Music

(College of Arts and Sciences)

MAJOR DEGREES

Music............................................. M.M.

Wayne Bailey, Head

Professors:

Bailey, Wayne, D.M.A.......................... Colorado
Ball, Charles H. (Emeritus), Ph.D......... Peabody
Bitzas, George C., M.M ..................... Converse
Brock, John P. (Liaison), M.M............. Alabama
Coker, J., M.A................................. Sam Houston
Combs, F. M., M.A............................. Missouri
DeVine, George F. (Emeritus), M.A......... Cleveland
Dorn, W. (Emeritus), M.A.................... Columbia
Fred, Herbert W. (Emeritus), M.M..... North Carolina
Hoford, A. G. (Emeritus), M.M......... Northwestern
Jacobs, K. A., D.M.A......................... Texas
Julian, W J (Emeritus), Ph.D.............. Northwestern
McClelland, D. K., M.A..................... Columbia
MacMorran, W. S., M.M..................... Wisconsin
Mecham, John J. (Emeritus), M.M..... Northwestern
Moore, M. C., Ph.D........................... Michigan
Northfield, D. B., D.M.A....................... Yale
Pederson, D. M., Ph.D......................... Iowa State
Sousa, G., Ph.D............................... Ohio State

Starr, W. J. (Emeritus), M.M............ Eastman
Sutphenberger, D. R., D.M.A.............. Maryland
Tippetts, A. W., Ph.D......................... Michigan

Associate Professors:

Adams, Fay, M.M.............................. Tennessee
Bohling, M. E., M.M......................... Tennessee
Brown, Donald R., Hs.D..................... Indiana
Brunell, D. E., M.M........................... Colorado
Davis, Dolly C., M.M........................... Tennessee
Dubinsky, T. S., D.M.A...................... Yale
Hough, Don, M.M.............................. Tennessee
Leach, C. F., M.M............................... New Mexico
Searle, S. M., M.M.............................. Tennessee
Sperl, G. R., M.M............................. Indiana
Zelmanovich, Matus, M.A..................... Lvov

Assistant Professors:

Baldwin, Wesley, M.M....................... New England
Baty, A. L., D.M.A.............................. South Carolina
Binder, S. L., D.M.A......................... Florida State
Freeman, Carroll, M.P.A..................... Oklahoma City
Gay, Jr., L. C., Ph.D ......................... Columbia
Hawthorne, W., Ph.D......................... Cincinnati
Murphy, B. A., Ph.D.......................... Ohio State
Romines, J. J., M.M......................... Indiana
Schallert, G. T. D., M.M..................... Northern Colorado
Smith, C. B.M................................. SUNY-Fredonia
Wentzel, A. N., M.M......................... Southern California

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

Applicants must have completed an undergraduate degree that is approximately equivalent in music requirements to degrees conferred by UT Knoxville, with a major appropriate to the applicant's prospective area of concentration on the master's level. Applicants who plan to pursue the concentration in performance or music education are required to audition for the appropriate area faculty. Applicants for admission to the program in composition must submit scores and tape recordings of representative works. Applicants for the concentration in jazz must audition in jazz improvisation and jazz piano proficiency and interview with members of the faculty in this area. Other applicants are required to have an interview with members of the faculty of the prospective area of concentration.

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

THE MASTER'S PROGRAM

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

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

The concentration in music education is designed for persons who hold a Bachelor's degree in Music Education or certification to teach music in the public schools. Both thesis and non-thesis options are available.

Music Education

GRADUATE COURSES

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

520 Registration for Use of Facilities (3-15) Required for use of any or all classrooms when student uses University facilities and for any term before degree is completed. May not be used toward degree requirements. May be repeated. S/NC only; E

510 Foundations of Music Education (3) Historical, philosophical and aesthetic bases. Prereq: Consent of instructor.

520 Research in Music Education (3) Definition of research problems, data collection and analysis, and research report writing. Application of knowledge of research techniques to analysis of existing research literature in music education. Prereq: Consent of instructor.

530 Advanced Band Literature and Conducting (3) Reading, conducting, and interpreting band scores suitable for school, college, and community bands, contemporary and standard band literature. Prereq: Consent of instructor.


570 Studies in Multicultural Music Education (3) Study of music literature, art and culture of various cultures appropriate for students in K-8. Strategies and techniques for teaching music at this level.

571 Musical Repertoire Laboratory (1) Performance of music from various cultures; production of musical scores appropriate for students in grades K-8. Singing, dancing, acting, costumes, set design, traditional and non-traditional instrumental ensembles. Limited to students majoring or concentrating in music, dance, or theatre. Prereq or coreq: 570. May be repeated. Maximum 6 hrs.

580 Seminar in Music Education (3) Class investigation and individual reporting of pertinent topics and issues in music education. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

590 Special Topics in Music Education (1-3) Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

593 Special Problems in Music Education (3-6) Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

Music Ensemble

GRADUATE COURSES

503 Small Jazz Ensemble (1) May be repeated. Maximum 12 hrs.

504 Jazz Ensemble (1) May be repeated.
Music in the Renaissance (3) From 1400 to 1600. Mass, motet, chansons, madrigal, and other vocal and instrumental forms and genres.

Music Bibliography (3) Bibliographic methodology in music. F

Church Music Methods and Administration (1)

Music in the Renaissance (3) From 1400 to 1600. Mass, motet, chansons, madrigal, and other vocal and instrumental forms and genres.

Music in the Baroque Period (3) From 1600 to 1750. Baroque opera and oratorio, sacred and secular cantatas, instrumental forms, and performance practice.

Music in the Classic Period (3) Evolution of classical style from pre-classic music to music of Haydn, Mozart, and early Beethoven.

Music in the Romantic Period (3) Nineteenth-century musical styles from Beethoven to post-romanticists.

Music in the Twentieth Century (3) From 1890, Debussy, to present, Stockhausen and others.

Music in North American Music (3) Topics vary.

Introduction to Ethnomusicology (3) Ethnomusicology as a scholarly discipline, history, theories, and methodologies as applied to study of music in culture. Prereq: Music in World Culture or equivalent.

Independent Study (1-15) See College of Arts and Sciences. Prereq: Consent of department head.

Seminar in Ethnomusicology (3) Topics vary. Prereq: Consent of instructor.

GRADUATE COURSES

Music General

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

501 Graduate Recital (2) 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 Forcey before degree is completed. May not be used toward degree requirements. May be repeated. SAC only. E

511 Lecture Recital (2) E

521 Special Topics in Performance (1-3) Prereq: Consent of department head. E

540 Secondary Applied Music (1) May be repeated. Maximum 12 hrs.

520 UT Singers (1) May be repeated.

570 Symphony Orchestra (1) May be repeated.

580 Concert Choir (1) May be repeated.

589 Women's Chorus (1) May be repeated.

599 Accompanying (1) May be repeated.

Music History

GRADUATE COURSES

410 Music History Genre (3) Topics vary. May be repeated. Maximum 6 hrs.

420 History of Opera (3) Dramatic, vocal, and orchestral elements in opera of Italian, French, and German schools, 1600-present.

430 Symphonic Literature (3) Literature for orchestra from Baroque to present, evolution of symphony.

450 Composer Seminar (3) Life and works of single composer. Subjects vary.

460 Music Aesthetics (3) Nature of music and musical experience, sense perception and emotions, music and the role of artist in society. Aesthetic viewpoint of individuals and historical eras through selected writings.

