs: development of research questions and hypotheses; measurement issues; and validity of inferences.
512 Quantitative Political Analysis (3) Methods and techniques in quantitative political analysis: univariate and bivariate statistics.
513 Quantitative Political Analysis (3) Methods and techniques in quantitative political analysis: multivariate model building.
514 Research and Methodology in Public Administration (3) Basic assumptions and techniques of research in public administration; measurement, analysis, and reporting of data.
520 Political Theory (3) Survey of major ideas, thinkers and works of Western political theory.
522 American Political Thought (3) Systematic examination of the normative and empirical theories of leading American political thinkers from the colonial period to the present.
530 American Government and Politics (3) Survey of literature, approaches to research and analysis, critical examination of major works, and overviews of research in various subfields. May be repeated with consent of department. Maximum 9 hrs.
532 Presidency (3) Systematic examination of the structure, functions and powers of the American presidency as they have evolved from the founding to the present.
533 Congress (3) Formal, empirical and theoretical approaches to institution and structure of the institutional workings of Congress and the behavior of legislators.
535 Mass Political Behavior (3) Theoretical and empirical analyses of public opinion, political socialization, political attitudes and behavior, especially voting behavior.
537 Political Parties and Interest Groups (3) Theoretical and empirical examination of the structure, functions and operations of political parties and interest groups.
539 State and Local Government and Politics (3) Theoretical and empirical analysis of government, politics, policymaking and public administration at the state and local levels.
540 Public Law (3) Selective examination of published research and current approaches in subfields of constitutional law, judicial process, and judicial behavior. May be repeated with consent of department. Maximum 9 hrs.
546 Law and the Administrative Process (3) Constitutional position, decisional processes, regulation and management; limitations on governmental action; questions of structure, role, and administrative choice. May be repeated with consent of department. Maximum 9 hrs.
548 Public Policy Process (3) Theoretical, formal and empirical analysis of the role, functions and decision making processes of public policymakers, including legislative, executive and judicial actors.
550 Public Administration (3) Overview of public administration theory and function.
552 Organization Theory (3) Analysis of major theories of organization and their applicability to public sector.
553 Management of Information Systems (3) Theory, design, development, implementation and evaluation of information systems in public organizations. Database systems, computer applications, and training for management information technology.
556 Policy Analysis (3) Strategies and techniques for identification and analysis of public problems and policy solutions. May be repeated with consent of department. Maximum 9 hrs.
558 The Politics of Administration (3) Examination of public administration in context of American political system, policy-making and political roles of public administrators and agencies. May be repeated with consent of department. Maximum 9 hrs.
560 Public Budgeting and Finance (3) Technical and political aspects of preparing, adopting, and operating government budgets. Management implications of revenue collection, debt management, treasury function, accounting, internal auditing, purchasing, risk management, post-auditing.
562 Public Management (3) Interpersonal and leadership skills, techniques and methods for planning, decision making, and implementation of management strategies in public sector. May be repeated with consent of department. Maximum 9 hrs.
566 Ethics, Values, and Morality in Public Administration (3) Ethics, values, and morality and administrative dilemmas confronting administrators in American political system.
569 Internship in Public Administration (3-9) Open to students participating in approved internship programs. May be repeated with consent of department. Maximum 9 hrs. S/NC only.
570 Comparative Government and Politics (3) Selected topics in modern governments. May be repeated with consent of department. Maximum 9 hrs.
572 The Politics of Development (3) Selected topics dealing with political problems of less developed countries. May be repeated with consent of department. Maximum 9 hrs.
574 Ares Seminar in Comparative Government and Politics (3) Selected topics in areas studies: African, Asia, Latin America, Middle East, Soviet Union and Eastern Europe or Western Europe. May be repeated with consent of department. Maximum 9 hrs.
580 International Politics (3) Survey of literature and major aspects of international politics. May be repeated with consent of department. Maximum 9 hrs.
591 Foreign Study (1-15) See College of Arts and Sciences.
592 Off-Campus Study (1-15) See College of Arts and Sciences.
593 Independent Study (1-15) See College of Arts and Sciences.
596 Readings and Special Problems in Political Science (1-3) Prereq: Consent of instructor. May be repeated. Maximum 15 hrs.
600 Doctoral Research and Dissertation (3-15) P/NP only. E
610 Special Topics in Empirical Theory and Methodology (3) Advanced methods and procedures of analysis in political science. May be repeated with consent of department. Maximum 9 hrs.
615 Formal Political Analysis (3) Assumptions, methods and applications of formal political models, including game theory, rational choice theory, and public choice theory, and mathematical modeling. May be repeated with consent of instructor. Maximum 9 hrs.
628 Topics in Political Theory (3) Selected issues and problems in normative political theory. Specific content determined by instructor. May be repeated with consent of instructor. Maximum 9 hrs.
639 Special Topics in American Government and Politics (3) Advanced study of selected topics. May be repeated with consent of instructor. Maximum 9 hrs.
640 Special Topics in U.S. Constitutional Law (3) Systematic analysis of published research and judicial decisions in development of constitutional law as major component of public policy. May be repeated with consent of department. Maximum 9 hrs.
642 The Politics of Criminal Justice (3) Selective examination of contemporary problems of research and public policy formulation: criminal process; law enforcement administration; criminal court administration; and prison administration. May be repeated with consent of department. Maximum 9 hrs.
654 Contemporary Public Policies (3) Problems in one or more public policy areas in contemporary and administrative perspectives. Topics selected by instructor. May be repeated with consent of department. Maximum 9 hrs.
660 Contemporary Perspectives on Public Administration (3) Development of theory in public administration; contemporary critiques and alternatives. May be repeated with consent of instructor. Maximum 9 hrs.
667 Comparative Public Administration (3) Comparison of policy-making structures and public policies in
selected countries. May be repeated with consent of department. Maximum 9 hrs.

568 Special Topics in Public Administration (3) Analysis of selected issues and problems in public administration. May be repeated with consent of department. Maximum 9 hrs.

670 Special Topics in Comparative Government and Politics (3) Research into selected topics. May be repeated with consent of department. Maximum 9 hrs.

882 Theory and Analysis of U.S. Foreign Policy Processes (3) Theoretical approaches to decision making in foreign policy area and analysis of policy-making process. May be repeated with consent of department. Maximum 9 hrs.

568 Special Topics in International Politics (3) Selected issues and problems in international politics. Specific content determined by instructor. May be repeated with consent of instructor. Maximum 9 hrs.

Polymer Engineering
See Materials Science and Engineering

Psychoeducational Studies
(Studies of Education)

MAJORS

DEGREES

Education .................................. Ph.D.
Educational Psychology .................... M.S., Ed.D.
Educational Psychology and Guidance ... Ed.S.

K. Greenberg, Leader

Professors:

Bellon, Jerry J., Ed.D. ................. UC Berkeley
Cameron, Walter A., Ph.D. .............. Ohio State
Dickinson, Donald J., Ed.D. .......... Oakland State
George, Thomas W., Ed.D. .............. Tennessee
McCallum, R. S. (Liaison), Ph.D. ..... Georgia
Peters, John M., Ed.D. ............. NC State
Williams, R. L., Ph.D. .............. George Peabody

Associate Professors:

Greenberg, Katherine H., Ph.D. ...... George Peabody
Kendall, Luther M., Ed.D. .......... Tennessee

The Psychoeducational Studies unit offers graduate programs leading to the following: Bachelor of Science with a major in Educational Psychology, Educational Specialist with a major in Educational Psychology and Guidance, concentrations in educational psychology and school psychology; and Doctor of Education with a major in Educational Psychology. The unit also participates in the college-wide Ph.D. program with a major in Education. The concentration area is theories and practices of educational and personal adjustment with specializations in educational psychology and school psychology. See Education under Fields of Instruction for full description of all degree requirements.

The mission of the Psychoeducational Studies unit is to provide national leadership in creating learning environments that foster psychological health, address authentic educational needs, and promote lifelong learning. The unit will seek opportunities in the diversity of contexts for learners to apply data-based problem solving, engage in reflective and evaluative thinking, and implement the structures and processes necessary for effective collaboration.

The school psychology program is accredited by the American Psychological Association and the National Association for School Psychology. This program also has the approval of the National Council for Accreditation of Teacher Education. The program in Educational Psychology has been recognized as a "Designated Program" by the American Association of State Psychology Boards and the Council for the National Register of Health Service Providers in Psychology.

ADMISSION REQUIREMENTS

Admission requirements include up-to-date scores from the GRE, the unit admissions application form and letters of recommendation. For the doctoral program a writing sample is also required. The application deadline for admission to the doctoral programs is February 1, and to the Ed.S. and M.S. programs, February 1 and November 1. For information about the various programs of study and admissions, write to the Graduate Center in the College of Education.

GRADUATE COURSES

432 The Disadvantaged Student: Psychoeducational Perspectives (3) Theory and research regarding etiology, psychosocial behavior and appropriate intervention; S, F, Sp

500 Self-Management in the Helping Professions (3) Applications of self-management strategies to career, social, emotional, and health domains for both helping professionals and their clients. Prereq: Introductory course in psychology or consent of instructor. S, N/C only. Sp

503 Problems in Lie (2-3) May be repeated. Maximum 9 hrs. S, N/C only, E

504 Special Topics (1-3) Instructor-initiated course offered at convenience of unit on topics of current interest. May be repeated. Maximum 15 hrs. S, N/C or letter grade. E

510 Psychological Theories of Human Development Applied to Education (3) Theory and research on emotional, social, and intellectual development over the lifespan with applications to educational and therapeutic settings. F, Su

511 Cognitive Development: Implications for Education (3) Applications of theory and research related to higher mental problem-solving. Prereq: 510 or consent of instructor. F

513 Reflective Practice in Education and Psychology (3) Concepts, theories and processes of reflective practice applied to educational settings.

515 Educational Applications of Behavioral Theories of Learning (3) Behavioral theories and research, conditioning, observational learning and theoretical learning as systems applied to student motivation, discipline and learning. F, Su

516 Educational Applications of Cognitive Learning Theories (3) Cognitive theory and research, social learning, attribution and information processing as systems applied to education. Prereq: 515 or consent of instructor. F

518 Educational Specialist Research and Thesis (3) May be repeated. P/N/P only, E

526 Informal Methods of Assessment (3) Development and use of rating scales, check-lists, observation, test scores and case reports in assessment and counseling of children and adults. Prereq: 525. Sp

530 Seminar in School Psychology (3) Essentials of theoretical practice of school psychology. May be repeated with consent of instructor. E, F, Sp

540 Seminar in School Psychology (3) Application of assessment skills to clients in learning environments. Coreq: 541 or consent of instructor. May be repeated. Maximum 6 hrs. F, Sp

542 Practicum in Psychoeducational Assessment (3) Application of assessment skills to clients in learning environments. Coreq: 545. F, Sp

544 Practicum in Psychoeducational Assessment (3) Application of assessment skills to clients in learning environments. Coreq: 544. F, Sp

549 Internship in School Psychology (1-6) Supervised employment in unit approved school psychology internship site. Prereq: Enrollment in school psychology program and consent of instructor. May be repeated. Maximum 12 hrs N/C only, E

551 Issues and Theories in Cognitive Education for Disabled Learners (3) Current cognitive education theories; implications for disabled learners; effects of philosophy, values, and expectations; perspectives and emerging directions; characteristics of learners with cognitive deficiencies. Coreq: 552 or consent of instructor.

552 Instructional Systems in Cognitive Education for Disabled Learners (3) Informal and objective assessment approaches, data collection, instructional programming and decision-making related to nature and needs of disabled learners. Prereq or coreq: 551 or consent of instructor.

560 Discipline and Conflict Resolution (3) Application of major models of discipline and conflict resolution strategies in development of constructive atmosphere for classroom learning.


593 Independent Study (1-3) May be repeated. S, N/C or letter grade. E

620 Doctoral Research and Dissertation (3-15) P/N/P only. E

622 Directed Research (1-3) Instructor- or student-initiated group project involving empirical and theoretical problems in educational and counseling psychology. May be repeated. Maximum 12 hrs. S, N/C only. E

644 Special Topics (1-3) Instructor-initiated course offered at convenience of unit on topics of interest. May be repeated. Maximum 15 hrs. S, N/C or letter grade. E

645 Advanced Seminar in Curriculum and Learning (4) Team-taught interdisciplinary seminar on trends, themes, and issues in curriculum and learning. Reading and discussion based on significant research and scholarly publications.

650 Professional Practice in School Psychology (1) Field setting to facilitate academic, social and professional development of children and adults. Social and mental health settings for intervention, consultation, prevention, and assessment services. May be repeated. Maximum 9 hrs. S, N/C only.
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<thead>
<tr>
<th>MAJOR</th>
<th>DEGREES</th>
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<tbody>
<tr>
<td>Psychology</td>
<td>M.A., Ph.D.</td>
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<td>Warren H. Jones, Head</td>
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<td>Professors</td>
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<tr>
<td>Burghardt, Gordon M., Ph.D.</td>
<td>Chicago</td>
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<td>Burstine, Alvin G., Ph.D.</td>
<td>Chicago</td>
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<td>Calhoun, William H., Ph.D.</td>
<td>California</td>
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<td>Cohen, Charles P., Ph.D.</td>
<td>Kansas</td>
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<td>Fine, Harold J. (Emeritus), Ph.D.</td>
<td>Syracuse</td>
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<td>Handel, Stephen J., Ph.D.</td>
<td>Johns Hopkins</td>
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<td>Hendler, Leonard, Ph.D.</td>
<td>Michigan State</td>
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<td>Jones, Warren H., Ph.D.</td>
<td>Oklahoma State</td>
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<td>Lawler, James E., Ph.D.</td>
<td>North Carolina</td>
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<td>Malone, John C., Ph.D.</td>
<td>Duke</td>
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<td>Newton, Kenneth R. (Emeritus)</td>
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<td>Pollio, Howard R. (Distinguished Prof.)</td>
<td>Tennessee</td>
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<td>Associate Professors:</td>
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<td>Johnson, Michael G., Ph.D.</td>
<td>Johns Hopkins</td>
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<td>McIntyre, Anne, Ph.D.</td>
<td>Yale</td>
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<td>Morgan, Wesley G., Ph.D.</td>
<td>Tennessee</td>
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<td>Nash, Michael R., Ph.D.</td>
<td>Ohio</td>
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<tr>
<td>Baldwin, Debora R., Ph.D.</td>
<td>Kent State</td>
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**Hopson, Ronald E., Ph.D. ............ Michigan State**

**Welsh, Deborah, Ph.D. ............. Massachusetts**

**THE MASTER'S PROGRAM**

Graduate study leading to the M.A. degree in psychology is available with 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 B.A. or B.S. 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 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.

**Program Requirements**

All students must complete 30 semester hours of graduate level courses in psychology. These hours must include 304-05, or Statistics 531-32 or an equivalent sequence, 556 or 420, six semester hours of Thesis 500, and six hours of 500-600 level foundation courses. Students must earn a grade of B or better in all courses that are to count toward the 30-hour total. Students must also propose, conduct, and successfully defend an original piece of research in the form of a master's thesis.

**THE DOCTORAL PROGRAM**

A student with a B.A. or B.S. may apply to the Department of Psychology for admission to the doctoral program with a concentration in experimental psychology or clinical psychology. The doctoral program with a concentration in experimental psychology or clinical psychology is offered through the Life Sciences program. Doctoral study in industrial and organizational psychology is offered through the Intercollaborate program in Industrial and Organizational Psychology, to which application is made through the Department of Management.

**Experimental Psychology**

The Ph.D. program in Psychology with a concentration in experimental psychology is designed to allow students to select from a variety of specializations oriented toward research in experimental psychology. This program is flexible, individualized, and emphasizes a professional apprenticeship model of training. A full description of the program is given in the "Handbook for Students in Experimental Psychology," available from the department.

The basic requirements are:

1. Twelve semester hours of statistics and research (504-05 or Statistics 531-32 or equivalent and six additional hours in research methods or design).

2. Fifteen semester hours in experimental psychology (566 or equivalent and 4 courses from the following: 510, 511 or 512, 513, 543, 546 or 547, 550, 560, and 570 or 571).

3. Six semester hours of research practicum (509).


5. Two 600-level graduate seminars.

6. Six semester hours of graduate level courses outside the Psychology Department.

7. Predissertation 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.

8. An integrative review or research paper, accepted by the student's advisory committee.

9. Comprehensive examination, determined and evaluated by the student's doctoral committee.

10. Twenty-four hours of dissertation research (600).

11. An original piece of research in the form of a doctoral dissertation, proposed, conducted, defended, and defended.

**Clinical Psychology**

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 stresses the theoretical foundations of psychology as well as supervised experience oriented toward the development of practical skills. This program embodies a model of clinical psychology, which focuses on research and practice. Clinical program students must obtain a score of at least 630 on the GRE in psychology by the end of the first year and complete a predissertation research project by the end of the second year.

After forming the doctoral committee, students must submit two satisfactory papers, one addressing a topic of the student's choice and the secod addressing an understanding of one individual's personality and cognitive functioning. All doctoral students must complete a minimum of 78 hours of graduate level courses; at least six courses outside of psychology; and at least 24 hours of dissertation research (600). Finally, students must complete an acceptable doctoral dissertation and conduct a satisfactory oral defense of this dissertation. Requirements are as follows:

1. Apprenticeship with one faculty member during the first year, two days each week.

2. Predissertation 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 presentation, by one member of the faculty.

3. Satisfactory completion of listed courses (or equivalents) in the following seventeen categories:
   a. Foundations of Psychology: Biological Factors, Perception, Learning, Thinking, Motivation (513);
   b. Observations and Observation (558) and Laboratory (559);
   c. Research Practicum (509) (4 hrs.);
   d. Life-Span Development (512) or Developmental Psychology (511);
   e. Personality: Theory and Research I and II (570, 571);
   f. History and Systems of Psychology (565);
   g. Research Questions and Designs (580);

489 Supervised Research (1-9) Prereq: Consent of instructor. May be repeated. Maximum 12 hrs in 395, 489, 491, 492, and 493 combined may apply toward undergraduate major.

500 Thesis (1-15) P/NP only. E

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. S/N only. E


506 Research Design (3) Techniques for planning and conducting research in controlled and natural settings: experiments, quasi-experiments, observational studies, surveys, and program evaluations. Development of questions and hypotheses for study. Design of studies to maximize validity. Prereq: Consent of instructor. S/N only. E

508 Readings and Special Issues in Psychology (1-3) Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. E

509 Research Practicum (1-3) Required of first-year graduate students in psychology. May be repeated. Maximum 9 hrs. S/N only. E

510 Topics in Psychology (3) Intensive examination of selected issues in psychology. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs.

511 Developmental Psychology (3) Normal processes of human socialization; physical, cognitive, and emotional development from conception through infancy, childhood, and adolescence. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs. F

512 Life-Span Development (3) Theories and research concerning normal human development throughout life, adulthood, and old age. Prereq: Consent of instructor.

513 Foundations of Psychology: Biological Factors, Perception, Learning, Controlled and Natural Settings (4) Intensive survey. Prereq: Consent of instructor.

516 Colloquium in Ethology (1) Current research and theory. May be repeated. Maximum 9 hrs. (Same as Zoology 516.) S/N only. E

517-18 Proseminar in Industrial and Organizational Psychology (3,3) Same as Management 517-18. Sp

520 Interventions for Behavioral Change (3) Principles and techniques for planning, implementing, and evaluating interventions derived from social learning theory. Interventions by people in community: teachers or supervisors. Token economies and strategies for self-control. Prereq: Consent of instructor.

525 Laboratory Techniques and Instrumentation (3) Procedures for laboratory research involving humans and nonhuman animals; techniques for collecting, transforming, storing, and analyzing data using microcomputers. Prereq: Consent of instructor. Maximum 9 hrs.

526 General Vertebrate Neuroanatomy (3) Lecture and laboratory; structure and function of the central and peripheral nervous system. Prereq: 461, 469, or equivalent and consent of instructor. (Same as Zoology 526.) E

527 Behavioral Neurology (3) Disorders of nervous system, organic brain dysfunctions. Diagnosis and treatment. Prereq: Consent of instructor.

528 College Teaching in Psychology (3) Concepts, techniques, and materials for teaching psychology at college and/or university level. Prereq: Consent of instructor. S/N only. E


543 Supervised Research (1-9) Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

545 Advanced Animal Behavior (3) (Same as Zoology 545.)

546 Ethological Psychology (3) Basic ethology and comparative psychology. Implications for human behavior. Prereq: Consent of instructor.

547 Conceptual Foundations of Evolution and Behavior (3) Critical evaluation of seminal writings on theory and methods in comparative analysis of behavior. (Same as Zoology 547.)

550 Social Psychology (3) Survey of theory and research concerning interpersonal interaction and individual behavior in social context. Prereq: Consent of instructor. F

555 Psychometrics (3) Basic concepts: factor analysis, scaling, test theories, probability models and their applications, computerized adaptive testing and other topics. Prereq: Statistics 537-538 or equivalent. May be repeated. Maximum 6 hrs.

557 Applied Psychological Measurement (3) Issues and techniques in applying psychological measurement in organizational, clinical, and community research. Prereq: Statistics 537-538 or equivalent of consent of instructor. May be repeated. Maximum 6 hrs.

558 Interviewing and Observation (3) Sensitizing students to own feelings and beliefs and to feelings of interviewee, and analysis of language content, style, and body language. Exploration of etiologies of aspects of interviewee's life. Prereq: Admission to doctoral program in clinical psychology or consent of instructor. Coreq: 559.

559 Laboratory in Interviewing and Observation (1) Prereq: Admission to doctoral program in clinical psychology or consent of instructor. Coreq: 558.

560 Psychology of Learning (3) Review of current evidence from research involving human and/or nonhuman animals. Prereq: 400 and consent of instructor. May be repeated. Maximum 6 hrs.

565 History and Systems of Psychology (3) History of philosophy concerning psychology. Major systems of psychology which emerged during 20th century. Prereq: Graduate standing. Sp

570 Personality: Theory and Research (3) Advanced survey of psychodynamic and neo-Fraunstein approaches to personality: related research. Prereq: Admission to clinical program or consent of instructor. F

571 Personality: Theory and Research II (3) Advanced survey of behavioral and humanistic approaches to personality: related research. Prereq: Admission to clinical program or consent of instructor. F

572 Descriptive Psychopathology (2) Diagnostic criteria of the DSM-III. Examples from written case histories and recorded interviews. Prereq: Admission to doctoral program in clinical psychology or consent of instructor. Sp

573 Dynamics of Psychopathology (3) Psychodynamic view of the causes and symptoms of major psychoses, neuroses, and adjustment disorders. Prereq: Admission to doctoral program in clinical psychology or consent of instructor. Sp

574 Atypical Development in Childhood (3) Research on etiologies of atypical patterns of development in infancy and childhood. Prereq: 511 and consent of instructor. May be repeated. Maximum 6 hrs.

575 Psychopharmacology (3) Connections between pharmacology and psychology. Prereq: Consent of instructor.

576 Object Relations (3) European and American concepts of normal and psychopathological development of object relations. Significance for psychotherapy, psychoanalysis, and psychoanalytic theory. Prereq: Admission to doctoral program in clinical psychology or consent of instructor.

578 Clinical Aspects of Human Sexuality (3) Variation in human sexual behavior. Theories of etiology, treatment. Prereq: Consent of instructor.

580 Research Questions and Designs (3) Question-asking process in research and strategies or design through which answers might be derived. Prereq: Admission to doctoral program in clinical psychology or consent of instructor.
Rehabilitation and Deafness
(College of Education)

MAJORS

DEGREES

Education
Ph.D.
Rehabilitation Counseling
M.S.
Special Education
M.S.

S. Wayne Mulkey, Leader

Professors:

Doll, E. E. (Emeritus), Ph.D. ............... Pennsylvania
Miller, James H. (Liaison), Ed.D. .......... Auburn
Woodruff, William E., Ed.S. .............. Mississippi

Associate Professors:

Cassell, Jack L., Ph.D. ................. Kansas
Dolin, Craig R., Ed.D. ................. Virginia
Mulkey, S. Wayne, Ph.D. ............. Florida State
Welch, Olga, Ed.D. ................. Tennessee

Assistant Professors:

Warden, K., Ph.D. .................. Tennessee

The Rehabilitation and Deafness unit offers graduate programs leading to the Master of Science with a major in Rehabilitation Counseling or in Special Education, concentration in hearing impaired. The unit also participates in the Doctor of Philosophy program in Education as described under Education. See Education under Fields of Instruction for full description of all degree requirements.

The vision of the Rehabilitation and Deafness unit is to prepare persons with disabilities in a multicultural nation. Faculty and staff pursue, as a common mission, improvement in the quality of life for persons with disabilities and focus research interests on the development of new knowledge and technology to meet the unique educational, social, and employment needs of this population. A major goal of the unit is the preparation of graduates for future leadership and professional roles in business and industry, education, and community and government service.

The Rehabilitation and Deafness unit includes several educational programs sponsored by the United States of Education, Office of Special Education and Rehabilitation Services, Rehabilitation Services Administration, including Regional Rehabilitation

Continuing Education Program, Orientation to Deafness, Southeastern Regional Interpreter Training Consortium, National Interpreter Training Center, and the Educational Interpreting program.

GRADUATE COURSES

415 Language Development of Hearing Impaired I (3) Language problems of hearing impaired contrasted with scope and sequence of normal language development. Formal linguistic systems used to describe language development problems.

416 Language Development of Hearing Impaired II (3) Developmental and remedial systems of teaching language to hearing impaired children. Comprehension and production differences, idiomatic and figurative structures.

419 Speech Development of Hearing Impaired (4) Theories of speech development, approaches in training perception and production of speech, and aural habilitation. Practical experiences.

423 Communication Processes for the Hearing Impaired (3) Expressive and receptive vocabulary development in sign communication. Fingerspelling and educational applications of sign language.

424 Nature of Hearing Impairments (3) Basic principles of audiology: anatomy and physiology of hearing; nature and causes of hearing loss; methods and instrumentation for assessment of hearing level; interpretation of audiologic services to medical and other rehabilitative disciplines.

425 Introduction to the Psychology and Education of the Hearing Impaired (3) Primarily for those planning to teach hearing impaired. Overview of research related to psychology, social adjustment, communication method, language development and education of hearing impaired. Survey of literature. Visits to programs.

482 Speech and Language Services in the Schools (3) Organization and implementation of speech and language programs in schools. IEP process as it affects assessment, case-selection, and programming for students age 4-21. Procedures and materials, group interaction, and classroom consultation.

483 Clinical Practice in Communication Disorders in Schools (3) Supervised practice with children with communication disorders. Prereq: 433, 434 (80-100 clinical contact hrs). 482.

500 Thesis (1-15) P/NP only. E

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester. The student uses University facilities and faculty time before degree is completed. May not be used toward degree requirements. May be repeated. S/NC only. E

503 Problems In Lieu of Thesis (2-3) May be repeated. Maximum 9 hrs. S/NC only. E

504 Clinical Experience in Teaching an Supervision of Exceptional Children (3-9) (Same as Inclusive Early Childhood Education 504.)

506 Internships in Teaching in Special Education and Rehabilitation (3-15) Placement in professional settings in public schools or agencies under supervision of master practitioners. Enrollment limited to those in fifth-year program. S/NC only.

509 Vocational Guidance and Career Planning With Hearing Impaired (3) Utilization of psychological, educational, social, and vocational, diagnostic materials and resources appropriate for hearing impaired persons to provide guidance in career decisions and individualized rehabilitation plan.

518 Educational Specialist Research and Thesis (3) May be repeated. P/NP only.

523 Practicum in Hearing Impairment (3) Receptive and expressive language capabilities of hearing impaired student. Designing, teaching, and post-testing of unit of instruction for remediation of specific language deficits.

525 Manual Communication (3) American Sign Language (ASL) and culture of American deaf community. Acquisition of basic linguistic properties of ASL, cultural differences between hearing and deaf community, and
vocabulary development. Prereq: Prior sign language experience or consent of instructor.

525 Advanced Sign Language (3) Intermediate, ASL stressing fluency of expressive and receptive communication of deaf people and structure and history of language. Prereq: 522 or equivalent.


529 Teaching Reading to the Hearing Impaired (3) Specific methods necessary to teach the prelingually hearing impaired student. Practice in preparation of developmentally appropriate reading materials. Methods which assist in integrating hearing impaired students in regular reading curricula and materials. Prereq: 415.

530 Orientation to Rehabilitation (3) History, philosophy, legal, and ethical bases; current issues, and practices in public and private rehabilitation agencies. Qualifications of service providers. Assessment, planning, and provision of services to people who have disabilities and vocational handicaps. Identification, mobilization, and utilization of rehabilitation resources.

532 Caseload Management in Rehabilitation (3) Techniques and procedures involved in management of case-loads in Federal-State vocational rehabilitation agencies, private rehabilitation companies, and public or private rehabilitation facilities. Analysis of appropriate industrial management models related to rehabilitation programs.

533 Job Analysis, Development, and Placement (3) Determining employment-readiness of people with disabilities, identifying appropriate jobs for selected clients, and assisting clients in seeking, obtaining, and retaining employment. Job analysis, job modification and re-engineering, marketing, and employer-servicing techniques; legislation impacting job placement; supported work; and use of occupational information.

535 Vocational Evaluation: Statistical Methods (3) Process principles and techniques used to determine vocational assets and liabilities of people with disabilities. Functional analysis of biographical and interview data; selection and application of relevant psychometric instruments; integration of statistical data into diagnostic reports; application of computer-generated reporting systems.

537 Vocational Evaluation: Clinical Methods (3) Process, principles, and techniques used to assist individuals in determining and understanding their own work behavior and vocational potential. Selection and use of occupational exploration programs and work samples; application of situational tasks, job buyouts, and simulated work experiences in vocational evaluation. Clinical interpretation of data through formal staff conference, vocational counseling, and report writing.

539 Transition from School to Work (3) Development of programs and procedures to facilitate adjustment of exceptional persons to independent living. Evolving perspectives of work, attributes of effective programs, and interface between school-based programs and rehabilitation agencies.

541 Psychosocial Aspects of Exceptionalities (3) Psychosocial impact of exceptionality on person and family. Reaction to loss, coping with disability, and societal rehabilitation.

543 Medical Aspects of Disability (3) Biology and clinical symptoms related to disabling conditions served by special education and rehabilitation personnel. Refractive measures to eliminate or minimize resulting handicaps. Skills necessary to communicate with lay and professional persons.

545 The Rehabilitation Interview (3) Interview as used in assessment and planning with people who have disabilities and vocational handicaps.

547 Practicum in Rehabilitation (3) Supervised experience in area of rehabilitation; application of concepts, principles, and skills. Prereq: Consent of instructor.

549 Internship in Rehabilitation Counseling (12) Supervised practice in rehabilitation counseling. Full-time clinical experience for second-year students (600 clock hrs. required).

570 Special Topics (1-3) Prereq: Admission to graduate program. May be repeated. Maximum 9 hrs. S/NC or letter grade.

591 Clinical Studies (4) Relationship between educational theory and application during internship; research project, development of portfolio, and capstone experience.

592 Assistive Technology in Special Education and Vocational Rehabilitation (3) Technology as applied to needs of school age and post-secondary age students/clients. Delivery of assistive technology services; software programs and assistive devices; delivery systems, interdisciplinary evaluation/planning, and funding issues.

593 Independent Study (1-3) May be repeated. S/NC or letter grade. E

600 Doctoral Research and Dissertation (3-15) P/NP only. E

601 Seminar in Educational Theories in Special Education and Rehabilitation (3) Education theories: education and rehabilitation of exceptional persons. Theory applications in educational settings. Prereq: Admission to doctoral program or consent of instructor.

602 Seminar in Social Processes in Special Education and Rehabilitation (3) Development and implementation of research. Independent research studies. Research proposals. Prereq: 9 hrs of research core and consent of instructor.

610 Internship in College Teaching and Supervision (3-9) Supervised practice in college teaching and supervision. Prereq: Admission to doctoral program or consent of instructor. May be repeated. Maximum 9 hrs. S/NC only.

620 Internship in Research in Special Education and Rehabilitation (3-9) Social phenomenon which influence impact of disability on person and on significant others. Implications for habilitation. Prereq: Admission to doctoral program or consent of instructor.

630 Seminar in Research in Special Education and Rehabilitation (3) Development and implementation of research. Independent research studies. Research proposals. Prereq: 9 hrs of research core and consent of instructor.

670 Special Topics (1-3) Prereq: Admission to doctoral program. May be repeated. Maximum 9 hrs. S/NC or letter grade.

690 Independent Study (1-3) May be repeated. S/NC or letter grade. E

Religious Studies

(College of Arts and Sciences)

Charles H. Reynolds, Head

Professors:
Dungan, David L., Th.D. .................. Harvard
Humphreys, W. Lee, Ph.D. ............... Union
Linge, David E. (Ullson), Ph.D. ............ Vanderbilt
Lusby, F. Stanley (Emeritus), M.Div. .......... Colgate Rochester
Norman, Ralph V., Jr., Ph.D. .............. Yale
Reynolds, Charles H., Ph.D. .............. Harvard

Associate Professors:
Fitzgerald, James L., Ph.D. ............... Chicago
Gwynne, Rosalind W., Ph.D. .............. Washington
Hackett, Rosalind D., Ph.D. ............... Aberdeen
Hodges, John O., Ph.D. ................. Chicago
Levering, Miriam L., Ph.D. ............... Harvard

Assistant Professors:
Hulsether, Mark, Ph.D. ................... Minnesota
Schmidt, G. Gerda, Ph.D. ............... Pittsburgh

A master's degree in Philosophy with a concentration in religious studies is available. (Details of this program are described under Philosophy.) Graduate courses in religious studies provide opportunity for students in a variety of disciplines to pursue work in religious studies as a graduate concentration.

GRADUATE COURSES

411 Modern Religious Philosophies (3) Religious implications of major Western thinkers and movements from Nicolas of Cusa to eighteenth century German Idealists. (Same as Philosophy 411.)

412 Classical Indian Systems of Philosophy: The Mohaka Tradition (3) Investigation of selected writings and philosophical problems of traditions of Sanmukha, Yoga, Vedanta, Buddhism, and Jainism. Prereq: 374 or 376 or consent of instructor. (Same as Philosophy 412.)

416 Jesus and Paul Compared (3) Central ideas and concepts of each person compared with equivalent concepts in the other. Advanced study of Gospels and Epistles of Paul. Involving extensive independent research.

425 Seminar in Western Religions (3) Selected topics, themes, movements, and problems. Content varies. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

430 Seminar in American Religion (3) Selected topics, themes, movements, and problems. Content varies. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

435 Seminar in Asian Religion (3) Selected topics, themes, movements, and problems. Content varies. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

440 Seminar in Comparative Religion (3) Selected topics, themes, movements, and problems. Content varies. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

446 Theoretical Issues in Medical Ethics (3) (Same as Philosophy 446.)

490 Readings and Research in Religious Studies (3) Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

499 Prospective in Religious Studies (3) For advanced students in religious studies; required for majors. Selected specific topics: nature and function of myth in religion, problem of evil, transcendence, theories of religious experience, harmonies, integrating various disciplines involved in study of religion. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

532 Topics in the History of Religions (3) Prereq: Consent of instructor.

533 Topics in Religious Thought (3) Prereq: Consent of instructor.

591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.
Romance and Asian Languages

(College of Arts and Sciences)

MAJORS DEGREES
French M.A.
Spanish M.A.
Modern Foreign Languages Ph.D.

John B. Romeiser, Head

Professors:
Barrette, Paul E., Ph.D. California
Brady, Patrick, D.U.P. Sorbonne
Cobb, Carl W., Ph.D. Tulane
Elliot, Jacqueline C. (Emeritus), M.A. Illinois
Hendelser, Michael H. (Liaison), Ph.D. Florida
Helfin, William H., Ph.D. Florida State
Irving, Thomas B., Ph.D. Princeton
Levy, Karen D., Ph.D. Columbia
Maurino, Ferdinando D. (Emeritus), Ph.D. Minnesota

Ph.D. California
Pinsky, Clara (Emeritus), Ph.D. California
Rivera-Rodas, Oscar, Ph.D. California
Romeiser, John B. (Liaison), Ph.D. Vanderbilt
Vazquez-Big, A. M. (Emeritus), Ph.D. Texas
Wallace, Albert H. (Emeritus), Ph.D. North Carolina
Washburn, Yulan M., Ph.D. North Carolina

Associate Professors:
Brizzo, Flavia, Ph.D. Washington
Campion, Edmund J., Ph.D. Yale
Cazenave, Oddle, Ph.D. Penn State
Cree, Bryan, Ph.D. California
DeRycke, Robert M., Ph.D. Illinois
DiMaria, Salvatore, Ph.D. Wisconsin
DiPuccio, Denise M., Ph.D. Kansas
Duncan, Cynthia K., Ph.D. Illinois
Holm, Christine (Liaison), Ph.D., Wisconsin
Young, Dolly, Ph.D. Texas

Assistant Professors:
Beauvois, Margaret, Ph.D. Texas
Ehrlich, Linda, Ph.D. Hawaii
Essif, Les, Ph.D. Brown
LaCure, Jon, Ph.D. Indiana
Lewis, Elizabeth F., Ph.D. Virginia
Nakuma, Constancio, Ph.D. Sorbonne
Silvani, Eudolice, Ph.D. North Carolina
Wilkinson, Douglas, Ph.D. Yale

The Department of Romance and Asian Languages offers two advanced degrees: the Master of Arts in French and in Spanish and the Doctor of Philosophy in Modern Foreign Languages.

Inquiries should be addressed to the head of the department. The head, through the coordinators of Spanish and French, will make available further departmental requirements, regulations, and materials not listed below.

THE MASTER'S PROGRAM

Thesis Option
1. Completion of a minimum of 24 semester hours in coursework plus at least 6 hours in course 500 Thesis. In French, 501 is required; in Spanish, 550. A maximum of 6 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 6 hours of thesis) must be taken in the major, 6 in the minor.
2. A thesis, with a minimum of 6 semester hours in course 500.
3. A written examination covering the coursework and selected items from a master reading list.
4. A final oral examination covering the thesis.

Non-Thesis Option
1. Completion of at least 30 semester hours, with a maximum of 9 at the 400 level, the rest at the 500 level, including 501 (French) or 550 (Spanish). 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, 6 in the minor.
2. Three term papers that have been accepted by the student's advisory committee.
3. A written examination covering the coursework and selected items from a master reading list.
4. A final oral examination to discuss the papers (French M.A. only).

THE DOCTORAL PROGRAM

The Ph.D. in Modern Foreign Languages is offered jointly by the Department of Germanic and Slavic Languages and the Department of Romance Languages and requires advanced training in at least two foreign languages.

Admission Requirements
Applicants must have completed a B.A. 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 for the Ph.D.
Candidates must complete a minimum of 63 semester hours of coursework beyond the Bachelor's degree in addition to 24 hours of doctoral research and dissertation. Two tracks are available.

The coursework for Track I must be distributed as follows: (1) at least 39 hours in the first concentration; (2) at least 18 hours in the second concentration; and (3) at least 6 hours in a cognate field.
1. First Concentration: French, German, or Spanish. It consists of a minimum of 39 semester hours beyond the Bachelor's degree, distributed as follows:
   - A minimum of 6 hours of 400-level classes taken for the major is required.
   - A minimum of 21 hours at the 500 level (exclusive of thesis hours) including French 584 (3), German 560 (3), or Spanish 550 (3); German 512 (3), French 512 (3), or Spanish 512 (3); French 515-16 (2,2) or German 520 (3).
   - At least 12 hours at the 600 level (exclusive of dissertation hours).
2. Second Concentration: French, German, Italian, Russian, or Spanish (different from the first concentration). It consists of at least 18 hours of courses beyond the Bachelor's degree, at least 12 of which must be at the 500 or 600 level.
3. Cognate Field: Six hours must be in graduate courses numbered 400 and above in a field outside the department. The first concentration but related to the student's principal area of research. If the cognate field is a third foreign language, a reading proficiency exam will be administered after completion of 6 cognate hours by the language section concerned.

The coursework for Track II must be distributed as follows: (1) at least 45 hours in the first concentration; (2) at least 12 hours in the second concentration; and (3) at least 6 hours in a cognate field.
1. First Concentration: French or Spanish. It consists of 45 semester hours beyond the Bachelor's degree, distributed as follows:
   - A minimum of 27 hours at the 500 level (exclusive of thesis hours) including French 584 (3) or Spanish 550 (3); French 512 (3) or Spanish 512 (3); and French 516 (2) or the appropriate Spanish course.
   - At least 12 hours at the 600 level (exclusive of dissertation hours).
2. Second Concentration: French, German, Italian, Portuguese, Russian, or Spanish (different from the first concentration). It consists of at least 12 hours, with a minimum of 3 hours at the 500 level. Students are encouraged to take courses that complement their primary area of expertise in the first concentration; so that the second concentration will be a useful research tool for the dissertation and future professional activities. (Because Track II students will have taken 12 graduate hours instead of 18 hours in the second concentration, they will normally be eligible to teach that language at institutions which follow SACs guidelines for college foreign language teaching.)
3. Cognate Field: Six hours must be in courses numbered 400 and above in a field outside the candidate's first concentration but related to the student's principal area of research. If the cognate field is a third foreign language, a reading proficiency exam will be administered after completion of the 6 cognate hours by the language section concerned.

4. Additional requirements for both tracks: A student must demonstrate competence in the languages of both the first and second languages by taking a test in each language. 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). If the student has not chosen a third language as his or her cognate area, basic competence (determined by a reading examination with translation into English administered by the department concerned) in a third language is required. If the student's first and second languages are Romance languages, the third language should be chosen from another language family.
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 in the program should have the opportunity and will be strongly encouraged to instruct at least two foreign languages, 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, McClellan, Rotary fellowships).

For additional courses, see Germanic and Slavic Languages.

ACADEMIC COMMON MARKET

An agreement among southern states for sharing graduate programs allows legal residents of some states to enroll in certain programs at UT Knoxville on an in-state tuition basis. The Ph.D. program in Modern Foreign Languages is available to residents of the state of Alabama. Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

Asian Languages

GRADUATE COURSES

431 Readings in Chinese Literature (3) Prereq: Mastery of intermediate-level Chinese or consent of instructor. May be repeated. Maximum 9 hrs.
451 Readings in Japanese Literature (3) Prereq: Mastery of intermediate-level Japanese or consent of instructor. May be repeated. Maximum 9 hrs.
471 Selected Topics in Asian Studies (3) Content varies. May be repeated. Maximum 9 hrs.