480 Music in Christian Worship (3) Hymnody, liturgies, and liturgical music.

490 Church Music Methods and Administration (1)

510 Music Bibliography (3) Bibliographic methodology in music. F

540 Music in the Renaissance (3) From 1400 to 1600. Mass, motet, chansons, madrigal, and other vocal and instrumental forms and genres.


560 Music in the Classic Period (3) Evolution of classical style from pre-classic music to music of Haydn, Mozart, and early Beethoven.

570 Music in the Romantic Period (3) Nineteenth-century musical styles from Beethoven to post-romanticists.

580 Music in the Twentieth Century (3) From 1890, Debussy, to present, Stockhausen and others.

586 Topics in North American Music (3) Topics vary.

590 Introduction to Ethnomusicology (3) Ethnomusicology as a scholarly discipline, history, theories, and methodologies as applied to study of music in culture. Prereq: Music in World Culture or equivalent.

593 Independent Study (1-15) See College of Arts and Sciences. Prereq: Consent of department head.

595 Seminar in Ethnomusicology (3) Topics vary. Prereq: Consent of instructor.

595 Seminar in Ethnomusicology (3) Topics vary. Prereq: Consent of instructor.

596 Organ Literature Seminar (3) Topics vary. May be repeated. Maximum 8 hrs.

GRADUATE COURSES

Music Performance

All performance courses require an audition and consent of instructor. May be repeated. Maximum 8 hrs toward M.M. degree.

403 Flute (1-4)

405 Oboe (1-4)

410 Bassoon (1-4)

415 Clarinet (1-4)

420 Saxophone (1-4)

425 Horn (1-4)

430 Trumpet (1-4)

435 Trombone (1-4)

440 Baritone (1-4)

445 Tuba (1-4)

450 Percussion (1-4)

455 Voice (1-4)

460 Violin (1-4)

465 Viola (1-4)

470 Cello (1-4)

475 String Bass (1-4)

476 Electric Bass (1-4)

479 Guitar (1-4)

480 Piano (1-4)

485 Harpsichord (1-4)

490 Organ (1-4)

494 Composition (1-3)

495 Composition with Electronic Media (1-3)

496 Composition for Media (1-3)

499 Improvisation (1-2) Not used toward applied music requirement.

503 Flute (1-4)

505 Oboe (1-4)

510 Bassoon (1-4)

515 Clarinet (1-4)

520 Saxophone (1-4)

525 Horn (1-4)

530 Trumpet (1-4)

535 Trombone (1-4)

540 Baritone (1-4)

545 Tuba (1-4)
550 Percussion (1-4)
551 Accompanying and Coaching (1-4)
555 Voice (1-4)
560 Violin (1-4)
565 Viola (1-4)
570 Cello (1-4)
575 String Bass (1-4)
576 Electric Bass (1-4)
579 Guitar (1-4)
580 Piano (1-4)
585 Harpsichord (1-4)
590 Organ (1-4)
594 Composition (1-3)
595 Composition with Electronic Media (1-3)
599 Improvisation (1-4)

Music Theory

GRADUATE COURSES

430-40 Counterpoint I-I (3,3) 430-Study of species counterpoint in modal and tonal styles; works of Palestrina and J.S. Bach. Prereq: 220, 440-Writing of contrapuntal forms of 18th century and earlier; analysis of works from 18th through 20th centuries. Prereq: 430.
450 Choral Arranging (2) Analysis of scores and writing of arrangements for choirs. Prereq: Theory IV or consent of instructor.
510 Musical Styles (3) Elements of design and their role in definition of musical styles. Prereq: Consent of instructor.
520 Analytical Techniques (3) Analytical techniques, contemporary approaches. Prereq: Consent of instructor.
530 Music Theory Pedagogy (3) Techniques, methods, and materials involved in college-level theory programs. Prereq: Consent of instructor.
540 Computer Music Transcription (3) Projects in notation, playback, and publication of music incorporating elements of word processing, graphic design, sequencing, and page layout. Study of MIDI protocol as applied to computer music composition and computer-aided music analysis. Prereq: Consent of instructor.
550 Computer Projects (3) High-level programming languages used to design and implement computer-managed instruction; Internet development tools; writing of documentation for computer projects. Prereq: Consent of instructor.
560 Technology in Music Research (3) Use of technology for research projects in music analysis or pedagogy: development and execution of research projects. Prereq: Consent of instructor.

Music Voice

GRADUATE COURSES

410-20 Song Literature I, II (2,2) 410-German songs, 420-French, Italian, Russian, Spanish, Czechoslovakian, British, and American art songs. Graduate credit not available for students in vocal performance.
425 Functional Diction for Singers (3) Comprehensive study of diction in six languages: English, French, German, Italian, Latin, and Spanish. Basic instruction in International Phonetic Alphabet; development of basic diction skills; overview of diction styles and traditions in each language; survey of diction resources and reference materials. Does not fulfill deficiency requirements for graduate students in voice or accompanying.
450 Vocal Literature Seminar (3) Topics vary. May be repeated. Maximum 6 hrs.
520 Music Theatre Performance Techniques (1) Improvisation, movement, and basic techniques for dramatic vocal performance. Prereq: Vocal major or consent of instructor. May be repeated for credit. Maximum 2 hrs.
530 Opera Performance (2) Prereq: Consent of instructor. May be repeated. Maximum 4 hrs.
540 Opera Production (1-3) Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.
550-60 Advanced Vocal Pedagogy (1,1) 550-Study of vocal production, examination of different methods. 560-Study of teaching materials, observation of studio teaching, analysis of vocal problems in selected students, and supervised teaching.
570 Vocal Chamber Music Performance (2) Prereq: Consent of instructor.
580-85 Choral Literature I, II (2,2) Choral music from the Middle Ages to present with consideration of historical development of major choral genres.
590 Advanced Choral Conducting (3) Expansions and continued refinement of conducting techniques; development of choral rehearsal skills. Prereq: Consent of instructor.
594 Project in Choral Conducting Performance (1-3) Public performance, critical appraisal; recording project. Prereq: Consent of instructor. May be repeated.
595 Choral Conducting Seminar (3) Score reading and preparation; problems of interpretation, performance practices, and conducting techniques. Prereq: 590 or consent of instructor. May be repeated.

Nuclear Engineering

Major (College of Engineering)

MAJOR DEGREES

Nuclear Engineering M.S., Ph.D.
H. L. Dodds, Head

Professors:
Dodds, H. L., Ph.D. Tennessee
Mihalocio, J. T., Ph.D. Tennessee
Miller, L. F., Ph.D. Texas A&M
Mynatt, F. R., Ph.D. Tennessee
Shannon, T. E., Ph.D. Tennessee
Uhrl, E. R. (Distinguished Prof.), Ph.D. Iowa State
Upadhyaya, B. R., Ph.D. California

Associate Professors:
Groer, P. G., Ph.D. Vienna
Hines, J. W., Ph.D. Ohio State
Pevy, R. E., Ph.D. Tennessee
Ruggles, A. E., Ph.D. Rensselaer
Scott, T. H., Ph.D. Florida
Townsend, L. W., Ph.D. Idaho

The Department of Nuclear Engineering offers programs leading to the Master of Science and Doctor of Philosophy degrees. Students may elect a traditional nuclear engineering M.S. or Ph.D. program (focusing on fission energy or fusion energy) or a radiological engineering concentration at the master's level.

The radiological engineering concentration prepares students for careers in the radiation safety field (health physics). The program is designed for graduates of undergraduate programs in engineering, physics, biology and chemistry.

The Master's Program

A graduate program leading to the Master of Science is available to graduates of recognized undergraduate curricula in engineering and physics. Each applicant will be advised as to the necessary prerequisite courses before he/she enters the program.