French

GRADUATE COURSES

411 French Literature of the 18th Century (3) Highlights of 18th-century French literature. Excerpts from Rabelais and Montaigne; readings of poems from writers from Lyon and members of Pléiade. Prereq: 212, 218 or equivalent.
413 French Literature of the 16th Century (3) Major works of Enlightenment. Prereq: 212, 218 or equivalent.
416 Survey of Francophone Literature (3) Examination of French literature outside metropolitan France, particularly Africa and Caribbean. Prereq: 212, 218 or equivalent.
420 French Cinema (3) French cinema from earliest days through New Wave directors. Prereq: 212, 218 or equivalent. May apply toward major.
422 Advanced Grammar (3) Improving one's written French by studying basic and more refined structures of French language. Writing creative free-style compositions. Prereq: 342 or 345.
423-24 Advanced Conversation (1,1) Informal conversation with native speaker on contemporary topics. Stresses in-class contact rather than outside preparation. Prereq: 342 or 345. 2 hrs weekly.
425 Introduction to Descriptive Linguistics (3) Phonetics and phonemics, morphology and syntax. Types of languages, linguistic groups, dialects, and dialect geography. Application of descriptive linguistics—field linguistics, dialect study; its practical use in learning languages and in language teaching. Introduction to transformational grammar. Prereq: 6 hrs of upper-division English or 6 hrs of upper-division courses in a modem or ancient language (exclusive of German and French 301-02), courses in literature in translation, and general courses in Latin and Greek requiring no knowledge of these languages), or consent of department. (Same as German 425, Russian 426, Spanish 425, and Linguistics 425.)
426 Methods of Historical Linguistics (3) (Same as German 426, Russian 426, Spanish 426 and Linguistics 426.)
429 Romance Linguistics (3) Development of Classical Latin through Vulgar Latin into major Romance languages. (Same as Spanish 429 and Linguistics 429.)
430 Theatrical French (2-3) Performance in one or more French plays. Prereq: 212, 218 or equivalent and consent of instructor. May apply toward major.
431 Highlights of French Civilization (3) Survey of French civilization from the Gauls to World War II. Historical events, daily life, all forms of arts. Prereq: 212, 218 or equivalent.
432 Contemporary French Culture (3) French contemporary civilization and culture since World War II. Problems, trends, and organization of French society today. Prereq: 212, 218 or equivalent.
434 Literature of Quebec (3) Survey of literature of Quebec as well as French literature connected with North America. Readings include explorer and missionary works, such as Voyages of Champlain and Journals of Jesuits, and literature of contemporary Quebec. Prereq: Intermediate French or equivalent.
445 Advanced French for Business (3) Advanced contemporary French language and culture as relates to business transactions. Comparative approach to explore differences and similarities between francophone business culture(s) and those of North America and Japan. Building knowledge of business terminology while being sensitized to cultural differences and dangers of simplistic stereotyping. Prereq: French for Business or consent of instructor.
500 Thesis (1-15) P/NP only. E
501 Techniques in Literary Analysis (3) Required for M.A. program. Intensive course in explicatio de texte, a close stylistic reading of texts representative of different areas and of different genres.
502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time before degree is completed. May be used toward degree requirements. May be repeated. SN/C: E.
512 Teaching a Foreign Language (3) Practical application of methods for teaching and evaluating basic language skills and foreign language skills, and cultural aspects through seminars, demonstrations, peer teaching, and observation of foreign language classes. Required of all M.A. and Ph.D. students holding Graduate Teaching Assistantships, except those whose previous training or experience warrants their being excused by department.
516 Bibliography and Methods of Research (2) Critical research tools and scholarly contributions in French literature and language. Practical exercises on compiling of scholarly data using computer-based and non-computer sources.
531 French Literature of the 16th Century (3) Literature of first half of 16th century. Rabelais and other prose writers, humanists, and poetry of Marot, Lyonnais group, and young Pléiade poets.
532 French Literature of the 16th Century II (3) Literature of second half of 16th century. Mature works of Pléiade writers and such poets, as d' Aubigné and Sponde, Montesquieu; writers of scientific works and memoirs; drama.
541 French Literature of the 17th Century (3) French poems and prose works of 17th century.
542 French Literature of the 17th Century II (3) Classical French theatre of 17th century.
551-52 French Literature of the 18th Century: the Philosophes (3,3) Textual analysis of works of Voltaire, Diderot, Rousseau, and other major French 18th-century writers.
561 Lyric Poetry of the 19th Century (3) Reading and interpreting great French romantic poets, "l'art pour l'art" movement, Parnassians, Charles Baudelaire and Symbolists.
571-72 Trends in Modern French Literature (3,3) In-depth study of some of most important, challenging poets, novelists, dramatists of 20th century.
581-82 The French Novel (3,3) French Novel from 17th through 20th centuries.
583 Problems in Stylistics (3) Survey of comparative English-French stylistics. Development and improvement of one's written French.
584 Literary Criticism: the Foundations of Romance Criticism (3) Survey of major ideas utilized over centuries and applied to various types of literature.
591 Foreign Study (1-15) See College of Arts and Sciences.
592 Off-Campus Study (1-15) See College of Arts and Sciences.
593 Independent Study (1-15) See College of Arts and Sciences. Letter grade or SN/C.
594-95 French Directed Readings (3,3)
600 Doctoral Research and Dissertation (3-15) P/NP only. E
621-22-23 Seminar in French Literature (3,3,3) Seminar(s) on major literary topics or major contemporary authors. May be repeated with consent of department. Maximum 6 hrs each.
632-33 Seminar in French Literature (3,3) 632—19th Century; 633-20th Century. May be repeated with consent of department. Maximum 6 hrs each.

Italian

GRADUATE COURSES

401 Dante and Medieval Culture (3) Introduction to significance of this great Italian writer. Prereq: 212 or consent of instructor.
402 Petrarch and Boccaccio (3) Prereq: 212 or consent of instructor.
403-04 Literature of the Rinascimento (3,3) From Pucil to Tasso, Quattrocento and Cinquecento. Prereq: 212 or consent of instructor.
405 Modern Italian Poetry (3) From Pascoli to Montale. Prereq: Italian 212 or consent of instructor.
406 The Modern Italian Novel (3) From Manzoni to Calvino. Prereq: 212 or consent of instructor.
409 Directed Readings (3)
410 Italian Theatre (3) Survey of Italian theatre from Renaissance to present. Prereq: Intermediate Italian or consent of instructor.

421 Topics in Italian Literature and Cinema (3) Italian literature and cinema from 1530 to present. Focus on major literary works and film adaptations. Investigation of relationship between literature and cinema. May be taken with consent of department. Maximum 6 hrs.

510 Readings in Italian Literature (3) Topics vary. May be repeated with consent of department.

591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.

Portuguese

GRADUATE COURSES

431-32 Topics in the Language & Literature of Portuguese-speaking World (3,3) Ongoing study of Portuguese language, literature, and culture. Topics vary. Prereq: At least one course at the 300 level or equivalent. May be repeated. Maximum 12 hrs.

591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.

Spanish

GRADUATE COURSES

421 Phonetics (3) Prereq: Intermediate Conversation and Composition or consent of instructor.

422 Advanced Grammar (3) Further points of grammatical structures. Required of all majors. Native speakers must receive consent of instructor. Prereq: Intermediate Conversation and Composition or consent of instructor.

423-24 Advanced Conversation and Composition (3,3) Advanced conversational and written skills in Spanish for pre-professionals. Native speakers must receive consent from instructor to take course. Prereq for 423: Intermediate Conversation and Composition or consent of instructor. Prereq for 424: 423 or consent of instructor.

425 Introduction to Descriptive Linguistics (3) (Same as French 425, German 425, Russian 425, and Linguistics 425.)

426 Methods of Historical Linguistics (3) (Same as German 426, French 426, Russian 426, and Linguistics 426.)

429 Romance Linguistics (3) (Same as French 429 and Linguistics 429.)

431 Spanish Civilization (3) Major social, political, and cultural achievements of Spanish people from origins of their civilization until today. Prereq: Aspects of Spanish and Spanish American Literature or equivalent.

435-36 Survey of Spanish Literature (3,3) Advanced study of pre-Columbian and Spanish American literature. Prereq: Aspects of Spanish and Spanish American Literature or equivalent.

450 Hispanic Drama (3) Close reading and analysis of representative works by selected dramatists of each period, either Spanish or Spanish American. Topics vary. Prereq: Aspects of Spanish and Spanish American Literature or consent of instructor. May be repeated with consent of department. Maximum 6 hrs.

451 Hispanic Prose (3) Close reading and analysis of representative works by selected novelists, essayists, or short story writers of Spanish or Spanish American. Topics vary. Prereq: Aspects of Spanish and Spanish American Literature or equivalent. May be repeated with consent of department. Maximum 6 hrs.

452 Hispanic Poetry (3) Major poets of each period, either Spanish or Spanish American. Topics vary. Prereq: Aspects of Spanish and Spanish American Literature or equivalent. May be repeated with consent of department. Maximum 6 hrs.

459 Capstone Colloquium in Spanish (3) Integrative experience. Broad range of issues and topics which affect the Spanish-speaking world. May be repeated. Prereq: Aspects of Spanish and Spanish American Literature or equivalent.

461 Special Topics (3) Aspect of Hispanic literature, culture, linguistics, or foreign language pedagogy. Topics vary. May be repeated with consent of department. Maximum 6 hrs.

571 Latin American Civilization (3) Latin America's diverse heritage and major social and political institutions. Prereq: Aspects of Spanish and Spanish American Literature or equivalent.

573-74 Survey of Spanish American Literature (3,3) Historical survey from Conquest to late 19th century. Major literary movements, writers and works of 20th century. Prereq: Aspects of Spanish and Spanish American Literature or equivalent.

479 Social Protest Literature of Latin America (3) Analysis of literature as means of unmasking social ills that have traditionally beset Latin America. Indigenismo, black literature, women writers, role of woman in Latin American society. Prereq: Aspects of Spanish and Spanish American Literature or equivalent.

500 Thesis (1-15) P/NP only, E

502 Registration for Use of Facilities (3-15) Required of all graduate students, including those employed in a graduate assistantship, teaching assistantship, and other positions of financial assistance. Students holding Graduate Teaching Assistantships, or other positions training or experience warrants being excused by department.

522 Advanced Communication Skills for Teachers (3) Prereq: At least one course at the 300 level or equivalent. May be repeated. Maximum 12 hrs.

522 Advanced Communication Skills for Teachers and Other Professionals (3) Prereq: At least one course at the 300 level or equivalent. May be repeated with consent of department. Maximum 6 hrs.

531 Old Spanish (3) Old Spanish language and medieval Spanish literature through 13th century.

532 Medieval Spanish Literature (3) Spanish literature of 14th and 15th centuries.

533 Golden Age Prose (3) Wide range of prose fiction in Spain during 16th and 17th centuries: Renaissance, baroque, sentimental, pastoral and exemplary novels, and dialogues.

534 Don Quixote (3)

535 Golden Age Poetry (3) Garcilaso, Fray Luis de León, San Juan de la Cruz, Lope de Vega, Quevedo, and Gongora.

537 Golden Age Drama (3) Major dramatists of period: Lope de Vega, Tirso de Molina, Ruiz de Alarcón, Guillén de Castro, Calderón de la Barca, Corneille, and Rojas Zorrilla.


543 The 20th-Century Spanish Novel (3) Baroja, Azorín, Valle-Inclán, Pío Baroja, Arrabal, and others. May be repeated with consent of department. Maximum 9 hrs.

546 Comparison of Spanish and Spanish American Literature (3) Major poets in Spanish American (from post-modernismo to present day).


573 The Spanish American Novel: Chile and the River Plate Nations (3) Novels from Chile, Argentina, Uruguay and Paraguay. Modern period.


577 Spanish American Drama (3) Major playwrights of 20th-century Spanish America.


579 The Spanish American Short Story (3) Short story by major writers in Spanish America from Romanticism to present day. Theory and criticism of genre.

591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.

599 Doctoral Research and Dissertation (1-15) P/NP only. E

621-22 Seminar in Spanish Literature (3,3) Topics vary. May be repeated with consent of department. Maximum 9 hrs.

631-32 Seminar in Spanish American Literature (3,3) Topics vary. May be repeated with consent of department. Maximum 9 hrs.

544 Modern Spanish Poetry (3) From Bécquer, Unamuno, A. Machado, Jiménez, Lorca, Guellén, Aleixandre, and a contemporary, Calaya.

547 Modern Spanish Drama (3) Major playwrights of 20th-century Spain.

550 Techniques of Literary Analysis and Research Methods (3) Theoretical and critical essays on various techniques of literary analysis. Exploration of bibliographical and research materials.

551 Special Topics in Spanish or Spanish American Literature (3) May be repeated. Maximum 6 hrs.

552 Directed Readings (3)

561 Spanish American Colonial Literature (3) From pre-Columbian era through 18th century. Reading and analysis of selected works from Colonial Spanish American period and their Continental sources. Indigenous texts and authors.

562 Nineteenth-Century Spanish American Literature (3) From early nineteenth century to 1880. Content varies with regard to genre, theme, literary movements, or other aspects contributing toward definition of Spanish American literature.


573 The Spanish American Novel: Chile and the River Plate Nations (3) Novels from Chile, Argentina, Uruguay and Paraguay. Modern period.


577 Spanish American Drama (3) Major playwrights of 20th-century Spanish America.


579 The Spanish American Short Story (3) Short story by major writers in Spanish America from Romanticism to present day. Theory and criticism of genre.

591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.

600 Doctoral Research and Dissertation (3-15) P/NP only. E

621-22 Seminar in Spanish Literature (3,3) Topics vary. May be repeated with consent of department. Maximum 9 hrs.

631-32 Seminar in Spanish American Literature (3,3) Topics vary. May be repeated with consent of department. Maximum 9 hrs.

Russian

See Germanic and Slavic Languages

Small Animal Clinical Sciences

See College of Veterinary Medicine and Comparative and Experimental Medicine
Social Work
(College of Social Work)

MAJOR DEGREES
Social Work ........................................ M.S.S.W., Ph.D.

Eunice Shatz, Dean

Professors:

Bloch, M. H. (Emeritus), M.S. ................... Ohio State
Cetingok, M., Ph.D. ............. Washington (St. Louis)
Fever, C., Ph.D. ..................... Michigan
Fryer, Gideon W. (Emeritus), Ed.D. ..... Columbia
Giasen, C. A., Ph.D. ............. Washington (St. Louis)
Granger, Ben P. (Emeritus), Ph.D. ......... Brandeis
Hirayama, H., D.S.W. ................. Pennsylvania
MacIver, G. (Emeritus), M.S.S.W. ......... Tennessee
Mullins, M. Kate (Emeritus), Ph.D. .......... Chicago
Moore, Roger M., D.S.W. ............. Tulane
Rocha, Cynthis, Ph.D. ......... Washington (St. Louis)
Rubenstein, H., Ph.D. ................ Chicago
Shatz, Eunice, Ph.D. ............. Brandeis

Associate Professors:

Bell, W. J., D.S.W. .................... Tulane
Combs-Orme, Terri, Ph.D. ............ Washington (St. Louis)
Cruthirds, C. Thomas, D.S.W. .......... Tulane
Flen, Judith, Ph.D. ..................... Tennessee
Jennings, J., Ph.D. ............. Michigan
Moses, A. E., D.S.W. ............. California
Nugent, W., Ph.D. ............ Florida State
Ortey, J. D. (Emeritus), D.S.W. ....... Alabama
Rubenstein, H., Ph.D. ................ Chicago
Spicuzza, Frank, M.S.S.W. ............ Tennessee
Thompson, J., Ph.D. ............... Rutgers
Vaughn, H. H., Ed.D. ............. Memphis State

Assistant Professors:

Campbell, P. M., D.S.W. ............. Alabama
Collier, J. C., M.S.W. ............ Tulane
Crawford, S., M.S.W. ............ Tulane
Ellis, J., Ph.D. ..................... Texas
Knox, Karen, Ph.D. ........ Texas
Marley, Marsha, D.S.W. .......... Tulane
Patterson, D., Ph.D. ............. Utah
Rocha, Cynthia, Ph.D. ............. Washington (St. Louis)
Spaulding, E., Ph.D. ............... Smith
Vickerson, Susan, Ph.D. .......... Alabama

Field Practice Coordinators:

Betts, Phyllis (Knoxville), M.S.S.W. ... Tennessee
Harris, Joyce (Nashville), M.S.S.W. .. Tennessee
Pomranz, Edward (Memphis), M.S.W. ... Barry

THE MASTER'S PROGRAM

The Master of Science in Social Work program prepares social workers to provide professional leadership in: 1) clinical social work practice and 2) social work management and community practice. These objectives are met through a curriculum requiring of all students a professional foundation and a concentration in either clinical social work practice or management and community practice.

Admission Requirements

Admission to the master's program is based on the following requirements:

1. A Bachelor's degree from an accredited college or university with appropriate preparation in the social sciences. At least three-fourths of the applicant's undergraduate work should be in the social sciences, humanities, physical sciences, and other Arts and Sciences subjects.

2. 3.0 or greater, and (3) personal qualifications acceptable for entrance into the professional practice of social work.

Preference is given to applicants with a GPA of 3.0 or above in their undergraduate work with substantial preparation in the social sciences.

Advanced Standing

The University of Tennessee College of Social Work has an advanced standing program: Admission to advanced standing requires: (1) a B.S.W. from an accredited program, (2) an overall undergraduate GPA of 3.0 or greater, and (3) personal qualifications acceptable for entrance into the professional practice of social work. Students admitted into advanced standing are required to complete a minimum of 42 hours of study in either of the college's concentrations - clinical social work practice or social work management and community practice. These students will follow the curriculum plan and meet all requirements of the concentration during three semesters of study in the program.

Specific information about the advanced standing program is available from the college. Application for admission to the advanced standing program is through the regular admission process.

Extended Study

Planned part-time programs are available in all three branches of the college. Admission requirements are the same as for full-time study. Coursework can be completed over a three- or four-year period. One year of the student's period of study must be on a full-time basis.

Financial Aid

Students may apply directly to the University's Financial Aid Office for assistance such as the National Direct Student Loan or the Work-Study Program. Other stipends are administered by the college and awarded on the basis of financial need. Applications for these funds must be made to the Branch of the College the student will attend. A student must first apply for University assistance, since College funds are considered supplementary to those of the University. Additional information about College stipends may be obtained from the College of Social Work.

General Requirements

1. A minimum of 60 semester credit hours including completion of foundation courses and field practice (30 hours); at least four courses (12 hours) in the clinical concentration, or at least four courses (12 hours) in the management and community practice concentration; and two electives (6 hours).

2. Students may select a thesis or non-thesis option. Students pursuing the thesis option receive six credit hours for successful completion.

3. Successful completion of a comprehensive exam or thesis defense.

4. An overall GPA of 3.0 or better on all graded courses and satisfactory performance in field.

The Professional Foundation Curriculum

The foundation curriculum consists of 30 semester hours in five basic knowledge and skill areas required of all students before entering either of the concentrations. As the initial phase of the educational program, the foundation curriculum contributes to the process of professional identification and presents a comprehensive and broad base of theory, knowledge, and skills from which to operate in the future as practitioners, supervisors, managers, planners and program developers.

Upon completion of the foundation curriculum (at the end of the second semester), students select a concentration in either clinical social work practice or management and community practice.

Clinical Social Work Practice: The clinical social work practice concentration focuses on students' developing expertise in providing services to individuals, couples, families, and small groups who are experiencing, or who are likely to experience, serious threats to their personal and social well-being. The concentration emphasizes students' developing theoretical and empirical knowledge and practice skills in differential assessment and intervention directed towards the prevention and amelioration of complex personal, interpersonal, and environmental problems; understanding of, and ability to practice ethically and effectively with, socially and culturally diverse populations; and understanding of, and skills in influencing, the organizational context of practice towards the development of new services that may be needed and improvement in the provision of existing services.

Management and Community Practice: The management and community practice concentration focuses on students' developing skills directed toward the management and analysis of complex service delivery needs within organizations and communities; knowledge and skills in the development of service intervention strategies to address such and related needs; and the organizational and management skills that enable practitioners to work in a variety of challenging and turbulent environments. The concentration emphasizes theory and skills related to leadership and administration, and permits flexibility in tailoring a program to fit the student's individual interests, capabilities, and career goals.

Field Practice

Field instruction is a critical component of the student's first-and second-year programs. Through cooperation with a wide range of social agencies and human service programs throughout Tennessee, the college is able to provide field placements in a variety of social work practice areas. The faculty works closely
The emphasis of the doctoral program is upon:

-- The analysis of direct intervention and social administration and of the interrelationships among each of them and their social policy, organizational, and community contexts.

Research-based knowledge to inform and guide social work practice, social policy, and social welfare program development.

The program consists of foundation courses, elective courses, and dissertation research. The courses are available only in Knoxville, Students and their committees can develop a plan for completing their research in Nashville and Memphis based on the availability of dissertation resources.

Admission Requirements

The Ph.D. program is designed for students who have completed a master's degree in an accredited school of social work and have post-master's social work/social welfare experience. Applicants who do not meet these requirements, but believe they have equivalent credentials should contact the Chair of Ph.D. program for further information regarding admissions criteria.

General Requirements

1. A minimum of 60 semester hours beyond the master's degree including a) completion of 21 credits of required coursework, b) completion of 15 credits of advanced electives, at least 12 of which are taken outside the department, and c) completion of at least 24 credits of dissertation research.

2. Successful completion of qualifying and comprehensive examinations.

3. Completion and defense of the dissertation.

Curriculum

The curriculum of the Ph.D. program consists of foundation coursework, electives, and dissertation research. The foundation curriculum consists of 21 hours of coursework in the history and philosophy of social work, issues in direct service and administration and planning, areas of practice, and research methodology and statistics. Upon this foundation, students and their academic committees develop a plan of study consisting of coursework in Social Work and other departments of the University.

Typically, the foundation curriculum is completed and elective coursework begins during the first year of study; the elective requirement is completed and dissertation research begins in the second year of study, and dissertation research is continued in the third year of study. While it is generally expected that the coursework will be completed on a full-time basis, dissertation research can be completed on a planned part-time basis.

Specific courses required are 601, 602, 612, 613, 640, and Statistics 531 and 532 or any two graduate-level statistics courses approved by the Doctoral Program Chair.

Examinations

All doctoral students are required to pass a qualifying examination and a comprehensive examination. The qualifying examination covers the foundation curriculum. The comprehensive examination is administered by members of the doctoral committee and is designed for the student to demonstrate comprehensive knowledge of the major and cognate areas and the dissertation topic. In case of failure of either examination, the student may request a retake. The result of the second examination is final.

Financial Aid

Financial aid is available to qualified students in the form of fellowships, scholarships, and teaching and research assistantships. Graduate assistantships and other forms of financial aid are awarded on the basis of merit and interest to applicants who are accepted into the Ph.D. program.

MINOR IN GERONTOLOGY

Graduate students in the College of Social Work may pursue a specialization 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. Please refer to Human Ecology for specific requirements.

ACADEMIC COMMON MARKET

An agreement among southern states for sharing graduate programs allows legal residents of some states to enroll in certain programs at UT Knoxville on an in-state tuition basis. The M.S.S.W. and Ph.D. programs in Social Work are available to residents of the state of Arkansas; the Ph.D. to residents of Kentucky, Oklahoma, or West Virginia. Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

GRADUATE COURSES

NOTE: Graduate students majoring in fields other than social work are admitted to certain social work courses with the approval of the College of Social Work and the student's major professor.

500 Thesis (1-15) P/NP only. E

501 Foundations of Social Work Practice I (3) Survey of history, mission, and identity of profession. Blue theory, values, and methods generic to social work practice. Prereq: Admission to College or consent of instructor.

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. S/N only. E

503 Foundations of Social Work Practice II (3) Generalist practice with individual, family, and group systems. Ecological theory to frame understanding of such systems and their adaptation to environments. Various social work roles and intervention strategies pertaining to each client system. Prereq: 501 or consent of instructor.

504 Foundations of Social Work Practice III (3) Basic theory, methods, problems, and strategies in implementing planned change within and among larger social systems: task-groups, human service organizations, and community systems. Various practice roles: planner, program developer, supervisor, administrator, advocate and task group leader. Prereq: Completion of first semester of foundation or consent of instructor.

506 Social Work Research (3) Research methodologies with respect to evolution and application to social work theory and practical interventions and philosophies of science; problem formulation; research design; ethics; instrument use and construction; data collection; analysis and reporting; and evaluation and utilization of research.
508 Practicum in Social Work Research (3-6) Supervised practice in application of research methods to social work. Prereq: 510 and consent of faculty conducting investigation. May be repeated. Maximum 6 hrs. S/NC only. F

509 Graduate Seminar in Public Health (1) Same as Public Health 509, Exercise Science 509, Nutrition 509, and Nursing 509. F

510 Social Work Research (3) Research methodology applied to problems in social welfare. Problem formulation, research design, data collection, analysis, and reporting; statistical procedures; research reporting; and evaluation and utilization of research. Prereq: Admission to college or consent of instructor. F

514 Human Behavior in the Social Environment I (3) Theories pertaining to individual, family, and group development while emphasizing relationships among biological, social, psychological, and cultural systems. Dynamics of behavior in context of social structures: race, ethnicity, social class, gender roles. Prereq: Admission to College of consent of instructor. F

515 Social Work Research (3) Research methodology applied to problems in social welfare. Problem formulation, research design, data collection, analysis, and reporting; statistical procedures; research reporting; and evaluation and utilization of research. Prereq: Admission to college or consent of instructor. F

516 Social Work Policy and Services (3) Development of contemporary social policy at local, state, national, and international levels. Contribution of social work professionals to formal policy-making process through which public policies are developed and through which aggregate social welfare services are proposed, authorized, financed, and programmed. Theories of complex organizational applied to social welfare service delivery settings. Prereq: Admission to college or consent of instructor. F

518 Social Work and Oppression (3) Sources, dynamics, and impact of oppression in U.S. society as manifested in both social systems and personal experience. Connections among various forms of oppression: racism, sexism, classism, and heterosexism. Forces which perpetuate such conditions. Prereq: Admission to College of consent of instructor. F

521 Clinical Social Work Practice with Individuals (3) Theories, knowledge, and skills for clinical practice with individuals from ecological perspective. Therapeutic process and treatment strategies, incorporating content from psychodynamic and cognitive practice models. Specific client problems. Prereq: Completion of foundation or consent of instructor. F

523 Clinical Social Work Practice with Families (3) Concepts related to understanding and analyzing family dynamics and interaction patterns from perspective of major family therapy models. Techniques of treatment in terms of application to families with varied system and individual problems and to families from varied and cultural backgrounds. Prereq: Completion of foundation or consent of instructor. F

525 Clinical Social Work Practice with Groups (3) Theoretical and historical approaches to social work with groups and clinical group supervision of typologies of group work used in clinical practice and associated leader interventions. Prereq: Completion of foundation or consent of instructor. F

526 Research for Assessment of Social Work Treatment (3) History and philosophies, conceptual approaches, techniques and methods in the practice and use of research methodology as applied to implementation and evaluation of direct services to clients. Prereq: Completion of foundation or consent of instructor. F

530 Seminar in Clinical Social Work (3) Topics in theory and practice of clinical social work with individuals, couples, families and groups. Prereq: Completion of foundation or consent of instructor. F

532 Short-Term Treatment (3) Theory and practice of planned short-term treatment, emergency treatment, and crisis intervention. Prereq: Foundation and 520, or consent of instructor. F

533 Social Work Treatment with Couples (3) Theories regarding contemporary marriage styles, problem areas in relationships, and application of treatment methods and skills for problem resolution. Prereq: Foundation and 520, or consent of instructor. F

534 Social Work Treatment with Children and Adolescents (3) Examination of various treatment modalities for assessing and treating children and adolescents. Prereq: 520 and 522, or consent of instructor. F

542 Professional Leadership and Management in Human Services (3) Management practices and leadership skills required in development and management of human services delivery systems, issues regarding human resources management, resource allocation, strategic planning, and organizational dynamics. Prereq: Completion of foundation or consent of instructor. F

543 Computer Information Technology, Systems, and Resource Development in Human Services (3) Analysis of role of computer technology in automation of human services information and financial planning and budgeting processes. Technical aids to budgetary choice and other aspects of financial and information management for decision-making. Prereq: Completion of foundation or consent of instructor. F

547 Evaluation Research (3) History and philosophies, conceptual approaches, techniques and methods, and issues in practice and utilization of evaluation research as applied to development and evaluation of social work programs and policies. Issues pertaining to strengths and limitations of various methods, means of ascertaining application of data, and measurement of program goals and objectives. Prereq: Completion of foundation or consent of instructor. F

550 Seminar in Social Welfare Administration and Planning (2-3) Areas and issues relating to methods and techniques of social welfare administration and planning. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

552 Community Organization (3) Locality development, social planning and social action as practice models for development of resources to meet human needs. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

553 Social Policy Analysis (3) Techniques for assessing social, political, and economic implications of social policy proposals. Prereq: Foundation or consent of instructor. F

554 Seminar in Community Organization (3) Community development, social planning and social action as practice models for development of resources to meet human needs. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

555 Seminar in Social Welfare Administration and Planning (2-3) Areas and issues relating to methods and techniques of social welfare administration and planning. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

556 Seminar in Social Work Practice and Its Social Context II (3) Social work practice problems and field practice. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

557 Course in Social Work Practice and Its Social Context II (3) Social work practice problems and field practice. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

558 Seminar in Social Work Practice and Its Social Context II (3) Social work practice problems and field practice. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

560 Seminar in Social Work Practice and Its Social Context II (3) Social work practice problems and field practice. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. F

561 Supervision and Consultation in Social Work (3) Roles, techniques, and role of supervision and consultation. Prereq: Foundation or consent of instructor. F

562 Social Work and Black Families (3) Historical and contemporary theories about black family systems. Development of frameworks to assess and plan for black families within service delivery systems. Prereq: Foundation or consent of instructor. F

563 Social Aspects of Illness (3) Social, economic, and emotional problems arising from or related to illness and disability and their implications for social work. Prereq: Foundation or consent of instructor. F

564 Substance Abuse (3) Survey and analysis of social, cultural, medical and psychological factors underlying alcoholism and drug abuse and addiction; recent research and treatment innovations. Prereq: Foundation or consent of instructor. F

565 Social Gerontology (3) Physical, psychological and social aspects of aging. Major social policies and programs. Prereq: Foundation or consent of instructor. F

568 Field Practice (3) Instruction and supervision in social work practice. Prereq or coreq: 501. S/NC only. F

581 Field Practice (3) Instruction and supervision in social work practice. Prereq or coreq: 580. S/NC only. F

582 Field Practice (6) Instruction and supervision in social work practice. Prereq or coreq: 580. S/NC only. F

583 Field Practice (6) Instruction and supervision in social work practice. Prereq or coreq: 580. S/NC only. F

584 Field Practice (2-6) Instruction and supervision in social work practice. Prereq or coreq: 512. May be repeated. S/NC only. E


593 Independent Study (1-6) Individualized study, student selected, designs, and completes examination of special issue or problem. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs. F,S,Sp

600 Doctoral Research and Dissertation (3-15) F,NP only. E

601 Research for Social Work Practice (3) Epistemological and methodological considerations for both qualitative and quantitative research for social work practice. F

602 Research for Social Work Practice (3) Epistemological and methodological considerations for both qualitative and quantitative research for social work practice. Sp

604 Research in Social Service Settings (3) Advanced research, under faculty supervision, of practice issues in community agency. Prereq: First year required Ph.D courses or consent of instructor. May be repeated. Maximum 9 hrs. F,S,Sp

608 Evaluative Research for Social Work Practice, Programs and Policy (3) Techniques and strategies for qualitative and quantitative analysis for social policy's impact on individuals and groups and for evaluating processes and outcomes of social work practice. F


613 Social Work Practice and Its Social Context II (3) Critical analysis of knowledge, bases of major practice in administration and planning. Sp

640 History of American Social Work (3) Social, cultural, economic and political contexts for development of social work profession, development of education for profession, and modern welfare system. F

660 Issues in Social Work Knowledge Building (3) Advanced seminar in theory and model building in direct intervention, administration and planning. Prereq: First year required Ph.D courses or consent of instructor. May be repeated. Maximum 9 hrs. F,S,Sp

693 Directed Study in Social Work Research (3) Advanced individual study, under faculty guidance, of social work practice issues. Prereq: First year required Ph.D courses or consent of instructor. May be repeated. Maximum 9 hrs. F,S,Sp

Sociology

(College of Arts and Sciences)

MAJOR DEGREES

Sociology ......................................... M.A., Ph.D.

Michael L. Benson, Head

Professors:

Betz, D. Michael, Ph.D. .................................. Michigan State
Black, James A., Ph.D. .................................. Iowa
Hastings, Donald W., Ph.D. .......................... Massachusetts
Hood, Thomas C., Ph.D. .................................. Duke
Ploch, Donald R., Ph.D. ................................. North Carolina
Shriver, Neil A., Ph.D. .................................... Illinois
Wallace, Samuel E., Ph.D. ............................... Minnesota

Associate Professors:

Benson, Michael L., Ph.D. ............................... Illinois
Cable, Sherry, Ph.D. ..................................... Pennsylvania
Gaventa, John P., Ph.D. .................................. Oxford
Kurth, Suzanne B., Ph.D. .................................. Illinois (Chicago)
Perrin, Robert G. (Liaison), Ph.D. .................... British Columbia
Assistant Professor:
Jalata, Asata, Ph.D. .......... SUNY (Binghamton)
Jonas, Robert E., Ph.D. ........ Washington State

The Sociology Department offers graduate study leading to the Master of Arts and the Doctor of Philosophy. The M.A. program includes a thesis and non-thesis option. The graduate program has concentrations in criminology, energy, environment, and resource policy; and political economy. The criminology concentration includes 505, 561, 583, and 655. The energy, environment and resource policy concentration includes 560, 563, 661, 662, and 665. The political economy concentration includes 504, 540, 541, 643, 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 Director of Graduate Studies in Sociology. All incoming students will be advised by the Director of Graduate Studies. New students are admitted in fall semester only and applications must be received by the Graduate Admissions and Records Office by February 1.

ADMISSION REQUIREMENTS
1. Acceptable scores on the general Graduate Record Examination. GRE scores in the subject area (sociology) are requested but not required.
2. Three letters of recommendation (forms may be obtained from the department).
3. Completion of the appropriate previous degree (baccalaureate, preferably with a major in one of the social sciences, for the M.A. program; master's degree in one of the social sciences for the doctoral program).

THE MASTER'S PROGRAM

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, 522, and Statistics 532 are recommended. Sociology courses at the 400 level must be taken with the approval of the student's committee. A student's plan of study should follow one of the following approaches: Plan 1, 6 hours in one of the department's concentrations and 6 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 Graduate Program Committee.

MINOR IN ENVIRONMENTAL POLICY
The department participates in a program designed to give master's level graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Economics for program description.

MINOR IN GERONTOLOGY
Graduate students in the Department of Sociology may pursue a specialized minor in gerontology. This interdisciplinary minor gives the student an opportunity for combining the knowledge about aging in American society with his/her major concentration. Please refer to Human Ecology for specific requirements.

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.

THE DOCTORAL PROGRAM

Coursework
Twenty-four hours of coursework beyond the master's degree are required (exclusive of S/NC credits). Twelve hours of course credit in Sociology at the 500 level are required. Students who enter the program without the courses required for the M.A. degree (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, 563, 633, or 636; and Statistics 532 or another advanced course in statistics. Completion of 9 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 Graduate Program Committee. Sociology courses at the 400 level may not be taken without the consent of the student's advisor and the Graduate Program Committee. Six hours may be taken in related fields without petitioning the Graduate Program Committee 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 (generalist, specialist, and collateralist) 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 the Graduate School.

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

GRADUATE COURSES

403 Sociology of Sport
404 Sociology of Sport (3) Social meaning, organization, and process of sport. Prereq: 291 or consent of instructor.

414 Sociology of Health Care
415 Sociology of Health Care (3) Organization of health care facilities, staff-patient relationships, demographic characteristics, and prevalence of disease.

416 Sociology of Aging
417 Sociology of Aging (3) How roles and statuses change with age in relation to major social institutions: impact that rapidly increasing number of older people has on society, effect of society on older people.

418 The Modern World System
419 The Modern World System (3) Critical examination of capitalist world-system as social system, its coherence, boundaries, regions, member groups, cleavages, and patterns of conflict. Analysis of who gets what, why, and how in global political economy.

421 Criminal Justice

425 Society and Law
426 Society and Law (3) How laws and legal processes are created by social change, social impact of legal sanctions, relations between law and social justice.

429 Organizational and Corporate Crime
430 Organizational and Corporate Crime (3) Analysis of crime and deviance committed by organizations. Case studies of corporate and organizational crime, organizational dynamics of crime, studies of corporate crime, and organized responses to this type of crime by governmental regulatory agencies.

432 Demography
433 Demography (3) Demographic factors and social structure, trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

434 Urban Ecology
435 Urban Ecology (3) Relation of humans to their urban environment: conservation and use of appropriate technology. (Same as Urban Studies 464.)

431 Sociolinguistics
432 Sociolinguistics (3) (Same as English 471 and Linguistics 471.)

433 Diffusion of Agricultural Technology
434 Diffusion of Agricultural Technology (3) (Same as Rural Sociology 460.)

435 Thesis
436 Thesis (1-15) P/NP only. E

437 Registration for Use of Facilities
438 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. S/NC only. E

439 Sociological Foundations of Political Economy
440 Sociological Foundations of Political Economy (3) Survey of contemporary sociological theories of political economy, sources of political and economic power and conflict.

441 Foundations of Criminology
442 Foundations of Criminology (3) Critical overview of contemporary developments in criminology, theories of crime causation and theories of responses to crime. Prereq: 350 or equivalent.

444 Foundations of Social Psychology

446 Sociology of Sport
447 Sociology of Sport (3) Social meaning, organization, and process of sport. Prereq: 291 or consent of instructor.

450 Research Methods in Sociology
451 Research Methods in Sociology (3) Research design, measurement, sampling, collection and analysis of sociological research.

452 Advanced Sociological Analysis
453 Advanced Sociological Analysis (3) Underlying assumptions and logical procedures used by sociologists in formulating explanations: foundations of sociological research strategies and techniques.

454 Occupations in Sociology
455 Occupations in Sociology (3) Occupations in relation to individuals and society, technology, economic stratification, and social organizations.

456 Collective Behavior, Social Movements, Social Change
457 Collective Behavior, Social Movements, Social Change (3) Basic theory and research on conditions of
only. 

542 Sociological Aspects of Sport (3) (Same as Sport Studies 445.)

543 Sociology of Development (3) Sociological theories and studies of development: modernization, colonialism, dependency, comparative impact of various development paths upon selected aspects of social structure and change.

551 Delinquency and the Social Structure (3) How study of delinquency and juvenile justice is affected by changing structures of childhood and adolescence, changing demographic and institutional influences, and changing views about responsibility and punishment.

560 Environmental Sociology (3) Systematic treatment of current research in environmental sociology. Social impact analysis and conflicts over environmental issues.

563 Demographic Techniques (3) Standard rates and measures of demographic variables, life table analysis, increment-decrement models, and survey techniques of population analysis.

580 Advanced Rural Sociology (3) (Same as Rural Sociology 580.)


591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.

594 Social Theories of Sport (3) (Same as Physical Education 515.)

595 Special Topics in Rural Sociology (1-3) (Same as Rural Sociology 593.)

599 Readings (3) Selected topics. May be repeated. Maximum 6 hrs.

600 Doctoral Research and Dissertation (3-15) P/NP only. E

622 Sociological Theory II (3) Distinct schools of sociological theory and contributions of their principal exponents. Prereq: 521 or consent of instructor.

629 Supplementary Readings in Sociological Theory (3) Individual guidance. Preparation for comprehensive examination. Prereq: Consent of instructor. S/NC only.

633 Survey Design and Analysis (3) Systematic exploration of survey problems through student participation in design and analysis of survey. Prereq: 531 or consent of instructor. (Same as Child and Family Studies 653.)

636 Field Research (3) Research experience in selected field sites using techniques of interviewing, participant observation, and other research methods. Prereq: 531 or consent of instructor.

639 Supplementary Readings in Methodology (3) Individual guidance. Preparation for comprehensive examination. Prereq: Consent of department. S/NC only.

643 Class Analysis (3) Critical analysis of theories and research on class structure and conflict.

644 Political Sociology (3) Critical analysis of theories of state and political processes.

645 Advanced Studies in Political Economy (3) Topical seminar. Prereq: 504 or consent of instructor; May be repeated. Maximum 6 hrs.

649 Supplementary Readings (3) Prereq: Consent of department. May be repeated. Maximum 6 hrs. S/NC only.

653 Sociology of Law (3) Intensive examination of selected topics in sociology of law. Prereq: 505 or consent of instructor.

655 Advanced Studies in Criminology (3) Intensive examination of selected topics in criminology. Recommended prereq: 505. May be repeated. Maximum 6 hrs.

661 Theory and Methods of Human Ecology (3) Historical and contemporary studies of human-environment interaction. Prereq: Consent of instructor.

662 Urban and Regional Sociology (3) Historical and contemporary studies of South and Appalachian region with comparisons to other regions.

665 Advanced Studies in Energy, Environment and Natural Resources Policy (3) Topics of recent policy making with particular emphasis on line of research and theory within area. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

673 Advanced Studies in Social Psychology (3) Selected contemporary research issues related to social psychological theories. Prereq: 541 or consent of instructor. May be repeated. Maximum 6 hrs.

695 Advanced Special Topics (3) Topic of special interest or student-initiated courses that will not be regularly offered. Prereq: Consent of department. May be repeated. Maximum 6 hrs.


Spanish
See Romance and Asian Languages

Special Programs

GRADUATE COURSES

510 Humanities Perspectives in the Arts and Sciences (2) Seminar on nature of inquiry in humanities: Emphasis on natural and social forms of human experience and its interpretation through study of formative texts and critical figures.

520 Natural Science Perspectives in the Arts and Sciences (2) Seminar on nature of inquiry in natural and physical sciences: history of scientific ideas and figures, and methodology for observation and experimentation in natural sciences.

530 Social Science Perspectives in the Arts and Sciences (2) Seminar on nature of inquiry in social sciences: Emphasis on methodology for observation and research in study of human beings, their social environments and their behavior.

Speech Communication

(College of Arts and Sciences)

GRADUATE COURSES

540 Rhetoric and Public Address (3) Historical and critical study of public address and oratory. Prereq: Consent of instructor.

546 Rhetoric of the Contemporary Feminist Movement (3) Historical and critical study of rhetoric in campaign for women's rights in United States from 1830's through 1920's. (Same as Women's Studies 465.)

570 Legal and Ethical Issues of Communication (3) Communication and law. Prereq: Consent of instructor.

593 Independent Study (1-15) See College of Arts and Sciences.

599 Tutorials in Advanced Topics (3) Individual instruction. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

Spanish

See Romance and Asian Languages

Speech Communication

(College of Arts and Sciences)

Faye D. Julian, Head

Professors:
Julien, Faye D. (Liaison), Ph.D. Tennessee
Lester, Lorayne W., Ed.D. Tennessee
Yeomans, G. Allan (Emeritus), Ph.D. Louisiana State

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

Assistant Professors:
Ambler, R. S., Ph.D. Ohio State
Arnold, Christa L., Ph.D. Florida
Haas, John W., Ph.D. Kentucky

Graduate courses in Speech Communication provide opportunities for students in a variety of disciplines to investigate how oral language can affect changes in the knowledge, the understanding, the ideas, the attitudes, or the behavior of other human beings.

GRADUATE COURSES

420 Communication and Conflict (3) Communication as significant factor in development, management, and resolution of conflict at interpersonal, small group, organizational or societal levels.

425 Interpersonal Health Communication (3) Interpersonal communication in health care settings; provider-client interactions, social support groups, stigma and disease, and contemporary models explaining use of health-related information.

440 Organizational Communication (3) Organizational setting and variables of communication process that affect quality of human interaction both within and outside organizations.

456 Studies in Rhetorical History and Criticism (3) May be repeated. Maximum 6 hrs.

466 Rhetoric of the Woman's Rights Movement to 1930 (3) Historical and critical study of public address in campaign for women's rights in United States from 1830's through 1920's. (Same as Women's Studies 466.)

476 Rhetoric of the Contemporary Feminist Movement (3) Historical and critical study of rhetoric in campaign for women's rights in United States from 1940's to present. (Same as Women's Studies 476.)

480 Ensemble Interpretation (3) Study and presentation of literary texts through group performance.

548 Communication and Social Change (3) Communication and social conflict.

549 Ethical Issues of Communication (3) Communication and social consequences. Prereq: Consent of instructor.

581 Communication and Ethics (3) Communication and social values. Prereq: Consent of instructor.


591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.

Sport and Physical Activity

(College of Education)

MAJORS

Human Performance and Sport Studies .................................................. M.S.

D. Kelley, Leader

Professors:
Lay, Nancy E., Ph.D. Florida State
Watson, Helen B. (Emeritus), Ph.D. Michigan

Associate Professor:
Jones, Ralph E., Ph.D. Toledo

Assistant Professors:
Borovik, Patricia C., M.S. Tennessee
Kelley, Dennie R., Ph.D. Georgia State
McCutchen, M. G., Ed.D. North Carolina (Greensboro)

Special Programs

College of Arts and Sciences

GRADUATE COURSES

510 Humanities Perspectives in the Arts and Sciences (2) Seminar on nature of inquiry in humanities: Emphasis on natural and social forms of human experience and its interpretation through study of formative texts and critical figures.

520 Natural Science Perspectives in the Arts and Sciences (2) Seminar on nature of inquiry in natural and physical sciences: history of scientific ideas and figures, and methodology for observation and experimentation in natural sciences.

530 Social Science Perspectives in the Arts and Sciences (2) Seminar on nature of inquiry in social sciences: Emphasis on methodology for observation and research in study of human beings, their social environments and their behavior.
The Sport and Physical Activity unit offers a master's degree with a major in Human Performance and Sport Studies, concentration in sport administration/management (an interdisciplinary concentration with Health, Leisure and Safety Sciences). See Education under Fields of Instruction for full description of degree requirements.

Elective courses are offered in dance. These courses are appropriate for students interested in management of dance studios, teaching dance, or dance performance.

Specific questions about the program should be directed to the unit leader.

ADMISSION REQUIREMENTS

Applicants are required to complete the unit application which will be sent to all persons upon their initial inquiry about the program.

The following retention policy applies to all graduate students seeking a degree in this unit:
1. Graduate students are required to maintain an overall 3.0 GPA.
2. Any student who falls below this standard will be advised in writing by the unit leader of the need to discuss the matter with his/her advisor.
3. If a student's overall GPA remains below 3.0 for a second semester, the student will have his/her degree status revoked.

GRADUATE ASSISTANTSHIPS

A limited number of graduate assistantships are available for qualified women and men who are graduates of accredited colleges or universities. These assistantships are open to students in the master's program. Students interested in these opportunities should file their applications before February. Letters should be addressed to Graduate Assistantships Coordinator, Sport and Physical Activity unit, The University of Tennessee, Knoxville, TN 37996-2700.