The student must complete 24 semester hours of coursework approved by the student's advisory committee that includes the following:
1. A major consisting of a minimum of 12 semester hours of graduate courses in nuclear engineering. This must include at least one of the following sequences: 511, 512, 550, 560, 571, 572.
2. A minor of 6 semester hours elective courses in mathematics, statistics, or computer science.
3. Six semester hours in either nuclear engineering or a related field.

The M.S. candidate must also demonstrate research or design capability. This requirement may be satisfied by a thesis project or engineering practice projects as described below:

Thesis - The student performs independent research on a topic approved by the graduate committee. He/She submits a thesis on this research. The student then must pass an oral examination on the thesis and all graduate coursework. The student must enroll for six semester hours of NE 500 (Thesis).

Engineering Practice - The student performs independent research on one to four separate topics approved by his/her graduate committee. Each project is similar to a thesis project but smaller in scope. He/She submits a report, in thesis format, on each project. The student must then pass an oral examination on his/her engineering practice reports and all graduate coursework. The student must enroll for six semester hours of NE 598 (Nuclear Engineering Practice).

The Doctoral Program

Students in the field of nuclear engineering desiring to study for the Doctor of Philosophy must have a Bachelor of Science or Master of Science from a recognized university, with a major in engineering or physics. All candidates will be required to demonstrate general competence in a comprehensive examination in the areas of engineering science, mathematics, physics, and nuclear engineering.

Specific course requirements for the Ph.D. in Nuclear Engineering include:
1. A minimum of 48 semester hours beyond the Bachelor's degree, exclusive of credit for
431 RadiationProtection(3)Externalandinernaldosimetricmethods, and applications.Prereq:IntroductiontoEngineering.

NuclearEngineering.

mentalsofnuclearcriticalitysafety;criticalityaccidents;


biologicaleffects,approximatemethodsofswelldesign,
fundamentals ofgamma rayand neutronattenuation,
toryandradiationhealthissuesand requiremants.Prereq:470 orequivalent.

neutrons,shielding,dynamics and control3, alpha and

GRADUATE COURSES

students must recognize that at leasttwo-thirds of the minimum required hours (30) in

GRADUATE CREDIT FOR UNDERGRADUATE COURSES

400-level courses in nuclear engineering may be used for graduate credit. However, students must recognize that at least two-thirds of the minimum required hours (30) in a master's degree program must be taken in courses numbered 500 or above.

GRADUATE COURSES

403 Nuclear and Radiological Engineering :labaratory II (3) Cross section measurements, diffusion properties ofneutrons, shieldings, dynamics and controls, alpha and beta spectroscopy, radia
tion fields and dosimetry. Prereq: Nuclear and Radiological Engineering Laboratory I.

404 Nuclear Fuel Cycle (3) Mining, milling, fabrication, in
core management, reprocessing, waste disposal, regulatory and radiation health issues and requirements. Prereq: 470 or equivalent.

406 Radiation Shielding (3) Types of radiation sources, fundamen
tals of gamma ray and neutron attenuation, biological effects, approximate methods of field display, discreteordinates, and Monte Carlo. Prereq: Physics 232.

421 Introduction to Nuclear Criticality Safety (3) Fundamen
tals of nuclear criticality safety; criticality accidents; safety standards; overview of experiments, computa
tional methods, and applications. Prereq: Introduction to Nuclear Engineering.


432 Radiation Risk Analysis (3) Radiation risk estimates for external and internal radiation, dose-response models, dose rate effects, prediction of radiation risks, radiation safety standards.

548 Management of Radioactive Materials (3) Technolo

543 Selected Topics in Nuclear Criticality Safety (3) Criticality safety computational and experimental methods for enrichment, fabrication, storage, reprocessing, and transport applications; overview of safety practices and regulatory requirements. Prereq: 421 or consent ofin
tstructor.

550 Radiation Measurements Laboratory (3) Physics and
electronics methods used in radiation detection and mea

551 Radiation Protection (3) Fundamental concepts and

552 Radiological Assessment and Dosimetry (3) Transport of radionuclides in environment, food chain pathways, internal dosimetry and personnel dosimetry. Prereq: 551 or consent of instructor.

553 Radiation Risk Analysis (3) Methods for radiation risk prediction, survival analysis, parameter estimation, real data analysis, extrapolation techniques. Prereq: 552 or consent of instructor.

571 Reactor Theory and Design (3) Analytical and
deterministic methods for neutronics modeling of nuclear systems. Fundamental and adjoint transport equa
tion, Multigroup diffusion theory, Core analysis methods and codes. Prereq: 401 or equivalent.

572 Nuclear System Design (3) Design and analysis of a nuclear system that is consistent with non-nuclear aspects of system design, system reliability and economics, class project. Prereq: 571 or consent of instructor.

576 Expert Systems in Engineering (3) Application of expert systems in engineering: logic and rationale, developing expert systems, programming, advanced topics. Prereq: 575 or consent of instructor. (Same as Mechanical and Aerospace Engineering and Engineering Science 575.)

577 Neural Networks in Engineering (3) Neural network techniques and their use in intelligent systems; rationale for neuralcomputing, structure of neuralcomputing systems, programming. Prereq: Consent of instructor. (Same as Mechanical and Aerospace Engineering and Engineering Science 577.)


582 Monte Carlo (3) Analysis of radiation transport problems in radiation shielding by Monte Carlo method, description of MORSE code. Random sampling, evaluation of integrals, analog particle transport, techniques of variance reduction, forward and adjoint mode analysis, Importance function biasing, radiating right window survival biasing and contribution theory. Prereq: 581.

585 Process System Reliability and Safety (3) Qualitative and quantitative techniques for assessing and improving process systems reliability and safety. Fault tree analysis and associated dependent failure analysis. (Same as Chemical Engineering 658.)

597 Special Topics in Nuclear Engineering (3) Lectures and recitation on recent advances in nuclear engineering. Prereq: Consent of instructor. May be repeated with consent of department.

598 Nuclear Engineering Practice (3-9) Experience in solving and reporting on engineering problems. Prereq: Approval of department. May be repeated. Enrollment limited to alternative plan students. S/N only.

600 Doctoral Research and Dissertation (3-15) Prereq: 401 only. E

621 Selected Topics in Reactor Theory (3) Classical transport theory, control rod theory, stochastic methods. Selected topics from literature. Prereq: 572.

622 Selected Topics in Radiation Protection (3) Prereq: 551, 552. May be repeated with consent of department.

653 Theory of Information Processing (3) Modern system theoretical methods for evaluating system performance from dynamic measurements. Prereq: 552 or equivalent.

671 Advanced Topics in Applied Artificial Intelligence (3) Recent advances in engineering applications of artificial intelligence. Prereq: 577. (Same as Mechanical and Aerospace Engineering and Engineering Science 671.)

676 Special Topics in Nuclear Engineering (3) Investigation of new developments. Prereq: Consent of instruc
tor.
A page from the Nursing program of a university catalog. The content includes information on the major, degree, faculty, admission requirements, program requirements, research options, and special requirements.
A total of 16-18 credits can be obtained by successful completion of the NLN Nursing Mobility Profile Examination. See undergraduate catalog for other challenge options. RNs who are in the process of completing a BSN at UTK with the intent of enrolling in the MSN program follow the same plan with the addition of 313.

Final Examination Requirements:
All students must successfully complete a final examination as required by The Graduate School. For thesis students, the examination will consist of an oral defense of the thesis as well as other written or oral questions designed to measure student mastery of the entire program of study. For non-thesis students, the written examination will cover the entire program of study and day, at the discretion of the student's committee, be followed by an oral examination.