Sport Management

GRADUATE COURSES

415 Managing Leisure/Sport and Related Facilities (3) (Same as Recreation and Leisure Studies 415.)

500 Thesis (1-15) P/NP only. F

501 Special Project (3) Culminating experience for nonthesis major. Research study suitable for publication, or praxisicum: requiring special written work. Prereq: 532.

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. S/N only. E


511 Administrative and Supervisory Processes in Sport (3) Organizational concepts, administrative strategies, and supervisory techniques related to sport administration at all levels of participation in profit and nonprofit settings. F

520 Application of Legal Concepts to Sport Settings (3) Application of contract law, breach of contract, and monetary damages within sport settings: risk assessment and development of effective risk management strategies; development of contracts in sports; and analysis of cases involving discrimination based upon gender, race, and age as well as protection of rights at amateur and professional levels of sport. Sp

532 Research Techniques in Sport (3) Evaluate, compare, and contrast research techniques in sport with consideration for and experiences in appropriate review, design, and analysis procedures, and proposal development. F

533 Sport Administration (3) Development of knowledge and analytic skills desirable for middle and upper level managers/administrators in sport business/organization. Sp

541 Management and Operation of Recreation and Sport Related Facilities (3) (Same as Recreation and Leisure Studies 541.)

544 Theories of Leadership and Behavior in Sport (3) Integration of various theoretical approaches to leadership styles in sport administration within cultural contexts, research, and field experiences. Sp

553 Case Studies in Sport Administration (3) Current issues and problems in sport administration at all levels of amateur and professional sport. Sp, Su

554 Readings in Sport Administration (3) Survey of pertinent literature in refereed and applied journals and texts. E

555 Assessment of Sport Programming Needs (3) Development and assessment of approaches and/or instructions for purpose of evaluation, research, feasibility studies, and needs assessment in sport administration/management: qualitative and quantitative techniques. Prereq: 532.

570 Event Management (3) Review of current research related to theory and practice in event management and involvement in management capacity with one or more special events. Su

580 Special Topics (1-3) Advanced study in selected disciplinary or professional areas of physical education and/or sport. May be repeated.

590 Practicum (1-3) Intern experience in areas of major interest. May be repeated.

593 Independent Study (1-3) May be repeated. S/N or letter grade. E

595 Internship (3) Full-time application of previous theoretical and applied knowledge and skills in appropriate sport setting. E

Statistics

(College of Business Administration and Intercollegiate Program)

MAJORS

Statistics ...................... M.S.

Business Administration .................. MBA

SANDERS, Richard D., Ph.D. .......... Texas

SYLWESER, David L., Ph.D. .......... Stanford

THIGPEN, Charles C. (Emeritus), Ph.D. .......... VPI

DEGREES

Statistics ...................... M.S.

Business Administration .................. MBA

WILLIAM C. PARR, HEAD

PROFESSORS

McLEAN, Robert A. (Emeritus), Ph.D. .......... Purdue

PARR, William C., Ph.D. .......... Southern Methodist

PHILPOT, John W., Ph.D. .......... VPI

ADDITIONAL INTERCOLLEGIATE PROGRAM FACULTY

BUNTING, Dewey, Arts and Sciences; CHATTERJEE, Arun, Engineering; DESSERT, Don, Education; FITZPATRICK, Beth, Arts and Sciences; FRIBOURG, Henry, Agricultural Sciences and Natural Resources; GANT, Michael, Arts and Sciences; GLISSON, Charles, Social Work; GROSS, Louis, Arts and Sciences; HUCK, Schuyler, Education; LEDD, R. T., Business Administration; LOUBSHE, C. John, Arts and Sciences; LYONS, William, Arts and Sciences; McLemore, Dan, Agricultural Sciences and Natural Resources; MILLER, Mark, Communications; ORME, John, Social Work; PLoCH, Donnald, Arts and Sciences; RAJPUT, Balram, Arts and Sciences; RICHARDSON, Jr., Lillard, Arts and Sciences; ROSINSKI, Jan, Arts and Sciences; SAVAGE, Arnold, Agricultural Sciences and Natural Resources; SINGLETARY, Michael, Communications; SMITH, Julius, Arts and Sciences; WAGNER, Carl, Arts and Sciences.
the program by taking coursework as non-degree students. Requests for application forms and further information may be sent to the Director of Graduate Studies, Department of Statistics, Stokely Management Center, University of Tennessee, Knoxville, TN 37996-0532.

Admission Requirements
General admission requirements for The Graduate School are stated beginning on page 12. Applicants for Statistics must submit results of the Graduate Record Examination (GRE) general portion, although GMAT exam scores may be substituted. Applicants for the statistics program must have completed at least two years of college-level mathematics, including the calculus of several variables and matrix algebra, and be proficient in a computer language. Applicants whose native language is other than English must submit results of the Test of English as a Foreign Language (TOEFL).

Curriculum
A minimum of 30 credit hours must be completed for the master's degree. Required of all students are 6 hours in statistics courses, 6 hours in statistical theory, 1 hour in statistical computing, and 3 hours in either supervised consulting or internship. Students must complete a minimum of 21 hours in approved statistics courses, exclusive of consulting, internship, independent study, or thesis.

Thesis or Independent Study
The thesis option for the master's degree requires the student to complete 6 hours for the thesis. Alternatively, the non-thesis option requires a minimum of 3 hours for an independent study project.

Comprehensive Examination
Students must pass a two-part written comprehensive examination covering 1) theory and 2) methods. Upon failing either part of the examination, the student may retake it. The result of the second examination is final. For students writing a thesis, this examination must be passed before the thesis is defended.

INTERCOLLEGIATE GRADUATE STATISTICS PROGRAM
The Intercollegiate Graduate Statistics Program (IGSP) is a formal University of Tennessee academic program established to enable students to earn either a minor or an M.S. in Statistics simultaneously with a master's or doctoral degree in another department. Approved coursework taken to meet requirements of the student's home department may also be credited toward the M.S. in Statistics. Similarly, approved coursework in statistics taken to meet the requirements for a master's or doctoral degree in another department may also count toward the minor in Statistics. The program is open to graduate students in all departments which have an approved minor and/or M.S. joint major curriculum offered through the program. The program is administered by an Executive Committee, consisting of college representatives from all colleges with approved programs, with advisory input from the program faculty.

Degree Program

<table>
<thead>
<tr>
<th>Masters in Statistics</th>
<th>IGSP Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's in home department, minor in Statistics</td>
<td>9</td>
</tr>
<tr>
<td>Master's in home department, M.S. in Statistics</td>
<td>24</td>
</tr>
<tr>
<td>Doctorate in home department, minor in Statistics</td>
<td>15</td>
</tr>
<tr>
<td>Doctorate in home department, M.S. in Statistics</td>
<td>24</td>
</tr>
</tbody>
</table>

*The M.S. in Statistics requires 33 hours.

Course options consist of courses in statistics, offered either by the Department of Statistics or by other departments, which have been reviewed and approved by the IGSP Executive Committee. Students taking an M.S. in Statistics must pass the two-part comprehensive examination covering statistical theory and methods. Students taking a minor in Statistics in conjunction with a doctorate in another field must pass a written comprehensive examination in Statistics, constructed and evaluated by the student's Examining Committee. No formal comprehensive examination is required of students earning a minor Statistics along with a master's in another field beyond questions which the home department includes as part of the comprehensive examination for the master's degree.

General Admissions and Degree Requirements
1. The student's home department must have an approved program of courses with the Executive Committee. That program will specify the sequences of statistics courses, chosen from the IGSP approved list, that are considered appropriate by the home department. Students who wish to participate in this program should contact their college representative or the Chair of the IGSP in the Department of Statistics.
2. The student's graduate committee must include a faculty member of the Department of Statistics at the rank of Assistant Professor or above.
3. The student's Admission to Candidacy form must contain all courses required for the chosen degree program set of a group and labeled "Statistics Courses Required for the Minor or M.S. in Statistics." Should the student not decide to apply for admission to the program until after completion of some of the courses, the student's major professor should file a program change with the cooperating department and assist the student in obtaining a Department of Statistics faculty member to serve on the student's graduate committee.
4. Successful completion of the Statistics M.S. or minor is recognized by appropriate documentation on the student's transcript. Students who do not complete the IGSP minor or M.S. will still receive academic credit for the statistics courses they have successfully completed.

BUSINESS ADMINISTRATION CONCENTRATION
For complete listing of MBA program requirements, see Business Administration.

MBA Concentration: Statistics
Minimum course requirements are 571, 556, 572, with prereq or coreq of 561.

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 graduate 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 for full-time students and the next two semesters’ coursework as established by the degree program for part-time students.

GRADUATE COURSES
411 Introduction to Statistical Computing (3) Use of computer operating system commands and packages programs for statistical analysis and file management. Not applicable for credit for statistics majors. Prereq: 201 or 251.
461 Applied Regression Analysis (3) Linear regression and correlation, multiple regression, polynomial regression, selection of variables, use of dummy variables, analysis of residuals, logistic regression and its applications. Use of standard computer packages. Major writing requirement. Prereq: Probability and Statistics for Scientists and Engineers and Introduction to Statistical Software or graduate standing and consent of instructor.
462 Analysis of Variance and Experimental Design (3) Analysis of variance techniques for single and multifactor settings; post hoc comparisons. Design and considerations for completely randomized, hierarchical and split-plot experiments, balanced incomplete block and designs using a software package. Major writing requirement. Prereq: Probability and Statistics for Scientists and Engineers II and Introduction to Statistical Software or graduate standing and consent of instructor.
500 Thesis (1-15) F/P/NP only.
502 Registration for Use of Facilities (3-15) Required of all graduate students writing a thesis, this examination must be taken after completion of some of the courses, the student's major professor should file a program change with the cooperating department and assist the student in obtaining a Department of Statistics faculty member to serve on the student's graduate committee. Successful completion of the Statistics M.S. or minor is recognized by appropriate documentation on the student's transcript. Students who do not complete the IGSP minor or M.S. will still receive academic credit for the statistics courses they have successfully completed.

531 Survey of Statistical Methods I (3) Univariate and bivariate data collection and organization, statistical estimation and hypothesis testing; analysis of relationships for categorical and numerical data, including Chi-square tests and simple linear and quadratic regression. Use of computing facilities required. Credit not given for both 531 and 557. Prereq: 1 yr. college mathematics.
532 Survey of Statistical Methods II (3) Multiple linear regression, including use of dummy variables; single and multiple factor analysis of variance and covariance; issues in experimental design and analysis. Use of computing facilities required. Prereq: 531.
537 Statistics for Research I (3) Principles and applications of statistical methodology, integrated with considerations of major statistical computing systems. Probability and probability distributions, forming and testing hypotheses using parametric and nonparametric statistical methods. Matrix-based simple linear regression and correlation. Credit not given for both 531 and 537. Prereq: 1 yr. undergraduate mathematics and 1 undergrad statistics course.
538 Statistics for Research II (3) General linear model as applied to multiple regression and analysis of variance. Diagnostic and influence techniques. One-way, factorial, blocking, and repeated designs, preplanned versus post-hoc contrasts. Random factors and repeated measures. Prereq: 537 or 532.
561 Introduction to Computing for Data Management and Analysis (1) UTK computing environment for beginning statistics graduate students. Use of operating system commands, system editor, utility programs and SAS statistical package for data entry and editing, file management and statistical analysis. Use of UTCC computing facilities required. Coreq: 531, 537 or 571, or consent of instructor.

563 Introduction to Mathematical Statistics (3) Basic probability models and theory of distributions of random variables. Prereq: 572 or 538. May be repeated.

564 Theory of Statistical Inference (3) Introductory theory underlying common statistical procedures of hypothesis testing and estimation. Coreq: 531 or 538, or consent of instructor.

566 Statistical Techniques in Industrial Processes (3) Applications of control charts and other statistical techniques in industrial setting. Attributes and variables control charts, process capability analysis, aspects of sampling, statistical understanding, estimation of variance components, problems of measurement, special industrial applications. Prereq: 571 or equivalent.


572 Applied Linear Models (3) Simple and multiple linear regression using matrix algebra and general linear model: polynomial regression, weighted least squares regression, variable selection techniques, multicollinearity, regression diagnostics: general linear model approach to analysis of data from designed experiments. Use of standard computer packages. Prereq: 571 and matrix algebra.

573 Design of Experiments (3) One-way ANOVA, multiple range tests, equal and unequal variances, transformations; factorial experiments, completely randomized designs, analysis of covariance, split-plot and nested designs, fractional factorials, sequential designs. Prereq: 571.


585 Principles of Statistical Process Management (3) Control charts and other statistical techniques applied to management of business processes. Prereq: Consent of department head.

587 Graduate Seminar (1-6) Directed readings and active participation in colloquium program of Department of Statistics and of student's minor program. Prereq: Consent of statistics department director of graduate studies. May be repeated. Maximum 2 hrs. S/NC only.

592 Internship (1-6) Supervised off-campus experience in application of statistical principles and methods in business, industry, or government. Written and oral report. Prereq: 4 courses in graduate-level statistics and consent of statistics department director of graduate studies. May be repeated. Maximum 6 hrs. S/NC only.

593 Independent Study (1-6) Faculty directed readings and investigation of specified topic in probability or statistics. Written report, oral presentation. Prereq: courses in statistics and consent of the statistics department director of graduate studies. May be repeated. Maximum 6 hrs. S/NC only.

595 Statistical Consulting Practicum (1-6) Supervised experience helping on-campus researchers plan, manage data, and develop and perform analyses specific to designs and hypotheses. Discussion of activities in regular seminar meeting. Prereq: 575 or detailed diaries. Prereq: 572 or 538. May be repeated. Maximum 6 hrs.

673 Advanced Topics in Design of Experiments and Linear Models (3) Experimentation for product and process improvement; response surface methodology and robust design methods; mixture experiments; optimal design topics; distribution theory and inference for linear models. Prereq: 573 or consent of instructor.

675 Categorical Data Analysis (3) Log-linear analysis of multidimensional contingency tables. Logistic regression. Theory, applications, and use of statistical software. Prereq: 1 yr graduate-level statistics, regression analysis and analysis of variance and familiarity with CMS or VAX; or consent of instructor.

679 Multivariate Statistical Modelling (3) Modern information based techniques and model selection in multivariate analysis, information relevant to significance of multivariate data, multivariate analyses of variance, multivariate regression and variable selection, multisample cluster analysis, common principal component model, factor analysis model, canonical correlation analysis, structural and latent variables, mixture-model cluster analysis. Prereq: Matrix algebra and 564 or matrix-based linear models with experience in interactive computing, or consent of instructor.

681 Special Topics in Probability (1-3) Presentation of specialized topics in probability and stochastic processes. May be repeated. Maximum 6 hrs.

683 Special Topics in Statistics (1-3) Presentation of specialized topics in statistics. May be repeated. Maximum 6 hrs.

Textiles, Retailing, and Interior Design (College of Human Ecology)

MAJORS

Interior Design ........................................ M.S. Textiles, Retailing and Consumer Sciences M.S. Human Ecology ........................................ Ph.D. Nancy B. Fair, Head

Professors:


Conservatories and Scions:

Breeze, Randall R. (Liaison), Ph.D. Florida State Dyer, C. L. (Liaison), Ph.D. North Carolina Fair, Nancy B., Ph.D. NC State Rabun, Josette, Ph.D. Tennessee

Assistant Professors:

Bhat, Gajanan, Ph.D. Georgia Tech Gupta, Millend, Ph.D. India (Emeritus) Kupritz, Virginia, Ph.D. VPI Kupritz, Virginia, Ph.D. VPI

Research Assistant Professors:

Dever, Lolly, Ph.D. Kansas State Hassenboehler, Charles, Ph.D. Tennessee Khow, Ahamad, Ph.D. Tennessee Ko, W. Chien, Ph.D. Tennessee Makaran, S. J. (Emeritus), Ph.D. Tennessee Tsai, Peter, Ph.D. Tennessee

The Department of Textiles, Retailing, and Interior Design focuses on majors in Interior Design and in Textiles, Retailing and Consumer Sciences. The program in Textiles, Retailing and Consumer Sciences offers concentration in textile science and in retail and consumer sciences. An interdisciplinary minor in gerontology and the interdisciplinary minor in gerontology gives the graduate student an opportunity for combining the knowledge and experience about aging in American society with his/her own major concentration.

The master's program in Interior Design provides a balance between creative and theoretical foundations of the field; emphasis is placed on the dissemination of knowledge. The goal of the graduate program in interior design is to provide the student with scholarly and professional experiences through seminars, studio work, and research. Interdisciplinary thrusts increase the depth of understanding of the field of interior design essential to function as educators or as independent professionals. Areas of emphasis within interior design include: historic preservation/adaptive use and environment behavior.

The programs in Textiles, Retailing and Consumer Sciences prepare students for careers in industry, business, public and private agencies, and educational institutions. Master's level work enables students to conduct research in retail management and merchandising and in the consumer areas related to retail decision making. Students in textile science are expected to have a solid foundation in mathematics, as well as a formal background in a physical science or engineering.

Interested students should contact the department head for more information.

ADMISSION REQUIREMENTS

A complete file for review includes the Graduate School application file, Department of Textiles, Retailing, and Interior Design application, Graduate Record Examination (GRE) scores for the general section, and three Graduate School Rating Forms completed by individuals who can attest to the potential for graduate education. Forms may be obtained from the Dean's Office, College of Human Ecology.

In addition to specified entrance requirements stipulated by The Graduate School, admission to the particular programs in the department is based on the following requirements:

Interior Design

Admission to the master's degree program with a major in Interior Design requires: 1) a background in interior design, 2) a cumulative GPA of 3.0 or above (or a 4.0 scale), and 3) a portfolio of undergraduate studio work (and professional work, if applicable) submitted to the department. The portfolio may include slides or original work. It is recommended that deficiencies in preparation, as identified in the admission process, be removed prior to full admission to the graduate program.

Textiles, Retailing and Consumer Sciences

Admission to the master's degree program with a major in Textiles, Retailing and Consumer Sciences is dependent on completion of undergraduate courses that give the necessary background for success in the graduate program. For the concentration in Retail and Consumer Science, students should have an adequate background in economics, marketing, mathematics, and statistics. For the concentration in textile science, students should have a basic technical background in textile science or materials science supported by mathematics through differential equations, organic chemistry, and general physics.
Superior students deficient in one or more of the above requirements, may be admitted at the discretion of the department's graduate faculty.

THE MASTERS PROGRAMS

Interior Design

The M.S. in Interior Design requires the completion of 36 hours of graduate credit. The requirements for the degree include the following: in the major, 18 hours (including 510, 564, 573, and 590 - students must enroll in 590 the first two semesters in the program); a cognate area, 6 hours; research methods, 3 hours; statistics, 3 hours; a comprehensive design/research project with acceptable documentation, a publishable paper with outside review, or a thesis, 6 hours; a comprehensive examination by the student's committee on the project/research conducted.

Based on interest and prior background, each student has a choice of the areas of emphasis within the interior design program beyond the core curriculum. Emphases may include historic preservation and/or adaptive use or environmental-behavior, or any acceptable combination (e.g., an adaptive use project with an emphasis on behavioral aspects). Areas within the environment-behavior emphasis considered appropriate are proxemics, environments for the elderly or children, or professional design.

Each student is required to demonstrate competence in individual research either through the thesis or non-thesis option (a comprehensive design/research project).

Thesis Option: Complete a thesis for 6 hours credit. An oral examination will occur upon completion of the program.

Non-Thesis Option: Complete a comprehensive design project with acceptable documentation or a publishable paper. To be eligible, the student must have completed 12 hours of graduate credit in interior design with at least a 3.0 GPA. Having met this criteria, the student must present a proposal to the supervisory committee that will include 6 hours of subsequent coursework. This proposal must outline the nature of the project and/or paper and explain the methodological approach. A comprehensive oral and written examination, administered by the committee, will occur upon the completion of the program.

Textiles, Retailing and Consumer Sciences

The major in Textiles, Retailing and Consumer Sciences has concentrations in Textiles, Retailing and Consumer Sciences and in Textile Science. Requirements are listed below.

A comprehensive oral examination, administered by the thesis committee, will be given upon completion of the thesis research. A non-thesis option is not available.

RETAIL AND CONSUMER SCIENCES

Major (Required Courses: 510, 511, 552, 562, 590) 19 hours
Cognitive Area 6 hours
Statistics 3 hours
Thesis 6 hours
TOTAL 34 hours

Textile Science

RCS 552 3 hours
Research Methods 3 hours
TS 590 1 hour
Textile Science courses 12 hours
Cognitive Area 6 hours

Statistics 3 hours
Thesis 3 hours
TOTAL 34 hours

1 Must include RCS 562 or equivalent; or 3 hours of laboratory techniques in materials analysis and characterization.

THE PH.D. CONCENTRATIONS

Consumer Environments

Students enrolled in the Ph.D. program with a concentration in consumer environments are provided with a foundation in management and retail and consumer sciences or in understanding the consumer in the designed environment and management of facilities. From this base, students focus on retail and consumer sciences or on areas of specialization including historic preservation and adaptive use, human environment interaction and facilities management to further theory and application in advanced study and research. See the consumer environments concentration under Human Ecology.

Textile Science

Students enrolled in the Ph.D. program in Human Ecology with a concentration in textile science take one common course which provides a foundation for the integration of textiles and apparel in the context of the near environment. A required departmental research seminar exposes students to research being conducted in all areas of study in the department.

1. College Professional Seminar, HE 610 (3 hours);
2. RCS 552 (3 hours);
3. Research Methods which must include 6 hours of laboratory techniques in materials analysis and characterization;
4. TS 590 (2 hours). Attendance at seminar is required for all full-time students;
5. Six hours in statistics at the 500-600 level;
6. Eighteen hours in textile science courses;
7. Nine hours in a cognate area;
8. Fourteen hours of other courses which may include up to 6 hours of dissertation; and

Note: Students must take a minimum of 9 hours at the 600-level in the College of Human Ecology, exclusive of dissertation. Transfer students with a master's degree from another institution are required to complete at least 42 hours (including dissertation hours) from UTK.

ACADEMIC STANDARDS

1. Evaluation of student progress will normally occur prior to enrollment for thesis hours (or the non-thesis option) and during the second semester of full-time enrollment in the program. The review of the student will be undertaken by the faculty with consideration given to factors such as: GPA (minimum 3.0), portfolio evaluation, and demonstrated research capability.
2. If progress or performance is deemed insufficient, the faculty may recommend probation with specific goals set for a specified time or termination.

ACADEMIC COMMON MARKET

An agreement among southern states for sharing graduate programs allows legal residents of some states to enroll in certain programs at UT Knoxville on an in-state tuition basis. The M.S. program in Interior Design is available to residents of the states of Louisiana, Mississippi, or Virginia. The M.S. program in Textiles, Retailing and Consumer Sciences is available to residents of the state of Mississippi. Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records. For the Ph.D., see Human Ecology.

INTERIOR DESIGN

GRADUATE COURSES

400 Proxemics (3) Space and behavior within cultural context. Application to design and design process. Theoretical foundations and concepts from environment and behavior. Simulation techniques and methods for identifying behavioral design requirements. Prereq: Human Environment Systems and Micro Computer for Interior Design or consent of instructor. F

450 Advanced Interior Design II (5) Comprehensive studio problems of advanced complexity; integration and extension of experiences utilizing systematic design methodologies. Prereq: Advanced Interior Design or consent of instructor. 2 hrs and 3 labs. SP

470 History of Contemporary Interior Architecture (2) Interior architecture, furniture, design philosophies, nineteenth century roots for twentieth century developments. European and American design as influenced by movements in fine arts, technological advances, cultural context. Prereq: History of Interior Architecture or consent of instructor. SP

475 History of American Interior Architecture (3) Major styles of interior architecture, decoration, and decorative arts within cultural context, colonial era through nineteenth century. European influences. Prereq 370 or consent of instructor. SP

500 Thesis (1-15) P/NP only. E

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. Consent only. E

516 Needs Assessment and Design Programming (3) Systematic methodology and multidisciplinary research methods as part of design problem solving experience. Prereq: 475 History of American Interior Architecture or consent of instructor. F

520 Integrative Interior Design Studio (3) Identification, integration, and synthesis of multidisciplinary data input. Advanced programming techniques and design evaluation. Lecture and studio. Prereq: 510, 564, or consent of instructor. Sp

531 Research Methods in Historic Preservation (3) Methodology for historic preservation problems in interior design. Prereq: Architecture 403 or consent of instructor. Sp

555 Microcomputer Research Applications in Interior Design (3) Advanced micro-computer concepts and applications in research and interior design. Project design and management, optimization of design criteria, programming, schematic design, computer-aided design, advanced spreadsheet and database analysis, and desktop presentation. Prereq: Consent of instructor.

564 Environmental Factors in Interior Design (3) Human factors and associated research techniques and design methodologies related to interior architectural environment. Design requirements from anatomy, physiology, anthropology, and social and behavioral sciences. Prereq: 6 hrs behavioral science and 6 hrs natural science, or consent of instructor. Sp

573 Applied Research Strategies in Interior Design (6) Synthesis of research methods, statistics, and design research issues within framework of creating viable research proposal.

575 Environment and Aging (3) Seminar on design of physical environment and relationship to aging process. Concepts and theories from design, and social and
behavioural sciences. Prereq: 6 hrs social/behavioural science or consent of instructor. Sp

580 Directed Study in Interior Design (1-3) Independent advanced research in selected areas from field of interior design. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. E

581 Directed Study in Historic Preservation (1-3) Independent advanced research in historic preservation relevant for interior design. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. E

584 Directed Study in Environmental Design (1-3) Independent advanced research in environmental design analysis. Prereq: 574 or consent of instructor. May be repeated. Maximum 9 hrs. E

590 Research Seminar (1-2) S/NC only. E

600 Dissertation (3-15) P/NP only. E

610 Issues in Interior Design (1) Readings, reports, and discussion concerning current research and related issues in interior design: history of interior design, historic preservation, environment and behavior. Registration each semester of residence.

620 Advanced Special Topics in Interior Design (3) Selected topics of major interest: history of interior design, advances in historic preservation, environment and behavior. Topics vary. Prereq: 510, 552, 562, 564. May be repeated. Maximum 9 hrs.

625 Integrative Studies in Design of Consumer Environments (3) Methodologies and skills necessary for creation of settings responsive to needs of users. Techniques for project development, analysis and development: goals, user requirements, technical, functional, and behavioral analysis of consumer in business and built environment.

630 Advanced Directed Study in Interior Design (3) Individual study in aspects of interior design culminating in scholarly paper. May be repeated. Maximum 6 hrs.

641 Retail Consumer Behavior (3) Theories and concepts from social science in relation to ultimate consumer’s behavior. Prereq: 6 hrs of sociology and/or psychology or consent of instructor.

651 The Consumer and Public Policy (3) Public policy issues within consumer environment. Analysis of past and present policies within economic, social, legal and business frameworks. Implications of consumer issues and policy alternative. Literature and research focus. Prereq: 550 or consent of instructor.

695 Advanced Topics in Retail and Consumer Sciences (3) Lecture, group discussion, individual research on advanced topics and research areas of current significance: future direction, professional issues, theoretical approaches. Prereq: Doctoral student and 9 hrs textiles graduate coursework. May be repeated. Maximum 9 hrs.

521 Nonwovens Science and Technology 1 (3) Nonwoven fabric technology; different web forming processes; and relationships among the chemical, morphological and mechanical properties of fibers and orientation in webs to final performance properties of bonded structures. Prereq: Organic chemistry or consent of instructor.

526 Nonwovens Science and Technology 1 (3) Interrelations between mechanics of production and mechanical properties of nonwoven fabrics; characterization of fiber morphology and web structure; chemistry of nonwoven binders and finishes; and engineering of specific fabric properties. Prereq: S21 or equivalent.

652 Polymer Science and Technology (3) Nonwoven fabric technology; different web forming processes; and relationships among the chemical, morphological and mechanical properties of fibers and orientation in webs to final performance properties of bonded structures. Prereq: Organic chemistry or consent of instructor.

524 Advanced Textile Dyeing and Finishing (4) Chemistry, processing and fastness of chemical finishes and various classes of dyes on different fibers. Prereq: 510 or consent of instructor. 2 hrs and 4 labs. Sp

526 Nonwovens Science and Technology (3) Interrelations between mechanics of production and mechanical properties of nonwoven fabrics; characterization of fiber morphology and web structure; chemistry of nonwoven binders and finishes; and engineering of specific fabric properties. Prereq: S21 or equivalent.


590 Research Seminar (1) Research topics in textile science. May be repeated. S/NC only. F,Sp

593 Directed Study (1-3) Individual problems in textile science. May be repeated. Maximum 9 hrs.

595 Advanced Topics in Textile Science (1-3) Lecture, seminar, group discussion on specialized topics. Prereq: 9 hrs textiles graduate coursework or consent of instructor. May be repeated. Maximum 9 hrs.

600 Dissertation (3-15) P/NP only. E

625 Physical Chemistry of Fibers (3) Physical chemistry of fibers and fiber forming polymers; surface chemistry and thermal properties. Prereq: 510.

626 Physics of Fiber Structures (3) Morphology of polymeric structures; thermal and processing history on mechanical, electrical and chemical properties of fibers. Prereq: 510.


695 Advanced Topics in Textile Science (3) Lecture, seminar, group discussion, individual research on advanced topics and research areas of current significance: future direction, professional issues, theoretical approaches. Prereq: Doctoral student and 9 hrs textiles graduate coursework. May be repeated. Maximum 9 hrs.

The Department of Theatre offers the Master of Fine Arts degree in Theatre with area concentrations in acting, directing, playwriting, dramaturgy, scene design, costume design,
lighting design and theatre technology. Not all areas of concentration accept applicants every year.

Applicants must have completed undergraduate degrees approximately equivalent in requirements to those specified for degrees conferred by The University of Tennessee, Knoxville.

The Graduate Record Examination, three letters of recommendation and interviews with appropriate faculty are required of all applicants. Applicants for admission to M.F.A. design/technical theatre and playwriting/dramaturgy programs must submit samples of their work.

The M.F.A. degree is an advanced degree requiring 54 semester hours of graduate credit. Students are required of M.F.A. degree candidates and directing applicants.

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

THE MASTER OF FINE ARTS PROGRAM

At least 60 semester hours. 40 of which must be at the 500 level or above, are required for the degree of Master of Fine Arts with a major in Theatre and Practice, at least 6 of which must be completed in three consecutive years of full-time residence. Theatre 501 is required of all applicants. A diagnostic examination in theatrical history and literature/criticism is required. Any such credits applied for a previous graduate program would be from courses that are directly relevant to the student’s M.F.A. curriculum and must have been earned within the time limit (6 years) established for completion of the M.F.A. degree.

ACADEMIC COMMON MARKET

An agreement among southern states for sharing graduate programs allows legal residents of some states to enroll in certain programs at UT Knoxville on an in-state tuition basis. The M.F.A. program in Theatre is available to residents of the state of Virginia (concentration in costume design only). Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

GRADUATE COURSES

401 Principles of Theatrical Design (3) Fundamental principles of design; visual and structural relationships. Projects assigned to develop understanding and perception.

409 Stage Make-up (2) Problems in make-up design and application, character analysis, physiology and chiroscuro. Prereq: 150.

420 Special Studies in Acting (3) Content varies. Courses in selected concentrated areas such as styles, techniques, approaches, e.g., Shakespeare, movement, humor. Prereq: Acting and Consent of Instructor. May be repeated. Maximum 9 hrs.

423 Period Movement and Dance (2) Movement styles and costumes from Renaissance to 20th Century. Prereq: Stage Movement or consent of instructor.

424 Theatre Dance II (2) Advanced dance technique incorporating elements of musical theatre. Prereq: Theatre Dance or consent of instructor. May be repeated. Maximum 6 hrs.

425 Selected Musical Theatre Techniques (2) Study and practice of musical theatre material; dance and vocal work. Prereq: Theatre Dance or consent of instructor. May be repeated. Maximum 9 hrs.

426 Applied Phonetics (3) Development of skills in transcription and reproduction of principal varieties of English Language in North America and Great Britain and selected foreign dialects in North America. Prereq: Consent of instructor.

430-31 Principles of Play Directing (3.3) Problems in composition, picturization, rhythm, movement. Prereq: Acting. Must be taken in sequence.

440-41 Advanced Theatre Costume Design (3.3) Costume as expressive element in dramatic production. Prereq: 340.

445 Advanced Costume Construction (3) Advanced study in construction techniques; tailoring, vacuum forming, plastic molding, and cobbling. Prereq: 345 or consent of instructor.

446 Costume Pattern Making (3) Draping patterns for period costumes. Construction and study of historic patterns 1600-1800. Prereq: 345 or consent of instructor.

450 Advanced Scenery Technology I (3) Study and practice of theatre working production participation required. Prereq: 250. Graduate credit to theatre M.F.A. students only.

451 Advanced Scenery Technology II (3) Study and practice of metalworking and plastics for theatrical production; production participation required. Prereq: 250. Graduate credit to theatre M.F.A. students only.

452 Advanced Scenery Technology III (3) Study and practice of stage rigging for theatrical productions; production participation required. Prereq: 250. Graduate credit to theatre M.F.A. students only.

454 Scenery Painting (2) Introduction to materials, techniques, and principles of craft. Gaining skill and understanding through studio experience. Prereq: Consent of instructor.


456 Rendering (3) Techniques in monochrom and full color illustration of space and form. Prereq: Acquainting with basic mechanical perspective and freehand sketching.

462 Advanced Lighting Design (3) Advanced problems in lighting design and theory, lighting musical theatre, opera, and dance. Prereq: 362 or consent of instructor.

464 Computer Assisted Design for Stage Lighting (3) Advanced techniques in computer-assisted design for stage lighting. Work with CAD and other stage-lighting software for preparation of lighting designs and associated paperwork. Prereq: Introduction to Lighting Design or consent of instructor.

465 Aesthetics of Lighting Design (3) Theory and practice of stage lighting design, relationship between designers and non-designers: directors, actors, choreographers, architects, etc.

470-71 Playwriting (3,3) Advanced instruction in writing of plays. Prereq. Consent of instructor.

491 Foreign Study (1-15) See College of Arts and Sciences.

492 Off-Campus Study (1-15) See College of Arts and Sciences.

493 Independent Study (1-15) See College of Arts and Sciences.

501 Introduction to Graduate Research in Theatre (3) Research tools and methods for theatre artist and scholar.

502 Registration for Use of Facilities (3,15) Required for student not otherwise registered during any semester when student uses University facilities and/or for faculty time before degree is completed. May not be used toward degree requirements. May be repeated. S/N only. E.

510 Studies in Theatre History (3) Intensive study of selected topics in theatre history. May be repeated. Maximum 9 hrs.

512 Dramatic Literature Analysis (3) Dramaturgical strategies of major playwrights, using a variety of analytical approaches from Aristotelian to Structuralist.

520-21-22-23-24-25 Master Classes in Acting (4,4,4,4,4,4) Master classes in acting techniques, voice, and movement. Theatre MFA students only.

536 Projects in Play Directing (3) Practical work in play direction involving various lengths and kinds of scripts. May be repeated. Maximum 9 hrs.

542 The Social History of Costume (3) Study and analysis of costume as related to society’s manners and mores, architecture and furniture.


545 Millinery for the Stage (2) Pattern making and construction techniques for hats from antiquity to present. Prereq: Consent of instructor.

546 Advanced Costume Pattern Making (3) Advanced studies in patterning period costume. Development of historical patterns through flat pattern method. Prereq: 446.

547 Painting and Dyeing for the Theatre (2) Fibres, dyes and dye processes; color matching and dyeing.
Transportation

See Marketing, Logistics and Transportation.

Veterinary Medicine

(College of Veterinary Medicine)

<table>
<thead>
<tr>
<th>MAJOR</th>
<th>DEGREE</th>
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<tbody>
<tr>
<td>Veterinary Medicine</td>
<td>D.V.M.</td>
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<tr>
<td>Comparative and</td>
<td></td>
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<tr>
<td>Experimental Medicine</td>
<td>M.S., Ph.D.</td>
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THE PROFESSIONAL PROGRAM

Admission Requirements

To qualify for admission to the professional program of the College of Veterinary Medicine, a candidate must have completed at least the minimum pre-veterinary requirements listed below. These may be completed at any accredited college or university that offers courses equivalent to those at the University of Tennessee, Knoxville. Pre-veterinary course requirements must be completed by the end of spring term of the year in which the student intends to enroll. Biochemistry requirements must have been satisfactorily completed within five years of the time the student wishes to enter the program.

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Semester Hours</th>
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<tbody>
<tr>
<td>English</td>
<td>6</td>
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<tr>
<td>Humanities and Social Sciences*</td>
<td>18</td>
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<tr>
<td>Physics</td>
<td>8</td>
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<tr>
<td>General Chemistry</td>
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<td>Organic Chemistry</td>
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<td>Biochemistry**</td>
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<td>General Biology</td>
<td>8</td>
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<tr>
<td>Genetics</td>
<td>3</td>
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<tr>
<td>Cellular Biology***</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>66</strong></td>
</tr>
</tbody>
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*May include, for example, courses in English literature, speech, music, art, philosophy, religion, language, history, economics, anthropology, political science, psychology, sociology and geography.

**Exclusive of laboratory.

***It is expected that this requirement will be fulfilled by a course in cellular or molecular biology.

Admission Procedures

Admission of new students is for the fall semester, with first priority given to residents of Tennessee.

Beginning with the 1995 application cycle, the College of Veterinary Medicine will utilize the new Veterinary Medical College Application Service (VMCAS) for all applicants. Forms and instructions for making application for admission may be obtained beginning July 1, 1995 from the Office of the Associate Dean, The University of Tennessee, College of Veterinary Medicine, P.O. Box 1071, Knoxville, TN 37901-1071.

Note: The deadline for receipt of the completed application materials by VMCAS is November 1. NON-TENNESSEE APPLICANTS MUST HAVE A MINIMUM CUMULATIVE GRADE-POINT AVERAGE OF 3.2 ON A 4.0 SCALE.

Applications are accepted only from U.S. citizens or permanent residents of the U.S.

D.V.M. Curriculum

The curriculum of the College of Veterinary Medicine is a nine-semester, four-year program. Each class begins in August and graduates four years later in May. The first three years follow the traditional fall and spring semesters with the summer break following years one and two. The final year of the professional curriculum begins immediately following semester six and is a continuous clinical rotation experience extending over one calendar year.

The first year consists mostly of the pre-clinical subjects of anatomy, physiology, histology, and microbiology. Also included in this first year are clinical subjects of physical diagnosis and anesthesia. Considerable integration of subject matter is incorporated during this year.

The second and third years include the study of diseases, their causes, diagnosis, treatment and prevention, and courses are team-taught on an organ system basis.

The final year (three semesters) is devoted to intensive education in solving animal disease problems involving extensive clinical experience in the Veterinary Teaching Hospital. Each student will rotate through a series of clinical blocks.

An innovative feature of this curriculum is the designation of semester six as one in which the individual student may select his or her courses of study. This allows select students who have specific educational goals (such as advanced or dual degree programs) to enroll in all, some, or none of the regularly scheduled courses during that semester. Students enrolled in the D.V.M. program are required to complete at least 18 credit hours in the sixth semester and may register for up to 10 credit hours of graduate courses without enrolling in The Graduate School and these hours will be credited toward the D.V.M. degree. This semester of elective study offers a unique educational alternative for select students in the CVM and is intended to enhance professional growth, concentration in an area of interest and career opportunities.

In addition to education in the science and art of veterinary medicine, students receive instruction in paramedical subjects such as animal behavior, medical communication, professional ethics, jurisprudence, economics, and practice management.

The curriculum requires successful completion of 152 semester credits.

THE GRADUATE PROGRAM

The College also administers a graduate program involving all departments which leads to the Master of Science and the Doctor of Philosophy degrees. Because of the interdisciplinary departmental administration of the College of Veterinary Medicine, the faculty have opportunities in the graduate programs of other instructional units, including Animal Science (nutrition, physiology, genetics and animal management), Microbiology (bacteriology, virology and immunology), Ecology (environmental toxicology), Public Health, and Comparative and Experimental Medicine. (Refer to other sections of this catalog for a full description of these programs.) The majority of the graduate students and graduate faculty of the College of Veterinary Medicine are involved in the Comparative and Experimental Medicine program. This program provides a wide spectrum of interdisciplinary training that prepares graduates for teaching and/or research careers in the health sciences.

ACADEMIC COMMON MARKET

An agreement among southern states for sharing graduate programs allows legal residents of some states to enroll in certain programs at UT Knoxville on an in-state tuition basis. The M.S. and Ph.D. programs in Comparative and Experimental Medicine are available to residents of the state of Kentucky. Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

PROFESSIONAL COURSES

581 Bacteriology and Mycology (4) Fundamental aspects of microbiology and cell biology relative to pathogenesis of bacterial and fungal diseases of animals; antimicrobial actions and mechanisms of bacterial resistance. General approaches to diagnosis, treatment and prevention.
821 Virology and Immunology (5) Structural and genetic basis for classification of animal viruses into separate families. Molecular biology of virus replication; how behavior causes illness in tissues of the immune system and how it functions in protection and disease. Practical aspects of immunology: immunopathological basis, diagnostic serology and immunosuppressive therapy.


823-24 Physiology L1 (4,4) Introduction to concepts and problems in physiology which form basis for clinical applications and for formal training in pharmacology, medicine, pathology, and surgery. Cellular, neural, cardiovascular, renal, respiratory, digestive, endocrine, and reproductive physiology.

825-26 Histology/Organoology (3,3) Histology, and organology of animal body structures, structural and functional interrelationships. Embryonic development from fertilization to organogenesis. Correlated with 825-24.

827 Special Problems in Animal Science (1-8) Extra- and specially designed study for students interested in select topics in anatomy, histology, and physiology.

830 Art of Veterinary Medicine I (1) Paramedical subjects important to veterinary practice: paramedic practice management, interpersonal relationships, communication, jurisprudence, ethics, careers, animal behavior and veterinary history. May be repeated. S/NC only.

831 Physical Diagnosis (1) Basic care, feeding, restraint, and handling domestic animals. Introduction to physical examination and diagnostic techniques used by veterinarian.

832 Anesthesiology (2) Principles of anesthesiology: pharmacology of anesthetic agents, and introduction to anesthetic techniques in veterinary medicine.

833 Epidemiology/Public Health (4) Principles of epidemiology and public health. Host-agent relationships, public health aspects of veterinary medicine, and role of veterinarian in ecology and food hygiene.

834 Hematopoietic System (3) Pathophysiology, special pathology, and clinical management of diseases of the hematopoietic and lymphoid organs and tissues. Principles, methods of laboratory evaluation of diseases of other organ systems.

835 Medical Intervention (2) Multidisciplinary laboratory experiences and lectures of physicians, pharmacologists, and surgical concepts. Applied techniques in animal handling to facilitate anesthesia, surgery, post-surgical recovery and wound healing. Demonstration of pharmacology and pharmacodynamic properties of veterinary drugs: mode of action, pharmacologic effects, chemical and physical properties, metabolism, toxicology, important idiosyncrasies and clinical application.

836 Toxicology (2) Principles of toxicology, molecular mechanisms, pathologic processes and clinical features of animal diseases caused by common toxic agents.

840 Integumentary System (3) Pathophysiology, special pathology, and clinical management of diseases of the integumentary system. Laboratory examination, pathology, diagnosis and treatment.

841 Reproductive System (4) Pathophysiology, special pathology, medicine and surgery of diseases of the reproductive system. Prereq: Consent of instructor. (Same as Comparative and Experimental Medicine-Veterinary Medicine 536.)

842 Alimentary System (5) Pathophysiology, special pathology, medicine and surgery of diseases of alimentary systems.

843 Musculoskeletal Systems I (3) Pathophysiology, special pathology, medicine and surgery of diseases of muscular and skeletal systems. Basic principles—pathologic changes and radiographic interpretation.

844 Musculoskeletal System II (3) Pathophysiology, special pathology, medicine and surgery of diseases of muscular and skeletal systems. Advanced principles—radiographic interpretation and surgical procedures.

845 Principles of Medical Science (2) Physiologic and pathologic principles underlying mechanisms of disease. Selected examples of human and animal diseases; recent scientific advances in biomedical sciences.

846 Multispecies Medicine (4) Anatomy, pathophysiology, medicine, and surgery of avian species, laboratory and zoo animals and reptiles. Species and diseases peculiar to practicing veterinarian. Current topics on foreign animal diseases.

847 Current Topics in Veterinary Medicine (1-3) Elective subjects in veterinary medicine: basic sciences, clinical specialties and issues related to veterinary practice.

848 Art of Veterinary Medicine II (1) Paramedical subjects important to veterinary practice: paramedic practice management, interpersonal relationships, communication, jurisprudence, ethics, careers, animal behavior and veterinary history. May be repeated. S/NC only.