Special Policies
1. If the clinical performance of any student for any course is found to be unsatisfactory, the student will receive a grade of "F" for the course.
2. If a student achieves a final grade of "D" or "F" for any required undergraduate or graduate nursing course, he or she will not be permitted to repeat the course and will be required to withdraw from the program.
3. If the clinical performance of any student is characterized by unethical, unprofessional or unsafe behavior, or behavior that places the client in jeopardy, the student will be required to withdraw from the program.

THE DOCTORAL PROGRAM
The College of Nursing offers a doctoral program leading to the Doctor of Philosophy degree with a major in nursing. This is a unified program offered jointly with The University of Tennessee, Memphis, College of Nursing. Students may complete all or part of the program at either site. The dissertation must be completed in its entirety at one site.

The doctoral program prepares nursing scholars capable of integrating research, theory, and practice into their roles as researchers, educators, and/or administrators. Specifically, the graduate of this program should be able to:
1. Analyze, test, refine, extend, and expand the theoretical basis of nursing practice.
2. Conduct nursing research that generates knowledge and advances nursing as a discipline.
3. Provide leadership as nurse researchers, educators, and/or administrators in current and emerging health care settings.
4. Collaborate with members of other disciplines in health-related research of mutual concern.
5. Analyze, develop, and recommend health care policy at various levels.

Admission Requirements
1. Meet requirements for admission to The Graduate School.
2. Hold a master's degree in nursing from a program accredited by the National League for Nursing. Some outstanding applicants who are prepared at the bachelor's level in nursing may be considered. In such cases, graduate level courses in nursing theory, concentration specialty, and/or research will be integrated into the formal program of doctoral degree requirements.
3. Have a minimum cumulative graduate grade-point average of 3.3 on a 4.0 scale for previous college work.
4. Have a combined score of at least 1000 on the verbal and quantitative sections of the Graduate Record Examination.
5. Have successfully completed a basic statistics course and graduate nursing theory and research courses prior to enrollment in nursing doctoral level courses.
6. Have TOEFL scores of at least 550 if native language is not English.
7. Complete Graduate Program Data Form, College of Nursing.
8. Submit Graduate School Rating Forms from three college level instructors and/or nurses and administrators who have supervised applicant's professional work.
9. Submit a sample of scholarly writing (e.g., thesis, published paper).
10. Submit an essay describing personal and professional aspirations.
11. Submit Graduate Application for Admission, academic transcript(s), Graduate Record Examination scores, and, if required, TOEFL scores to the Graduate School. Submit three Graduate School Rating Forms, sample of scholarly writing, and Graduate Program Data Form with essay to the Director of the PhD program prior to November 1 of the year prior to fall admission.
12. Schedule a personal interview with the College of Nursing PhD Student Admissions Committee prior to March 15 of the year preceding fall admission. International applicants may be interviewed by telephone or teleconferencing at the discretion of the admissions committee.

Program Requirements
The following courses are required for all students:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>620</td>
<td>Directed Research</td>
</tr>
<tr>
<td>601-02</td>
<td>Theory Analysis &amp; Construction I, II</td>
</tr>
<tr>
<td>605-06</td>
<td>Nursing Research Seminar</td>
</tr>
<tr>
<td>607</td>
<td>Qualitative Nursing Research</td>
</tr>
<tr>
<td>608</td>
<td>Quantitative Nursing Research</td>
</tr>
<tr>
<td>609</td>
<td>Research Practicum*</td>
</tr>
<tr>
<td>610</td>
<td>Nursing Science Seminar</td>
</tr>
<tr>
<td>611</td>
<td>Advanced Nursing Seminar</td>
</tr>
<tr>
<td>612</td>
<td>Health and Nursing Policy/Planning</td>
</tr>
<tr>
<td>614</td>
<td>Nursing Preceptorship</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
</tr>
<tr>
<td></td>
<td>Cognates</td>
</tr>
<tr>
<td></td>
<td>Electives</td>
</tr>
<tr>
<td>TOTAL</td>
<td>72</td>
</tr>
</tbody>
</table>

*Note: A minimum of 1 hour per semester must be taken for 4 semesters.

Possible cognate areas include, but are not limited to, anthropology, child and family studies, psychology, education, management, medical ethics, public health, social work, philosophy, and statistics.

Doctoral Committee
Early in the student's program, a nursing faculty advisor will be selected by the student in consultation with the program director. The student's dissertation committee consists of the faculty teaching core courses and one representative from the cognate area. The student then selects the dissertation committee. Four faculty holding the rank of assistant professor or above comprise the committee, three of whom (including the chair) must be approved by the Graduate Council. A direct doctoral dissertation is required. At least one member of the committee must be from an academic unit other than nursing.

Special Policies
1. A maximum of 6 graduate hours taken before acceptance into the doctoral program may be applied toward the degree.
2. Minimum grades of B in all nursing doctoral courses and a 3.0 cumulative GPA are required for continuation in the program.

MINOR IN GERONTOLOGY
Graduate students in the College of Nursing 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.

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 Nursing is available to residents of the states of Alabama, Arkansas, or West Virginia. Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

GRADUATE COURSES

500 Thesis (1-15) | P/NP only, E |
501 Nursing Research: Methods, Design, and Analysis (3) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
502 Registration for Use of Facilities (3-15) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
503 Health Promotion in Advanced Practice Nursing (3) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
504 Advanced Health/Physical Assessment (3) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
505 Advanced Clinical Pharmacology (3) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
510 Theoretical Foundations of Nursing (3) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
511 Statistical Applications to Nursing Research (3) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
515 Advanced Pathophysiology for Nursing Practice (3) | Principles of health promotion, education, and innovative strategies for achieving wellness of individuals, families, groups, and communities. |
520 Advanced Practice Nursing and Health Delivery Systems (3) Nursing's role in dynamic health care systems: health policy and organizational, social, ethical, political, economic and technological factors which impact advanced practice nursing and delivery of health care. Sp


531 Adult Health Nursing II (6) Continuation of 530. Delivery, promotion, and management of health care for adult groups and communities. Prereq: 550. Didactic (2) and practicum (4). F

540 Family Nurse Practitioner I (6) Nursing management and primary care of individuals and families with actual and potential acute health problems; clinical experience in role of family nurse practitioner providing advanced practice nursing care in variety of settings. Prereq: 504. Prereq or coreq: 501. Coreq: 520. Didactic (2) and practicum (4). F

541 Family Nurse Practitioner II (6) Continuation of 540. Nursing management and primary care of individuals and families in all developmental life stages; role refinement and exploration of major issues of family nurse practitioner clinical experience in variety of settings. Prereq: 540. Didactic (2) and practicum (4). F

543 Nurse Practitioner (9) Exploration and application of holistic nursing concepts to nursing management and common and chronic health problems. Role refinement and exploration of major issues in delivery of holistic primary nursing care. Clinical experiences vary depending on student's interest in providing primary care to family or adult nurse practitioner. Prereq: MSN in clinical concentration, 505 or equivalent, and consent of instructor. 3 hrs and 6 labs. Su

550 Nursing of Women and Children I (6) Advanced practice nursing for women and children; clinical experience in role of nurse practitioner or clinical nurse specialist in variety of settings. Health promotion and nursing interventions for actual and potential problems of women, children, and families. Prereq: 504. Prereq or coreq: 501. Coreq: 520. Didactic (2) and practicum (4). Sp