849 General Elective in Clinics (2) Special rotation with clinical training in urban practice, rural practice, environmental practice and pathology. S/NC or letter grade.

850 Introduction to Clinics (1) Clinical veterinary practice with discussions and practical experience. Problem-solving and integration of basic sciences with clinical applications. Problem-oriented veterinary medical record.

851 Urinary System (3) Pathophysiology, special pathology, medicine and surgery of diseases of urinary system. Urinary system in health and disease.

852 Cardiovascular System (2) Pathophysiology, special pathology, medicine and surgery of cardiovascular system. Clinical aspects of the cardiovascular system. Anatomic, physiologic and pharmacologic principles which provide basis for treatment.


854 Respiratory System (3) Pathophysiology, special pathology, medicine and surgery of diseases of respiratory system. Upper and lower respiratory infection; infections and noninfectious disease.

855 Radiology (3) Basic, advanced and special techniques in radiology with interpretation and use of radiologic and related techniques in diagnosis and treatment of animal diseases.

856 Special Senses (2) Pathophysiology, special pathology, medicine and surgery of diseases of visual and auditory systems.

857 Nervous System (3) Pathophysiology, special pathology, medicine and surgery of diseases of nervous system: clinical neurology and neuropathology.

858 Clinical Rotation in Specialties (2) Clinical training in specialty services: anesthesiology, ophthalmology or dermatology. Direct responsibility for diagnosis, patient care, and treatment of clinical cases in both urban and rural practice.

859 Clinical Clerkship (2) Advanced clinical training in urban practice, rural practice, environmental practice, and pathology. Prereq: Consent of instructor. (Same as Comparative and Experimental Medicine-Veterinary Medicine 537.)
Zoology

(College of Arts and Sciences)

MAJOR

DEGREES

Zoology ........................................... M.S., Ph.D.

Arthur C. Echternacht, Head

Professors:

Bagby, R. M., Ph.D. .................. Illinois
Carlson, J. G. (Emeritus) (Distinguished Prof.), Ph.D. .................. Pennsylvania
Chen, T. T., Ph.D. .................... Florida
Echternacht, Arthur C., Ph.D. ....... Kansas
Etner, D. A., Ph.D. ...................... Minnesota
Handel, Mary Ann (Distinguished Prof.), Ph.D. .................. Kansas State
Hochman, B. (Emeritus), Ph.D. ....... California
Jeon, K. W., Ph.D. ....................... London
Joy, D. C. (Distinguished Scientist), Ph.D. .................. Oxford (UK)
Kennedy, J. R., Ph.D. .................... Iowa
Liles, J. N. (Emeritus), Ph.D. .......... Ohio State
MacCabe, J. A. (Liaison), Ph.D. ....... California (Davis)
Cracken, G. F., Ph.D. .............. Cornell
Pimm, S. L., Ph.D. .................... New Mexico State
Riehert, Susan E. (Distinguished Prof.), Ph.D. .................. Wisconsin
Roth, L. Evans, Ph.D. .............. Chicago
Shivers, C. A., Ph.D. .................... Michigan State
Vaughan, J. A., Ph.D. .............. Duke
Welch, H. G. (Emeritus), Ph.D. ....... Florida
Whiston, G. L., Ph.D. .............. Pennsylvania

Associate Professors:

Boske, C. R. B., Ph.D. .............. Cornell
Burnham, K. D. (Emeritus), Ph.D. .... Iowa
Drake, J. A., Ph.D. .............. Purdue
Fox, David J., Ph.D. .............. Johns Hopkins
Ganguly, R., Ph.D. .............. Nebraska
Gittelman, J. L., Ph.D. .......... Sussex
Greenberg, Neil, Ph.D. ............ Rutgers
McKee, B. D., Ph.D. .............. Michigan State
Pan, M. L., Ph.D. .............. Pennsylvania

Assistant Professors:

Hall, J. C., Ph.D. .................. Illinois
Prosser, R. A., Ph.D. .............. Illinois

The Department of Zoology offers the Master of Science and Doctor of Philosophy with concentrations in aquatic biology, ecology, cell and molecular biology, physiology, genetics, and reproductive and developmental biology.

REQUIREMENTS FOR ADMISSION

Applicants for graduate study are expected to have a background no less extensive than that required for undergraduate majors in this department. This includes a knowledge of the basic principles of cell biology, genetics, and ecology. Other requirements for admission are:
1. one year of general zoology or biology;
2. 18 semester hours of upper division zoology or biology;
3. two years of chemistry including one year of general inorganic chemistry;
4. one year of mathematics including calculus;
5. one year of physics;
6. Graduate Record Examination scores (general and biology); and
7. a 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 Affairs Committee.

THE MASTER’S PROGRAM

Special requirements in Zoology are as follows:
1. completion of course requirements as determined by the candidate’s faculty committee, including a course in biostatistics;
2. achievement of a 3.0 or better GPA in all courses taken for graduate credit; and
3. completion of a thesis.

THE DOCTORAL PROGRAM

Special requirements in Zoology are as follows:
1. courses as determined by the candidate’s faculty committee, including a course in biostatistics;
2. an oral and comprehensive written examination in zoology and allied fields in which the candidate has had training;
3. a reading knowledge of at least one foreign language in which there exists a sizeable amount of literature relevant to the major field of study. The student has the option of demonstrating a reading knowledge of this foreign language by (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. This foreign language requirement must be fulfilled before a student can take the comprehensive examination.

GRADUATE COURSES

403 General Genetics Laboratory (3) Experiments designed to illustrate basic principles of inheritance; primary organism—Drosophila. Prereq: Biology 220. 2 labs.

405-06-11-12 Minicourse in Zoology (2,2,2,2) Special course in topics of current interest. Consult departmental listing for offerings. May be repeated. Maximum 4 hrs. may apply toward zoology major.

410 Cell and Tissue Structure and Function (4) Study of animal cells and tissues at light and electron microscopic levels. Prereq: Biology 210. 2 hrs and 1 lab.

420 Immunology (3) (Same as Microbiology 430.)

439 Immunology Laboratory (2) (Same as Microbiology 439.)


449 Laboratory in Physiology (2) Prereq or coreq: 440 or 445.

450 Comparative Animal Behavior (3) Principles and methods of ethology; ecological, developmental, physiological and evolutionary aspects. (Same as Psychology 450.)

459 Comparative Animal Behavior Laboratory (3) Introduction to observational and experimental research in ethology. Coreq: 450. (Same as Psychology 459.)

460 Evolution (3) Modern concepts of animal evolution. Prereq: Biology 220.

465 Human Genetics (3) Genetic and molecular principles and problems of human inheritance. Prereq: Biology 220.

470 Aquatic Ecology (3) Introduction to phyicochemical nature of inland waters with description of biotic communities and their interrelationships. Prereq: Chemistry 120-30 and Biology 230. 2 hrs and 1 lab.

472 Arachnology (3) Biology of spiders, mites, scorpions and relatives. Prereq: 380 or 380. 2 hrs and 1 lab.

473 Herpetology (3) Biology of amphibians and reptiles, ecology and adaptive radiation. Prereq: Biology 230. 2 hrs and 1 lab.


475 Ornithology (3) Behavior, ecology, populations, evolution and field identification of birds. Prereq: Biology 230. 2 hrs and 1 lab.

476 Mammalogy (3) Evolution, classification, biogeography, ecology, behavior and functional anatomy of mammals. Prereq: Biology 230 or equivalent: 2 hrs and 1 lab.

480 Physiology of Exercise (3) (Same as Physical Education 480.)

484 Conservation Biology (3) Application of principles and techniques of ecological research to conservation of biodiversity at genetic, population, community, and ecosystem levels. Prereq: General Genetics and General Ecology. (Same as Ecology 484.)

490 Comparative Endocrinology (3) Comparative analysis of physiology and morphology of endocrine glands in vertebrates and invertebrates, their role and interaction in maintenance of organism and species. Prereq: 440 or equivalent.

500 Thesis (1-15) P/NP only. E

501 Graduate Research Participation (3) Advanced research techniques studied under supervision of staff research director. Open to all graduate students in good standing. Prereq: Consent of department and research director: S/N only.

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when student uses University facilities and/or faculty time before degree is completed. May not be used toward degree requirements. May be repeated. Maximum 4 hrs. S/N only.

503 Zoology Seminar (1) Advanced topics in zoology. Senior zoology majors encouraged. Required of all first- and second-year graduate students. May be repeated. Maximum 4 hrs. S/N only.

504 Special Topics (1-2) Selected directed readings or special course in topics of current interest. Consult departmental listing for offerings. May be repeated with consent of instructor. Maximum 4 hrs. S/N only.

506 Research Methods (1-3) Instruction in methods and techniques of research. Consult departmental listing for offerings. May be repeated with consent of instructor. Maximum 9 hrs.

507 Animal Cell Culture (2) Techniques for culture of animal cells, tissues and organs. 1 hr and 1 lab.

510 Introduction to Electron Microscopy - Transmission Electron Microscope (4) Practical application of techniques for preparation of biological samples for viewing in transmission electron microscopy. Use of microscope and ancillary equipment, darkroom techniques, preparation of materials for publication and special project. Admission limited only to departmentally approved graduate students. (Same as Botany 510.) 2-3 hrs. Lab.

511 Introduction to Electron Microscopy - Scanning Electron Microscope (3) Practical introduction to techniques of electron microscopy and to scanning electron microscope. Use of microscope, introduction to darkroom techniques and digital image processing, prepara-
178 Zoology

513 Advanced Developmental Biology (3) Molecular and genetic aspects of differentiation and morphogenesis; current literature. Recommended prereq: Life Sciences 511-12.

515 Colloquium in Ethology (1) (Same as Psychology 515.)

521 Advanced Mammalian Physiology I (4) (Same as Comparative and Experimental Medicine - Veterinary Medicine 521.)

522 Advanced Mammalian Physiology II (4) Respiratory, renal, gastrointestinal, and reproductive physiology, acid-base mechanisms, and metabolism. Prereq: 521. (Same as Comparative and Experimental Medicine - Veterinary Medicine 522.)

523 Physiology of Hormones (3) Cellular and organismal action of hormones in invertebrate and vertebrate animals. Prereq: 490 or consent of instructor. Recommended prereq: Biochemistry 410. 2 hrs and 1 lab.

524 Physiological Ecology of Animals (3) Adaptive physiological response of animals to natural changes in or extremes of physical and biotic environment. Terrestrial vertebrates. Prereq: Undergraduate courses in animal physiology and ecology, 440 and Biology 230 or equivalent.

526 General Vertebrate Neuroanatomy (3) (Same as Psychology 526.)

540 Insect Taxonomy I: Major Orders (3) Survey of classification of major orders of insects, with practical experience in identification of insects at family level. Prereq: Consent of instructor. 4 hrs combined lecture and lab.

541 Insect Taxonomy II: Minor Orders (3) Survey of classification of minor orders of insects, with practical experience in identification of insects at family level. Prereq: 540 or consent of instructor. 4 hrs combined lecture and lab.

542 Insect Structure and Function (3) Integrated study of morphology and physiology of insects at tissue and cellular level. Prereq: Consent of instructor.

543 Aquatic Insects (3) Taxonomy and biology of aquatic insects; immature forms. Prereq: Consent of instructor. 2 hrs and 1 lab.

544 Fresh Water Invertebrate Zoology (3) Ecology and taxonomy of fresh water invertebrates exclusive of insects. Prereq: 360. 3 hrs lab and field study.

545 Advanced Animal Behavior (3) Second-level course in ethology, stressing evolution, genetics, physiology, ecology and human behavior. Prereq: 450 or equivalent. (Same as Psychology 545.)

547 Conceptual Foundations of Evolution and Behavior (3) (Same as Psychology 547.)

560 Biometry (3) Statistical methods in analysis of quantitative biological data. Prereq: Statistics course or consent of instructor.

573 Population Biology (3) Genetics and ecology of natural populations of plants and animals and aspects of behavior in determining population structure. Prereq: Introductory courses in ecology and genetics. (Same as Botany 573 and Ecology 573.)

575 Ecological Genetics (3) Genetics of natural populations, using both single-locus and quantitative genetic approaches. Prereq: 573 and statistics course.

583 Zoogeography (3) Processes determining geographic distribution of animals and distribution and composition of animal communities. Prereq: Ecology course or consent of instructor.

591 Foreign Study (1-15) See College of Arts and Sciences.

592 Off-Campus Study (1-15) See College of Arts and Sciences.

593 Independent Study (1-15) See College of Arts and Sciences.

600 Doctoral Research and Dissertation (3-15) P/NP only.

601 Advanced Topics (1-3) Readings and discussion of recent advances. Consult the departmental listing for offerings. May be repeated with consent of department. Maximum 9 hrs.

602 Seminar in Cell and Molecular Biology (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

603 Seminar in Genetics (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

604 Seminar in Developmental Biology (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

605 Seminar in Physiology (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

606 Seminar in Aquatic Biology (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

607 Seminar in Ecology (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

608 Seminar in Ethology (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

609 Seminar in Organic Evolution (1) Readings and discussion based on current literature. May be repeated. Maximum 12 hrs.

610 Current Topics in Cell and Developmental Biology (1) Critical analyses of current literature in journal club format. May be repeated. Maximum 10 hrs. S/NC only.

611 Advanced Topics in Medical Science (1-3) (Same as Comparative and Experimental Medicine - Graduate School of Medicine 611.)
FACILITIES FOR RESEARCH AND SERVICE
FACILITIES FOR
RESEARCH AND SERVICE
Facilities for Research and Service

Bureau of Educational Research and Service
(College of Education)

Carol E. Kasworm, Director

Four major types of activities--research, development, educational services, and publications--are channeled through the Bureau of Educational Research and Service (BERS), located in 212 CEB. The research activities relate to the development of research proposals, conducting and/or assisting in research, and assisting others in development of research proposals in the College of Education. Educational services include a wide list of activities such as in-service educational programs, consultant services, and technical assistance and administrative training programs. Official publications of the College of Education are developed through the Bureau. A limited number of graduate student assistantships are available.

Center for Business and Economic Research
(College of Business Administration)

David A. Hake, Director

In its economic research endeavors, CBER today has the same basic mission determined at its inception 58 years ago at the request of the Tennessee Legislature--to produce and disseminate new information in the field of economic research and in the specific areas of regional economic development and fiscal policy. The mission has also expanded to include influencing decision quality in the public and private sectors and integrating departmental research through cooperative ventures in the international arena. In addition to the annual Economic Report to the Governor, the Survey of Business and the Tennessee Statistical Abstract, the Center publishes research on a wide range of socioeconomic and policy issues, including taxes, banking, telecommunications, environmental concerns, and employment prospects.

While its core mission remains little changed, the scope of the CBER unit has expanded from a largely individualistic fiscal assistance program to a regional economic research, policy analysis, and communications technology arm of the College of Business Administration, with a staff of three senior research faculty and a support staff in research, information technology, and information dissemination, located at 100 CEB.

Increased emphasis on international participation, particularly in the light of the new democratization in Europe and the formation of the European Economic Community, has expanded the scope of activity of the Center through the formation of the East European Center and has opened up new possibilities for research in emerging European regional economies.

Center for Information Studies
(School of Information Sciences)

The Center for Information Studies (CIS) was established in June 1989 to be a focal point for research related to information systems and services. The Center, located at 304 Temple Court, has performed research for the federal government, state and local governments, companies, etc. Projects have ranged from strategic planning efforts to information system and service evaluations, to modeling of scientific and technical communication. Staff of the Center have been actively involved in proposal development and project performance with faculty and staff in other centers and departments at the University.

Areas of interest to the Center include information systems design, information organization and retrieval in very large databases, directories and locator tools in a networked environment, design of regional library and information system networks, new technology applications, information system support for educational reform, modeling of information processes, development of measures and methods for evaluating information system performance and effectiveness.

Centers and Chairs of Excellence

The Centers of Excellence grew out of Tennessee's Better Schools Program, an initiative to upgrade state-aided education at all levels. State officials and legislators wanted to give a few outstanding academic programs in state-aided universities a special push toward prominence, well beyond regular annual increases for all programs.

In 1984, the General Assembly appropriated $10 million for the first Centers of Excellence throughout the state. The public colleges and universities submitted their proposals for Centers of Excellence to the Tennessee Higher Education Commission, which made the final determinations. Funding was extended each successive year, and now five of the University's ten Centers of Excellence are sponsored by UT Knoxville or located in Knoxville.

Concurrently, the University has received state funding, which it must match dollar for dollar, for Chairs of Excellence. These Chairs are $1 million endowed professorships in areas of significance to the University and to the individual, foundation, or corporation providing the matching gift money.

The combination of the Centers of Excellence and Chairs of Excellence adds a dimension to The University of Tennessee that is not easily equaled by other institutions. UT's reputation as the premiere university in the state and as a regional and national leader in instruction, research, and public service is enhanced as a result of the infusion of these special funds.

For information concerning the individual centers sponsored by UT, contact:

Center for Laser Applications
Dr. Dennis Keefer, Director
UT Space Institute
Tullahoma, TN 37388-8897
(615) 458-0651 Ext. 475
Communications Research Center

(Office of Communications)

The Communications Research Center, 426 Communications Bldg., is an adjunct to the communications graduate program. Objectives of the Center are: (1) to conduct original research in mass and public communication; (2) to disseminate research-generated information; and (3) to provide research services to faculty and students, professional communicators, and others interested in improving the quality of human communications.

Computing Center

Bruce Delaney, Interim Director

Faculty Associates:
Instructional Technology: Dr. Patricia L. Fisher; Art: Susan E. Metros; Computer Science: Dr. David W. Straight; Engineering: Dr. Osama Soliman; Physics: Dr. William E. Blatt; Statistics: Dr. James L. Schmidhammer; Agriculture: Dr. Boyd Dearden; Human Ecology: Kurt Weiss; Social Work: Dr. David Patterson; Communications: Dr. Mark Miller.

The University of Tennessee Computing Center (UTCC), which is part of the Division of Computing and Telecommunications, provides computing facilities and services for the University’s teaching, research, public service, and administrative activities. UTCC offices and principal computing facilities are located on the first two floors of Stokely Management Center (SMC) and on the third floor of Dunford Hall. Assistance with any computer related question, including information about UTCC services and facilities, is available by calling the Division of Computing and Telecommunications Help Desk at 974-9200.

The Computer Access for Education (CAFE) program provides every UT Knoxville student, faculty, and staff member the opportunity for computing experience through an individual UTCC account. Student accounts for use in coursework are requested by the department through which the course is offered. Faculty and staff members must request a UTCC account for research or administration by completing a request for computing services. Forms are available from the receptionist at 200 SMC. Each UTCC account is assigned a consultant who is available to answer questions about UTCC resources and to assist in accessing the UTCC library of computer programs.

Noncredit short courses covering levels of computing from personal computing to supercomputing are taught throughout the year. Topics include programming languages, job control language, vector processing, the use of graphics, word processing, and the statistical and mathematical programs available at UTCC. Videotapes covering mainframe and microcomputer topics are available for private viewing in the Audiovisual Services section of Hodge Library and the UTCC Hodges Library Micro Lat. Instructional tapes on microcomputer software are in the Micro Lab. Short courses are announced in the UTCC Newsletter. The “Campus Capsule” section of the UT Daily Beacon, and Tennessee This Week. During the break following each academic term, UTCC consultants conduct a four-day seminar for faculty, staff, and graduate students on the use of either the IBM or DEC VMS cluster computers.

UTCC maintains online and printed documents describing the availability and use of system hardware and software. The IBM User’s Guide, the Unix User’s Guide, and the VMS Cluster User’s Guide are available at the UT Book & Supply Store. The monthly UTCC Newsletter announces changes to systems, equipment, and procedures and contains other items of interest to users.

The UTCC computing network connects mainframe computers, workstations, microcomputers and video terminals in a multivendor, heterogeneous environment. Ethernet and fiber optics connect many buildings on the Knoxville campus to provide rapid access to data in remote locations and supports several protocols including TCP/IP, DECnet, LAT, Novell, NetWare and Apple Appletalk. A terminal port selection and multiplexing system, which is connected to a similar system at the Oak Ridge National Laboratory, provides access to the network through 200 dialup lines.

The UTCC network is connected to the Internet which provides access to other Internet sites via the Southeastern University Research Association Network (SURAnet). SURAnet connects to the National Science Foundation Network (NSFNET) which joins other state and The University of Tennessee Computing regional networks as well as directly connecting to the five NSF supercomputing centers: The National Supercomputer Facility, The National Center for Supercomputing Applications at the University of Illinois, the Pittsburgh Supercomputing Center, the National Center for Atmospheric Research, and the San Diego Supercomputer Center.

UTCC is an affiliate of the Pittsburgh Supercomputing Center, the National Center for Supercomputing Applications at the University of Illinois, and the Cornell National Supercomputer Facility. Consulting services are provided by UTCC on those systems.

UTCC is also a member of BITNET, a network of several thousand computers located at educational and research institutions throughout North and South America, Europe, and Australia. BITNET provides a gateway to the Internet which allows all BITNET members to exchange messages with Internet nodes.

Several major operating systems provide both batch and timesharing computing services. The Time Sharing Option (TSO) runs under MVS/ESA on an IBM 3081-D, with three vector processors. The Conversational Monitor System (CMS) runs under VM/SP on an IBM 3081-D. The OpenVMS operating system runs in a Digital Equipment Corporation VMS cluster that consists of a four processor VAX 7000-840, a 2 processor VAX 6000-420 with 2 vector units, a 6 processor VAX 6000-460, and a 2 processor DEC 7000-620 AXP. The UNIX operating system is available on two 690/50 file servers and several workstations from Sun Microsystems.

UTCC provides technical support for other departmental workstations on the UT Knoxville campus that includes equipment from DEC, HP, Silicon Graphics, IBM and Sun Microsystems. UTCC maintains more than 150 microcomputers, including several models of both Apple Macintosh and IBM, in remote user work areas and microcomputer laboratories. A number of...
software packages are made available for use on the machines at these locations. UTCC also provides users access to some public domain software for microcomputers and is the administrator for a number of site licenses for workstation and microcomputer software. Software available on the computers at UTCC includes most of the commonly used compilers and interpreters, and a large number of programs for statistical, mathematical, engineering, operations research, and graphics applications. UTCC is the administrator for a number of site licenses for workstation and microcomputer software. UTCC participates in educational programs sponsored by DEC, IBM, SGI and Sun that provide software packages at reduced or no cost to the University of Tennessee.