551 Nursing of Women and Children II (6) Continuation of 550. Role refinement in role of nurse practitioner or clinical nurse specialist in health maintenance and restoration for women, children, and families. Prereq: 550. Didactic (3) and practicum (2). Sp

552 Parent Child Nursing Field Work and Seminar (5) Seminar and intensive clinical practicum designed to facilitate further development of specialized knowledge and skills utilized for advanced parent-child nursing practice. Prereq: 551. 1 hr and 4 labs. Sp

557 Nurse Midwifery Seminar I (1) Exploration of art and science of midwifery, nature and scope of midwifery practice, professional and ethical issues in advanced nursing practice. Prereq: or coreq: 501. 10 F

558 Nurse Midwifery Seminar II (1) Exploration of psychological, developmental, and sociocultural theories as related to individual and family patterns of illness and wellness. Role of nurse-midwife in advanced practice promoting optimal wellness within clients and community. Prereq: 551. 1 hr and 4 labs. Sp

559 Nurse Midwifery Seminar III (1) Exploration of state of science in nurse midwifery, innovative practice options, and related researchable problems in nurse-midwifery practice. Prereq: 570. 571. Coreq: 500, 580 or 582. F

560 Mental Health Nursing I (6) Theories of advanced therapeutic interventions with children experiencing acute and potential mental health problems; advanced practice nursing in specialty of mental health; clinical practice with clients of various ages in acute care and community settings. Prereq: 570. Coreq: 520. Didactic (2) and practicum (4). Sp

561 Mental Health Nursing II (6) Continuation of 560. Advanced practice nursing in community settings for families and groups with actual and potential mental health problems. Prereq: 560. Didactic (2) and practicum (4). F

565 Teaching Practicum (1-6) Individually designed learning experience in college teaching nursing program or nursing teaching setting. Objectives to be developed collaboratively by student and faculty. Prereq or coreq: 564 and consent of instructor. S/N or letter grade. Sp

566 Educational Principles and Strategies (3) Exploration and analysis of selected educational, curricular; teaching-learning, measurement, and evaluation principles and theories as applied to instruction of graduate nursing students, staff development, and patient education. Prereq: Consent of instructor. F

570 Family Nurse Practitioner I (4) Application of advanced health/physical assessment and diagnostic reasoning in nursing management and primary care of family and their families with actual and potential acute health problems; clinical experience in role of family nurse practitioner in variety of settings. Prereq: 504, 515. Coreq: 520. Didactic (2) and practicum (2). Sp

571 Family Nurse Practitioner II (4) Continuation of 570. Nursing management and primary care of individual and their families in all developmental life stages; role refinement and exploration of major issues of family nurse practitioner clinical experience in variety of settings. Prereq: 571. Didactic (2) and practicum (2). Sp

572 Family Nurse Practitioner III (4) Continuation of 571. Nursing management of chronic health problems of individuals and families in all developmental life stages; role refinement and exploration of major issues of family nurse practitioner clinical experience in variety of settings. Prereq: 572. Didactic (2) and practicum (2). Sp

577 Special Topics (1-3) Topic is determined by faculty and student interest. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs. E

580 Nursing Project (3) Study: Initiated scholarly project with faculty supervision. Review and critical evaluation of literature in specified area of advanced nursing practice culminating in "state of the practice" paper. Prereq: Consent of instructor, first course in concentration. Su,F

582 Supervised Research (3) Supervised research culminating in scholarly project. Experimental learning of research process. Participation in ongoing faculty research project by completing specified portion of project under faculty guidance. Consent of instructor. 501, 510. May be repeated. Maximum 6 hrs. E

583 Directed Clinical Practice (1-9) Additional opportunities for advanced nursing practice. Objectives to be developed collaboratively by student and faculty. Prereq: Enrollment in completion of graduate level courses in clinical nursing. Maximum 9 hrs. S/N or letter grade. E


590 Nursing Administration I (6) Exploration, analysis, and application of selected organizational, management, and leadership theories and financial principles to delivery of nursing services. Structure, functions, organization, behaviors, and adaptive processes of health care organizations. Prereq: 504. Prereq or coreq: 501, 520. 2 hrs and 4 labs. Sp

591 Nursing Administration II (6) Continuation of 590. Utilization of human and financial resources, conflict resolution, and organizational development with application to mid-level and top-level nursing administration positions. Prereq: 550. 2 hrs and 4 labs. F

593 Independent Study (1-3) Prereq: Consent of instructor. May be repeated. Maximum 6 hrs. E

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

609 Research Practicum (1-3) Supervised individual or group research experience under guidance of faculty. Prereq: Consent of instructor. May be repeated. Maximum 12 hrs. S/N or letter grade. E

610 Nursing Research Seminar II (3) Critical and evaluation of literature in selected focus areas within nursing research. Prereq: Admission to doctoral program in nursing or consent of instructor. Sp

611 Advanced Nursing Seminar II (3) Exploration of historical and current issues of interest to doctorally prepared nurses. F

612 Health and Nursing Policy/Planning (3) Policies affecting nursing education and practice; health policies and political processes; interactions between health professionals, consumer groups, and government in health policy development and health planning activities. E

613 Nursing Management of Complex Systems (3) Contemporary organizational and management theories and techniques needed for effective administrative leadership in nursing education, practice, research, and entrepreneurial settings. F

614 Nursing Preceptorship (3) Individually designed practicum, field, or internship experiences in variety of administrative, educational, research, or clinical practice settings. Prereq: 501, 602. F

615 Nursing Management of Complex Systems: Academic Institutions II (3) Organizational structure and dynamics of leadership in nursing education. Application of management and nursing theories in academic, faculty practice models, research and publication issues, promotion and tenure, faculty governance, and administrative responsibilities and strategies. Prereq: 589 or equivalent. Sp

620 Directed Research (3) Exploration of theoretical considerations and research methodologies in nursing research with completion of study under faculty guidance. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.Sp

---

**Nutrition**

**MAJORS**

**DEGREES**

Human Ecology ........................................ Ph.D. Nutrition ........................................ M.S., M.S.-M.P.H.

Michael B. Zemel, Head

Professors:

Beauchene, Roy E. (Emeritus), Ph.D. ........................................ Kansas State

Carnuth, Betsy Ruth, Ph.D. ........................................ Missouri

Namey, T. C., M.D. ........................................ Washington (St. Louis)

Sachan, Diane S., Ph.D. ........................................ Illinois

Skinner, Jean D., Ph.D. ........................................ Oregon State

Smith, John T. (Emeritus), Ph.D. ........................................ Missouri

Zemel, Michael (Liaison), Ph.D. ........................................ Wisconsin

Associate Professors:

Bailey, James W., Ph.D. ........................................ Iowa State

Mead, M. D. (Memphis), M.S. ........................................ Alabama

Haughton, B., Ed.D. ........................................ Columbia

Karfalst, Michael, Ph.D. ........................................ Loyola

Moussa, Naima, Ph.D. ........................................ Paris

Whelan, Jay, Ph.D. ........................................ Penn State

Zemel, Paula, Ph.D. ........................................ Wayne State

Assistant Professors:

Bittie, Joyce (Memphis), Ph.D. ........................................ Tennessee

Chencharick, Judith (Memphis), M.S. ........................................
The Master of Science program is available in Nutrition, with a concentration in nutrition science or public health nutrition. A graduate degree combined with a Dietetic Internship (D.I.) beyond the baccalaureate degree qualifies the graduate to apply for the Registration Examination to become a Registered Dietitian (R.D.). Students may request more information from the department about the D.I. program. Students may also select an interdisciplinary minor in gerontology. The program is accredited by the American Dietetic Association.

ADMISSION REQUIREMENTS
A final file for review includes the Graduate School application file, completed departmental application form, Graduate Record Examination (GRE) scores for the general section, and three Graduate School Rating Forms completed by individuals who can attest to the applicant's potential for graduate education. Forms may be obtained from the Departmental Office, 225 Jessie Harris Building, University of Tennessee, Knoxville, 37996-1900. Forms may also be obtained from the Department's website at http://nutrition.ueh.edu/.

Admission into the graduate program in Nutrition is contingent on completion of undergraduate courses that give the necessary background for success in the graduate program. Required undergraduate courses include: general and organic chemistry, physiological chemistry/biochemistry, physiology, statistics and advanced nutrition. Admission to the Ph.D. program in Human Ecology with a concentration in Nutrition Science requires a master's degree. Applicants to all programs with related experience may be given preference.

THE MASTER'S PROGRAM
Students may choose a thesis or non-thesis option in Nutrition. Attendance at Nutrition 540 is required every semester.

Thesis Option: The program consists of a minimum of 33 hours with at least 16 hours of coursework in the department. NTR 511, 512, 540, 541 and 3 hours of graduate level statistics are required. Students in public health nutrition must take NTR 511, 512, 513, 514, 515, 516, 517, 540, 541, and the minor in public health. Six hours of Thesis 500, and 6 hours outside the department are required. A minimum of 22 hours at the 500 or 600 level is required.

An oral comprehensive examination is required upon completion of the thesis.

Non-Thesis Option: The program consists of a minimum of 36 hours with at least 20 hours of coursework in the department. NTR 511, 512, 540, 541, 2 hours from NTR 542-544 and 3 hours of graduate level statistics are required. Students in public health nutrition must take NTR 511, 512, 513, 514, 515, 516, 517, and the minor in public health. Six hours in one area outside the department are required. A minimum of 24 hours at the 500 and 600 level is required.

A written comprehensive examination is required for completion of the program.

DUAL M.S.-M.P.H. PROGRAM
The College of Human Ecology offers a coordinated dual program leading to the conferment of the Master of Science with a concentration in Nutrition (public health nutrition) and the Master of Public Health. The dual program allows students to complete both degrees in less time than would be required to earn both degrees independently.

The program is designed to meet the needs of students who are interested in the benefits of majors in both nutrition and public health. Therefore, it accommodates the interests of students who: 1) plan a career in public health nutrition and want to acquire the knowledge and skills of the nutritionist and public health professional; 2) plan a career in nutrition and want to acquire the knowledge and skills of the public health professional; or 3) plan a career in public health and want to acquire the knowledge, skills and perspective of the nutritionist.

Admission Requirements
Applicants for the M.S.-M.P.H. program must make separate application to, and be competitively and independently accepted by, the Department of Nutrition for the M.S., Department of Health and Safety Sciences for the M.P.H., and the Public Health Academic Program committee. Students who have been accepted by both departments may apply for approval to pursue the dual program anytime prior to, or after, matriculation in either or both departments. Such approval will be granted, provided that dual program studies be started prior to entry into the fourth semester of the M.S. and M.P.H. programs.

Curriculum
A dual degree candidate must satisfy the requirements for both the M.S. (public health nutrition concentration) and the M.P.H. degrees, as well as the requirements for the dual program. All candidates for the dual degree must successfully complete Health and Society (PH 555), two credits of Seminar in Public Health (PH 509), and a minimum of 60 credits. The Department of Nutrition will award a maximum of 60 hours of credit toward the M.S. degree. Suitability of completion of approved graduate level courses offered in the Department of Health and Safety Sciences. The Department of Health and Safety Sciences will award a maximum of 11 semester hours of credit toward the M.P.H. degree for completion of approved courses offered in the Department of Nutrition. All courses for which such cross-credit is awarded must be approved by the Public Health Academic program Committee and the student's graduate committee. A single block field experience (or public health internship) is required of all students and the analytical field paper incorporates public health nutrition and the student's public health concentration.

Dual degree students who withdraw from the program before completion of the requirements for both degrees will not receive credit towards the M.S. or M.P.H. degrees for courses taken in the other program, except as such courses qualify for credit without regard to the dual program.

Approved Dual Credit
M.S. courses to be counted toward the M.P.H. program must include 10 semester hours of Field Study in Community Nutrition (NTR 515) and 1 semester hour of Graduate Seminar in Public Health (NTR 509). M.P.H. courses to be counted toward the M.S. include Public Health Administration (PH 520), Biostatistics (PH 530), and Epidemiology (PH 540).

THE PH.D. CONCENTRATION
The nutrition science concentration enables students to study the science of nutrition from the cellular level to the application of nutritional principles by people in a changing environment. The doctoral program emphasizes human nutrition, nutritional epidemiology, experimental nutrition, and intermediary metabolism. Cognate areas may include anthropology, biochemistry, chemistry, communications, education, food technology, human development, physiology, public health, sociology, statistics, and/or toxicology.

Minimum requirements include:
1. Sixteen hours in nutrition including 4 hours at the 600 level (exclusive of dissertation). 2. NTR 511, 512, 541, and 2 hours from either 542-544. 3. Four hours of NTR 540, attendance required every semester. 4. Six hours of statistics. 5. Six hours in a cognate area. 6. Nine hours at the 600 level. 7. Students without college teaching experience are required to take the fall semester teaching seminar for GTAs and NTR 548 comprising a faculty-supervised problem in college teaching.

GRADUATE COURSES
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/NC only. E
500 Culture, Food, and Nutrition (3) Food-related behavior of individuals and groups in United States. Sociocultural, economic, and technological influences. Nutrition and food surveys. Public policy. Prereq: Advanced Nutrition or consent of instructor. F, A
509 Graduate Seminar in Public Health (1) (Same as Public Health 509, Exercise Science 509, Nursing 509 and Social Work 509.) An introduction to public health. Prereq: Consent of instructor. E
511 Advanced Physiological Chemistry (4) Bioenergetics, flux control and hormonal interactions. Prereq: Consent of instructor. F
512 Advanced Nutrition (3) Advanced nutrition principles. Prereq: Consent of instructor. F
513 Community Nutrition (3) Orientation to community; assessment of nutrition problems, needs, and resources; functional roles of public health nutritionist. Prereq: Consent of instructor. F
514 Community Nutrition I (3) Orientation to community; assessment of nutrition problems, needs, and resources; functional roles of public health nutritionist. Prereq: Consent of instructor. F
515 Field Study in Community Nutrition (1-12) Prereq: Consent of instructor. F
516 Maternal and Child Nutrition (3) Nutrition principles related to growth and development during pregnancy, infancy, and childhood to age 5, high risk conditions. Prereq: Consent of instructor. F
Ornamental Horticulture and Landscape Design

(College of Agricultural Sciences and Natural Resources)

MAJOR DEGREE

Ornamental Horticulture and Landscape Design ........................................ M.S.