UTCC maintains 15 user work areas on the Knoxville campus in addition to locations in all residence halls. Several of the areas provide high-speed line printing; some also provide laser printing. Computing services are made available to the other UT campuses through remote links. Many of the terminals and microcomputers in the user work areas are capable of being used for graphics.

A Digital LPS-32 Postscript laser printer is used to produce high-quality printed output. The Imagen printer can also produce graphics at 300 dots per inch. A Xerox DocuTech Production Publishing System, located at UT Graphic Arts Services, includes a 600 dpi laser printer connected to a scanner and network media server. It permits electronic transmission of documents for processing from computers on the UTCC network.

Continuing Education and Public Service

Laverne B. Lindsey, Associate Vice Chancellor for Academic Affairs and Dean

The Division of Continuing Education, Knoxville, is the administrative unit of UT Knoxville that extends academic courses, educational services, and other programs to the non-traditional student. While most people who participate in the programs are adults, persons of all ages and academic levels enroll in the credit and non-credit offerings of the Division.

Programs and courses are based upon student needs and desires, whether for self-motivated learning; for leisure and recreational programs; or for professional promotion, certification, licensure, relicensure, or mid-career changes. The Division provides these educational opportunities through program coordination and development of the five departments: the University Evening School, Non-Credit Community Programs, Department of Conferences, Department of Independent Study, and English Language Institute.

UNIVERSITY EVENING SCHOOL

Ray Hamilton, Associate Dean of Continuing Education and Director

The University Evening School, in conjunction with academic colleges and departments, administers credit programs for those students attending classes on and off campus in a variety of nontraditional formats. Support services are provided to assist students in their educational pursuits.

On-Campus Evening Program

Classes are offered during late afternoon and evening hours for those students who work or have other commitments during the day. Some departments within the Colleges of Communications, Education, and Engineering offer all courses required for an advanced degree during the evening. For other majors, consult the appropriate academic department.

Mini-Term

The University Evening School offers a Mini-Term during May. Students may enroll in one concentrated credit course during the Mini-Term period.

Courses and instructors listed for the Mini-Term are carefully selected to reflect a broad academic base of individualized offerings suited to an intensive program of study. Courses cover material and information included in regular semester offerings.

Off Campus Programs

The Evening School makes arrangements for departments to conduct undergraduate and graduate courses in many locations away from the Knoxville campus. The courses are scheduled in response to requests and identifiable needs of adult part-time students who live some distance from the UT Knoxville location. All course offerings and instructors are approved by the appropriate academic departments, and the credit awarded is resident credit.

The following graduate programs are available:

- Doctor of Education and Specialist in Education with a major in Leadership Studies in Education (Chattanooga); Master of Science with a major in Human Resource Development (Statewide), and a Master of Science with a major in Information Sciences (Memphis).

The Evening School administers an off-campus center at Oak Ridge where courses leading to advanced degrees in science and engineering are offered (see listing under Off-Campus Graduate Centers).

Distance Education

The Evening School in concert with several academic departments at UT Knoxville offers interactive telecourses which allow students to participate actively with the instructor teaching in Knoxville. Graduate courses in various disciplines are transmitted to several sites through use of this advanced technology.

Videotaped courses in engineering and other fields are sent to a variety of sites to accommodate UT Knoxville students pursuing advanced degrees at distant locations.

Workshops

Credit workshops are coordinated through various academic departments of the University and give students the opportunity to participate in short periods of intensive study. Workshops offer flexibility of timing, location, and content. Summer workshops are particularly popular with teachers and school administrators. Although most workshops are held on the UT Knoxville campus, the work is not a limiting factor.

Student Services

A comprehensive program of services including academic advising and financial aid information is provided by the University Evening School for both on- and off-campus students.

Registration

Registration by mail, FAX, or phone is offered as a convenience to former Evening School students. Final registration at both on- and off-campus locations is also available.

For information, contact the UT Evening School, 451 Communications Bldg, University of Tennessee, Knoxville, TN 37996-0341, or telephone (615) 974-5361 or 1-800-676-VOLS, FAX (615) 974-2027.

NON-CREDIT COMMUNITY PROGRAMS

Cheryl LaBarge, Director

Non-Credit Community Programs provides a comprehensive array of courses and seminars designed to serve the needs of individuals and businesses in Knoxville and surrounding communities. Courses are offered on the University campus and at selected off-campus locations. Courses are taught by University faculty, staff, and community experts. Courses are also delivered "on-site" for business or industrial clients, with instructional services tailored to the needs of each individual group.

Courses range from computer literacy and management, to gardening, exercise, and music. There are also courses which meet requirements of the state or other agencies for certification in fields such as real estate, aviation, CEBS (Certified Employee Benefit Specialist) and CCA (Certified Credit Administrator). The department co-sponsors the Smoky Mountain Field School with the Great Smoky Mountains National Park.

Continuing Education Units (CEUs) are awarded to students satisfactorily completing selected courses and seminars offered by the department.

For further information or to register, contact Non-Credit Community Programs, 600 Henley Street, Suite 105, Knoxville, TN 37996-4102 or telephone (615) 974-0150.

DEPARTMENT OF CONFERENCES

Norval L. Burkett, Associate Dean of Continuing Education and Director

UT Conferences, housed in the Conference Center in downtown Knoxville, provides management services to individuals or groups who desire to hold a high quality convention, conference or meeting anywhere in the state of Tennessee or across the United States.

Utilizing the Conference Center, state-wide University system facilities, major hotels and convention centers across Tennessee and the U.S., the department assists University organizations and outside groups in designing programs to meet the needs of clients. The staff provides professional guidance and management for small group meetings as well as for major conventions of several thousand delegates. Concierge support services range from planning and budgeting to lodging, food services, speakers, promotional material, meeting rooms, and all details to assure a successful event. Programs which meet appropriate criteria qualify for Continuing Education Units (CEUs), which become a permanent record maintained by the Division.

Transcripts are available upon written request.

The Department cooperates with UT CTV to provide teleconferencing services for the University and community. Professional groups and interested individuals may arrange
interactive videoconferencing to locations worldwide. Arrangements may also be made to receive (downlink) programming or to transmit (uplink) programming via satellite capabilities. The Conference Center also has the capability of two-way audio-visual conferencing.

Additional information may be obtained from UT Conferences, P.O. Box 2648, Knoxville, TN 37901, or by calling (615) 974-0250. FAX (615) 974-0264.

DEPARTMENT OF INDEPENDENT STUDY
David F. Holden, Director
The UT Knoxville Department of Independent Study administers the program of correspondence courses for all campuses of the University. This includes undergraduate credit courses, high school courses (for credit or for college entrance requirements); and non-credit courses. The courses utilize videotapes and audiotapes as well as traditional print materials.

For information and enrollment forms for correspondence courses contact: Department of Independent Study, 429 Communications Bldg., The University of Tennessee, Knoxville, TN 37996. Telephone (615) 974-5134.

ENGLISH LANGUAGE INSTITUTE
Dale A. Myers, Director
The English Language Institute (ELI) is a non-credit language-study program of The University of Tennessee, Knoxville. It is designed to assist students in their pursuit of career goals or educational objectives in the U.S.

The ELI offers intensive courses for the improvement of student skills in the English language. International students, visitors, and professionals have successfully learned English through study in the ELI.

The courses emphasize the development of communicative ability in listening, speaking, reading, and writing. Faculty members are trained in teaching English to speakers of other languages with differing national backgrounds and varying proficiency in English.

Classes also assist students in pronunciation, test-taking strategies, U.S. culture orientation, and university study skills.

Additional information may be obtained at 907 Mountcastle St., (615) 974-3404; FAX (615) 974-6389.

Energy, Environment, and Resources Center
(Office of Associate Vice Chancellor)
Jack N. Barkenbus, Director
The Energy, Environment, and Resources Center, 329 South Stadium Hall, was created in 1973 to encourage interdisciplinary research directed at solutions to problems related to energy and the environment. The Center involves faculty and students in research and public service projects, manages research and development projects that involve several disciplines, and assists government and industry in specific problems related to energy, environmental, resource, and technology policy issues. The Center has a close working relationship with researchers at the Oak Ridge National Laboratory and the Tennessee Valley Authority. Sponsors include federal and state agencies, industry, and foundations.

Current research includes solid, hazardous and radioactive waste management, information systems, environmental assessment, applications of biotechnology, global environmental problems, pollution prevention, and ethical and value issues in technology policy. The Center operates the Waste Management Research and Education Institute, a state-funded Institute of Excellence. Current grants and contracts of both centers are approximately eight million dollars per year.

Institute of Agriculture
D. M. (Pete) Gossett, Vice President
The Institute of Agriculture traces its history to 1869 when the University was designated as Tennessee's Federal Land-Grant Institution. Under terms of the Federal Land-Grant Act, the University was enabled to offer instruction in agriculture and the mechanic arts for the first time. Since 1869, agricultural programs at the University have been expanded to include research for the development of new knowledge and extension for dissemination of such knowledge to rural people. Thus the Institute of Agriculture has come to include the work of four main divisions: Agricultural Experiment Station, Agricultural Extension Service, College of Agricultural Sciences and Natural Resources, and College of Veterinary Medicine.

AGRICULTURAL EXPERIMENT STATION
Don O. Richardson, Dean
John I. Sewell, Associate Dean
Thomas H. Klintd, Associate Dean
The Agricultural Experiment Station was established by The University's Board of Trustees on June 8, 1882, five years before the passage of the Hatch Experiment Station Act by the U.S. Congress. The University was one of the first five institutions in the U.S. to establish an Agricultural Experiment Station. Since its beginning, the Station has given first attention to investigations of concern to the agriculture of Tennessee.

The objectives of the Tennessee Agricultural Experiment Station are the creation and utilization of new knowledge through research. Fundamental research is directed toward:(a) Understanding the basic science of the processes of plant and animal production through conversion into usable products and services; (b) Understanding the resources and market forces which affect the production, transfer, processing, and utilization of agricultural commodities and the resulting impact on the economic well-being of the agricultural sector, rural areas, and the State of Tennessee; (c) Understanding the interaction of agricultural production and land uses on natural resources and the environment as they relate to long-term productivity and the quality of rural life; (d) Understanding the impact of food and fiber resources and the chemicals used in their production on people's well-being and the quality of life. Applied research utilizes these understandings to formulate effective production and marketing systems and to foster the development of a physical and economic environment that provides for the needs of rural, farm, and urban citizens.

The investigations of the Station follow a systematic method of gaining and applying knowledge efficiently to the biological, physical, and economic phases of producing, distributing and processing farm and forest products; to the social and economic aspects of rural living; and to consumer health and nutrition. Both farm and urban populations gain from the accomplishments of the Agricultural Experiment Station. Examples of some of these accomplishments are new and improved varieties of crops, new and better methods of controlling crop and livestock pests, improved production of crops and pasture through improved fertilization and mechanization, and more efficient feeding and management of livestock.

The program is designed and administered through ten subject matter departments located at Knoxville. A majority of the faculty have teaching responsibilities in addition to their research. To assist in the research program, the Station supports over 100 graduate students. To serve Tennessee's diverse agriculture, branch stations are operated at Crossville, Grand Junction, Greeneville, Jackson, Knoxville, Lewisburg, Martin, Milan, Oak Ridge (forestry), Springfield and Spring Hill. Professional and technical staff are in residence at these locations.

AGRICULTURAL EXTENSION SERVICE
Billy G. Hicks, Dean
Mildred F. Clarke, Associate Dean
D. Ray Humberd, Assistant Dean
The Agricultural Extension Service was established in 1914. Its purpose is to extend through various educational means agricultural and home economics information to farm families and others in the state who do not have the opportunity to enroll in resident courses of instruction at colleges.

The educational program is carried on through offices in each of the 95 counties of the state. Educational emphasis includes work in four major program areas: agriculture and natural resources, community resource development, home economics, and education of young people through 4-H Clubs. County Extension staff members working directly with local people are supported in the various information fields by a specialist staff, members of which are stationed either in Knoxville, Nashville, or Jackson.

The Agricultural Extension Service operates administratively as one of four units of the Institute of Agriculture. For administration, the state is divided into five districts with supervisors located in their respective districts. District headquarters are maintained in Knoxville, Chattanooga, Cookeville, Nashville, and Jackson.

The Agricultural Extension Service operates as a three-way partnership among county, state, and federal governments. The University of Tennessee represents state and federal government and a County Agricultural Extension Committee represents county government in this partnership.

Learning Research Center
(Office of Associate Vice Chancellor)
W. Lee Humphreys, Director
The Learning Research Center engages in research and facilitates the research of others into all aspects of learning and teaching in
The University of Tennessee, Knoxville Libraries own approximately 2 million volumes, more than 3.5 million manuscripts, 2 million microforms, 30,000 audio and video recordings, plus United States and United Nations documents. The UT Knoxville Libraries currently subscribe to more than 14,000 periodicals and other serial titles. The Libraries' membership in the Association of Research Libraries reflects the University's emphasis on graduate instruction and the support of large, comprehensive collections of library materials on a permanent basis.

The UT Knoxville Libraries consist of the main library (the John C. Hodges Library), five branches on the Knoxville campus (the Agriculture-Veterinary Medicine Library, the Cartographic Information Center, the Music Library, Special Collections Library, and the University Archives), and the Social Work Library in Nashville.

The John C. Hodges Main Library (1015 Volunteer Blvd.) is a 350,000-square-foot facility housing collections in all subject areas. The Hodges Library has comfortable study space for more than 2,000 people, 300 graduate student carrels, and 192 faculty studies.

The Hodges Library's research holdings are augmented by Reference Services and by Interlibrary Services. Reference Services provides research assistance and access to commercially available databases. Users may also search a number of CD-ROM databases. Interlibrary Services borrows monographs and obtains copies of other material from libraries around the world, usually at no charge.

Library holdings are accessible via a sophisticated online catalog which can be searched in the Hodges Library, the branch libraries, and from home and office computers. The Online Library Information System (OLIS) also provides access to a wide range of information resources available over the Internet.

The services and facilities of the University Libraries are accessible to persons with disabilities. Adaptive equipment such as a Kurzweil Personal Reader and TDD are available at the Hodges Library.

The Agriculture-Veterinary Medicine Library (Room A-113, Veterinary Teaching Hospital) has a strong collection in agriculture; veterinary, comparative and human medicine; and related biological sciences. It has a wide-ranging audiovisual collection and an extensive reference collection.

The Cartographic Information Center (Room 15, basement of the Hoskins Library, Cumberland Ave. & 15th St.) contains a worldwide collection of over 350,000 maps covering all subjects. Maps are received by the U.S. Geological Survey, Defense Mapping Agency, and the National Ocean Survey. Maps, atlases, globes, and books relating to cartography may be borrowed for reference, research, and teaching.

The Music Library (301 Music Bldg.) has a comprehensive collection of music and music literature, including books, scores, audio and video recordings, current periodicals, and microfilm. All materials in the Library of Congress "M" classification are located here.

The Special Collections Library (2nd floor, west wing, of the Hoskins Library) is a repository of regional and local materials, Tennesseeiana, and other specialties, including legislative papers and mementos of many Tennessee political figures. Special Collections materials are of particular interest to scholars in the fields of history, politics, social sciences, biological sciences, and the arts.

The University Archives (Room 2, Hoskins Library) contains official records of the University; items published officially and unofficially by its units, departments, and agencies; and other materials that document University of Tennessee life.

The Social Work Library (1720 West End Ave., Nashville) serves College of Social Work students in field practice across the state. The library has a working collection of materials in social work and related disciplines.

The Law Library on the Knoxville campus and the libraries located on the campuses in Chattanooga, Martin, Memphis, and Tullahoma are individually administered. Each library at The University of Tennessee is accessible to all students and faculty in the system.

*Data excludes Law Library faculty and statistics.

Management Development Center
(College of Business Administration)

John E. Riblett, Director

The College of Business Administration's executive/management education efforts are facilitated through the Management Development Center, 709 Stokely Management Center.

The mission of the Center is to promote the learning and dissemination of an integrated framework of managerial excellence. The Center defines excellence in terms of competitive world standards of quality, efficiency, and service to the recognized concerns of all constituencies (customers, employees, suppliers, owners, students, and society in general). This mission includes the accepted responsibility for (1) developing close strategic partnerships with a selected set of companies to better facilitate learning and development of the knowledge which is truly experienced and (2) acting as a facilitator in driving this knowledge into the credit curriculum of the College.

The Center has prided itself on the development of long-term relationships with organizations that provide a living laboratory to test and validate the knowledge of the Center that is disseminated in a variety of forms. Executive
Measurement and Control Engineering Center
(College of Engineering)

Arlene Garrison, Director
The Measurement and Control Engineering Center, 102 Estabrook Hall, is sponsored by the College of Engineering, the Instrumentation and Controls Division of Oak Ridge National Laboratory, and the National Science Foundation. The Center's program combines education, research, and technology transfer. Graduate assistantships are available for qualified students. The research is funded by major U.S. industrial companies and focuses on theoretical and practical developments in measurement and control, concentrating on areas that will significantly improve the productivity, reliability and safety of industrial systems and processes.

Center sponsored research is carried out in the fields of process control, pattern recognition, signal and image processing, process diagnostics, and sensor development. Research in process control concentrates in the areas of process analysis, process modeling, control system design, and real-time expert systems. Pattern recognition research deals with the development of techniques for the automatic detection of flaws in both continuous and piece-part produced products. Process diagnostics research involves the application of signal validation and sensor fault monitoring techniques to modern process control systems. Finally, fiber optic sensor systems development is underway for monitoring and control of chemical processes.

Nutrition Institute
(College of Human Ecology)

Dileep Sachan, Director
The Nutrition Institute is a system wide, multidisciplinary consortium of faculty who are engaged in clinical and experimental nutrition research, teaching and service. Its expertise and resources are multifaceted including tools and techniques used in cell biology, epidemiology, metabolism and clinical training.

The multidisciplinary nature of nutrition has created a situation where nutrition research and teaching is dispersed among a number of academic units, including the Department of Nutrition in the College of Human Ecology as well as in several departments in the colleges of Agricultural Sciences and Natural Resources, Arts and Sciences, Medicine, and Veterinary Medicine. The Institute provides a communication link among all efforts in nutrition sciences, coordinates collaborative research programs in nutrition and provides a unique forum for exchange and interaction with the national and international nutrition community. In addition, by creating formal ties among the units within the University that are involved in undergraduate, graduate and professional education in nutrition, teaching resources may be pooled to strengthen nutrition-related instruction in these units.

Oak Ridge Associated Universities

Since 1946, students and faculty of The University of Tennessee have benefited from its membership in Oak Ridge Associated Universities (ORAU), a consortium of colleges and universities and a management and operating contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU manages, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the number of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the Resource Guide which is available at the contacts below.

ORAU's Office of Members Services seeks opportunities for collaborative research and development alliances among its members, private industry, and major federal facilities. Current alliances include the Southern Association for High Energy Physics, the Bioelectromagnetics Research Consortium, the High Performance Computing, Bioprocessing, Pan American Association for Physics, Materials Science Forum, and international initiatives in support of the New Independent States in Central and Eastern Europe. Other UOGA activities include the sponsorship of conferences and workshops, the Visiting Scholars program, and the Junior Faculty Enhancement Awards. A copy of Especially for Members, which details UOGA's programs, is available from the contacts below.

For more information about ORAU and its programs, contact Dr. Leo L. Riedinger, ORAU Council member at 615-974-3486; or contact Monnie E. Champion, ORAU Corporate Secretary, at 615-576-3306.

Off-Campus Graduate Centers

KINGSPORT GRADUATE PROGRAM
UT Knoxville offers graduate programs at Oak Ridge leading to Master's and doctoral degrees in engineering and supporting areas. Courses are given in the evenings with research opportunities provided by and used in cooperation with the Oak Ridge Associated Universities (ORAU).

This program is supported under a subcontract with ORAU with primary support coming from the Martin Marietta Corporation. UT Knoxville offers graduate programs at Oak Ridge Graduate Program, Post Office Box 117, TMSB Building, Oak Ridge, Tennessee 37831-0117.

OAK RIDGE GRADUATE PROGRAM
UT Knoxville offers graduate programs at Oak Ridge leading to Master's and doctoral degrees in engineering and supporting areas. Courses are given in the evenings with research opportunities provided by and used in cooperation with the Oak Ridge Associated Universities (ORAU).

This program is supported under a subcontract with ORAU with primary support coming from the Martin Marietta Corporation. UT Knoxville offers graduate programs at Oak Ridge Graduate Program, Post Office Box 117, TMSB Building, Oak Ridge, Tennessee 37831-0117.

NASHVILLE ENGINEERING GRADUATE PROGRAM
UT Knoxville offers graduate programs leading to the Master of Science with majors in Civil Engineering, Industrial Engineering, and other disciplines, as the need and resources permit.

Students who enroll in these programs must be admitted to The Graduate School of UT Knoxville. Information and application forms may be obtained from the UT-Oak Ridge Graduate Program, 1720 West End Avenue, Suite 401, Nashville, Tennessee 37203.

CHATANOOGA EDUCATION PROGRAM
UT Knoxville offers a graduate program in education leading to the Specialist in Education and the Doctor of Education degrees with a major in Leadership Studies in Education.

Students who enroll in this program must be admitted to The Graduate School of UT Knoxville. Information and application forms may be obtained from the UT-Oak Ridge Graduate Program, 1720 West End Avenue, Suite 401, Nashville, Tennessee 37203.

THE UNIVERSITY OF TENNESSEE-OAK RIDGE GRADUATE SCHOOL OF BIOMEDICAL SCIENCES
UT Knoxville offers a graduate program leading to the M.S. and Ph.D. degrees with a major in Biomedical Sciences. Graduate students have the opportunity to study and do research in conjunction with the Biological Division of the Oak Ridge National Laboratory.

For complete information concerning the program, see Biomedical Sciences under Fields of Instruction.
The Textiles and Nonwovens Development Center (TANDEC) was officially dedicated in October 1980. TANDEC was made possible through a grant from Exxon Chemical Company.
The Water Resources Research Center, 422 South Stadium Hall, is a federally designated institute for sponsoring and coordinating water resources research for the state. The purposes of the Center are: (1) to assist and support all the academic institutions of the state, public and private, in pursuing water resources research which addresses a wide range of problems of interest to the state, region, and nation; (2) to provide for information dissemination and technology transfer services to state and local government bodies, academic institutions, professional groups, environmental organizations, and others, including the general public, who have an interest in water resources matters; (3) to promote education and training in fields relating to water resources and to encourage the entry of promising students into careers in these fields. The Center maintains a technical library which includes numerous water resources-related databases on CD-ROM.