Mary L. Albrecht, Head

Professors:

Albrecht, M. L., Ph.D. .................. Ohio State
Augé, R. M. (Liaison), Ph.D., Washington State
Calahan, L. M., Ph.D. .................. Rutgers
Catter, G. Douglas, Ph.D. .......... Ohio State
Graham, E. T. (Emeritus), Ph.D. .... Penn State
Greeshoff, Peter M. (Rachelle Chair of Excellence), Ph.D. .......... Australian National University
McDaniel, G. L., Ph.D. .......... Iowa State

Samples, T. J., Ph.D. ................. Oklahoma State
Trigiano, R., Ph.D. .................. NC State
Williams, D. B., Ph.D. .......... Penn State

Associate Professors:

Day, J. W., Ph.D. .................. Mississippi State
Rogers, S. M., M.A. .......... Georgia
Starman, T. W., Ph.D. .......... Texas A&M
Witte, W. T., Ph.D. .......... Maryland

Assistant Professors:

Brown-Faust, J. E., Ph.D. .......... Michigan State
Klingeman, W. E., Ph.D. .......... Georgia
Menendez, G. L., M.S. .......... Tennessee

The Department of Ornamental Horticulture and Landscape Design offers the Master of Science degree with concentrations in floriculture, landscape design, turfgrass, woody ornamentals, and public horticulture. Various interests may be emphasized in any of these commodity areas, including micropropagation, innovative production and maintenance systems, and the molecular biology, genetics, histology and stress physiology of ornamentals.

THE MASTER'S PROGRAM

Admission Requirements

Students having bachelor's degrees in fields both related and unrelated to ornamental horticulture may apply, although acceptance may require some prerequisite courses. For admission to the M.S. degree program, a student must meet all of the requirements of The Graduate School and must have completed (in semester hours): 12 hours of upper level ornamental horticulture and/or landscape design (in some cases, depending on individual student's interests and up to the discretion of a major professor in consultation with the OHLG Graduate Coordinator, upper level courses in other agricultural, biological or environmental subjects may substitute for some or all of these hours); 6 additional hours of biological science; 6 hours of math; 8 hours of chemistry. In addition, three completed rating forms and a written statement of career goals and interest in ornamental horticulture are required. Students from non-science fields applying for the program may wish to enroll as non-degree students while taking prerequisites.

Both thesis and non-thesis options are available, each guided by a graduate committee with three or more faculty members. For further information see web site at http://web.utk.edu/~ohld/ or contact the graduate liaison.

Degree Requirements

1. Approval of the academic program by the master's committee.
2. Successful completion of 12 hours of coursework in OHLG at the graduate level (400 or above), exclusive of 500, 502, 503, and 593. Two of these hours must 590. Six of these hours may be satisfied by Botany 412, 521, 522, Plant and Soil Science 471, Animal Science 571, Ecology and Evolutionary Biology 520, or Information Sciences 560.
3. Attendance at graduate seminar each semester enrolled.

4. Preparation of a publication-ready, written or graphic communication.

Thesis Option:

1. Successful preparation of a written thesis proposal and its oral defense to the student's committee, prior to enrolling on 500.
2. Successful completion of 30 hours of graduate credit, which must include 6 hours of 500. At least 14 of these hours must be at the 500 level or above.

Non-Thesis Option:

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

GRADUATE COURSES

410 Nursery Management and Production (3) Modern methods of nursery and landscape contracting firms. Methods of producing liners, container and field-grown woody ornamentals and public horticulture. Various interests may be emphasized in any of these commodity areas, including micropropagation, innovative production and maintenance systems, and the molecular biology, genetics, histology and stress physiology of ornamentals.

450 Advanced Turfgrass Management (4) Principles and scientific basis of turfgrass management, fertilization, genetics, environment, disease management, design, construction, and management of golf courses, and plant problems associated with pest infestation and control measures. Prereq: Consent of instructor. 3 hrs and 1 lab.

500 Thesis (1-15) P/NP only. May be repeated. Maximum 36 hrs. Prereq: Consent of instructor.

501 Special Topics in Ornamental Horticulture and Landscape Design (1-3) Topics to be assigned. May be repeated. Maximum 36 hrs. Prereq: Consent of instructor.

502 Registration for Use of Facilities (1-15) Required for the student who is otherwise registered during any semester when student uses University facilities and/or facilities before degree is completed. May be used toward degree requirements. May be repeated. S/N only.

503 Non-Thesis Project (1-2) Library, field, or laboratory project under supervision of faculty member. Degree credit only. May be repeated. Maximum 24 hrs.

507 Professional Development Seminar (1) (Same as Agriculture 507, Animal Science 507, Biosystems Engineering 507, Food Science and Technology 507, Plant and Soil Sciences 507) P/NP only.
Pathology

See College of Veterinary Medicine and Comparative Experiential Medicine

Philosophy

(College of Arts and Sciences)

MAJOR

DEGREES

Associate Professors:

Bennett, James O., Ph.D. .................. Yale
Bonstedt, Kathleen Emmett (Liaison), Ph.D. .................. Ohio State
Nolt, John E., Ph.D. .................. Ohio State
Osborne, Martha Lee, Ph.D. .................. Tennessee

Assistant Professor:

Kaplan, Jonathan, Ph.D. .................. Stanford

THE DOCTORAL PROGRAM

Students must hold an M.A. with a major in Philosophy or an equivalent degree when entering the Ph.D. program. Twenty-seven hours of coursework beyond the M.A. is required, of which 6 hours will be in courses numbered above 600. See the Philosophy Department Graduate Student Procedures for specific course requirements.

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

Students receiving the Ph.D. with concentration in medical ethics are also exempted.

CONCENTRATIONS

Medical Ethics

The department has an M.A. and Ph.D. program of graduate study with a concentration in medical ethics. Details concerning the program may be obtained from either the Director of Graduate Studies in Philosophy or the Director of the Medical Ethics Program.

Religious Studies

The department has an M.A. program of graduate study with a concentration in religious studies. Details concerning the program may be obtained from the Director of Graduate Studies in the Department of Religious Studies.

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.A. and Ph.D. programs in Philosophy are available to residents of the states of Alabama, Delaware, or West Virginia; Kentucky or Texas; and to students who are residents of the states of Louisiana or Mississippi, or Virginia (concentration in medical ethics only); and the M.A. program to residents of Oklahoma (concentration in medical ethics only). Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

GRADUATE COURSES

400 Special Topics (3) May be repeated when topic varies. Maximum 6 hrs.
411 Modern Religious Philosophies (3) (Same as Religious Studies 411.)
412 Classical Indian Systems of Philosophy: The Moksha Tradition (3) (Same as Religious Studies 412.)
420 Topics in History of Philosophy (3) Figures of movement from antiquity through mid-twentieth century. Prereq: 6 hrs of philosophy or consent of instructor. May be repeated when topic varies. Maximum 9 hrs.
436 Intermediate Formal Logic (3) Metatheory of formal logic and philosophy of logic. Prereq: Consent of instructor.
440 Contemporary Ethical Theory (3) Topics in metaethics or ethics. Prereq: 6 hrs of philosophy or consent of instructor.
446 Theoretical Issues in Medical Ethics (3) Prereq: 240 or 345 or consent of instructor.
473 Philosophy of Mind (3) Problems of mind and body in relation to consciousness and personal identity. Prereq: 6 hrs of philosophy or consent of instructor.
479 Studies in Recent Continental Philosophy (3) Selected thinkers or topics: existentialism, phenomenology, hermeneutics, structuralism, post-structuralism. Prereq: 6 hrs of philosophy or consent of instructor. May be repeated when topic varies. Maximum 6 hrs.
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 beyond degree is completed. May not be used toward degree requirements. May be repeated. S/NC only. E
510 Philosophical Research (3) Paper workshop (writing, revising papers, giving papers ready for publication). Does not count toward required hours for degree. May be repeated. S/NC only.
646 Topics in Applied Ethics (3) Intensive critical work on major philosophers or school. Maximum 9 hrs.
624 Topics in Twentieth-Century Philosophy (3) Intensive critical work on major philosophers or school. Maximum 9 hrs.
628 Topics in Contemporary Philosophy (3) Intensive critical work on themes in late 20th-century philosophy. Maximum 9 hrs.
593 Independent Study (1-15) See College of Arts and Sciences.
592 Off-Campus Study (1-15) See College of Arts and Sciences.
591 Foreign Study (1-15) See College of Arts and Sciences.
590 Topics in Social and Political Philosophy (3) Philosophical problems concerning social and political life: family, state, freedom, justice; major theoretical responses: anarchism, socialism, contract, Marxism. May be repeated. Maximum 9 hrs.
546 Orientation to Medical Ethics (3) Survey of ethical theories in application to issues in medical ethics.
547 Ethical Issues in Mental Health (3) Values in "mental health" and "mental illness," informed consent in psychiatry, competence, patient's rights, involuntary hospitalization and treatment, and behavior control therapies.
548 M.A. Clinical Practicum (3) Series of clinical rotations at one or more local health care institutions. Open only to graduate students concentrating in medical ethics. Prereq: 547 and consent of Medical Ethics Committee and the UTMC Graduate Education Committee.
575 Topics in Metaphysics and Epistemology (3) Maybe repeated. Maximum 6 hrs.
577 Topics in Philosophy of Mind (3) Relation of mental to physical and of role of words in discourse for mental activities, thinking and feeling. Maybe be repeated. Maximum 8 hrs.
585 Special Topics (3) Maybe be repeated. Maximum 9 hrs.
586 Advanced Clinical Medical Ethics (3) Critical concepts in medical ethics, relationship of theory to practice, and professional roles and responsibilities for healthcare ethics consultant. Open only to Ph.D. students concentrating in medical ethics. Prereq: Consent of Medical Ethics Committee.
588 Ph.D. Clinical Practicum (9) Series of clinical rotations at one or more local health care institutions. Open only to Ph.D. students concentrating in medical ethics. Prereq: 587 and consent of Medical Ethics Committee and the UTMC Graduate Education Committee.
590 Topics in Social and Political Philosophy (3) Philosophical problems concerning social and political life: family, state, freedom, justice; major theoretical responses: anarchism, socialism, contract, Marxism. May be repeated. 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.
601 Doctoral Research and Dissertation (3-15) P/NP only.
620 Topics in Ancient or Medieval Philosophy (3) May be repeated. Maximum 9 hrs.
622 Topics in Modern Philosophy (3) May be repeated. Maximum 9 hrs.
624 Topics in Contemporary Philosophy (3) May be repeated. Maximum 9 hrs.
640 Topics in Ethics or Value Theory (3) May be repeated. Maximum 9 hrs.
646 Topics in Applied Ethics (3) Prereq: Consent of Medical Ethics Committee. Maybe repeated. Maximum 9 hrs.
675 Topics in Metaphysics and Epistemology (3) Maybe repeated. Maximum 9 hrs.

**Physics and Astronomy (College of Arts and Sciences)**

**MAJOR**

Physiology

**DEGREES**

M.S., Ph.D.

Lee Riedinger, Head

**Professors:**

Barnes, F. E., Ph.D. ......... California
Bingham, C. R., Ph.D. ......... Tennessee
Blais, W. E., Ph.D. ......... Michigan State
Breinh, M. Ph.D. ......... Oregon
Rugg, W. M., Ph.D. ......... Tennessee

**Research Professors:**

Kamyshov, I. Ph.D. ......... ITEP (Russia)
Thonnard, N. Ph.D. ......... Kentucky
Zhang, J. Y., Ph.D. ......... Lanzhou

**Graduate Assistant Professors:**

Corkhill, D. L., Ph.D. ......... Tennessee
Pinnaduwage, L. A., Ph.D. ......... Pittsburgh

**Research Assistant Professors:**

Datekko, P. E., Ph.D. ......... Tennessee
Davis, E. (UTSI), Ph.D. ......... Auckland
Eremenko, Y. Y., Ph.D. ......... ITEP (Russia)
Yost, S. A., Ph.D. ......... Princeton

Graduate programs leading to the Master of Science and Doctor of Philosophy are offered in a number of concentration areas: astrophysics, atomic and low temperature physics, biophysics, chemical physics, condensed matter and surface physics, elementary particle physics, geophysics (Master's only), health physics (Master's only), molecular spectroscopy, nuclear physics, and theoretical physics.

Departmental graduate programs leading to the M.S. and Ph.D. are also available at The University of Tennessee Space Institute, Tullahoma, where opportunities for study and research are available in quantum optics and laser physics, atomic and molecular spectroscopy, fluid physics, and theoretical physics. For additional information, contact the head department.

**ADMISSION REQUIREMENTS**

A student who enrolls in The Graduate School with the intention of attaining an advanced degree in Physics will have completed an undergraduate major in Physics or its equivalent. Physics 311-12, 321, 361, 431-32, 421, 461, and 411-12 constitute the minimum courses prerequisite to graduate study.

A student who intends to present Physics as a graduate minor will have completed an undergraduate minor in Physics or its equivalent. Physics 311 and 431-32 constitute the minimum coursework prerequisite to a minor in Physics.

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

**THE MASTER'S PROGRAM**

**Thesis Option**

This program is designed primarily for students intending to go into industrial or governmental laboratories as physicists. The course requirements include 24 semester hours of physics courses, of which at least 12 semester hours are taken from Physics 511-12, 521-22, 531-32, 541-42, or 571-72. Each candidate must present an acceptable thesis, 6 hours of 500, and pass an oral examination on course material and thesis.

The department offers an M.S. thesis program with a concentration in geophysics. Program requirements are: 12 hours from Physics 531-32, 541-42, 571-72; a minimum of 12 additional hours in geophysics, geosciences, and/or physics, as approved by the student's committee; and the presentation of an acceptable thesis, 6 hours of Physics 500, and the passing of an oral examination on course material and thesis.
Non-Thesis Option

This program is designed primarily for students intending to teach in colleges or universities on the elementary or intermediate level, or for students specifically intending to work toward a Ph.D. Students seeking the non-thesis option must apply to the department's graduate committee for permission to enroll under this program. The requirements are the satisfactory completion of 30 hours of coursework composed of 18 semester hours from Physics 511-12, 521-22, 531-32, 541-42, and 571-72; 6 semester hours in a minor field; and 6 semester hours from other courses numbered above 400 (preferably of advanced laboratory nature.) At least 20 hours must be taken at the 500 level or above. In addition, the candidate must pass a written examination administered by his/her committee.

THE DOCTORAL PROGRAM

All students are expected to take Physics 521-22, 531-32, 541-42, 551, 571-72, and 611. Physics 601-02 are normally required of students specializing in atomic physics; Physics 621-22 of students in nuclear physics; Physics 626-27 of students in elementary particle physics (and/or Physics 613-14 for students specializing in theoretical high-energy physics); Physics 671-72 of students in condensed matter and surface physics; and Physics 681-82 of students specializing in molecular spectroscopy. Students specializing in chemical physics may substitute Chemistry 572 for Physics 551, and should complete at least 6 semester hours from Chemistry 580, 670.

The courses Physics 531-32, 571-72, 521-22, 541-42 constitute the core curriculum. They are the usual basis for the departmental comprehensive examination which is normally taken by a well-prepared student after two years of graduate study.

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

Astronomy

GRADUATE COURSES


400 Special Topics in Astronomy (1-3) Topics of current interest in astrophysics and astronomy. Acceptable for graduate credit in physics with consent of department. May be repeated with consent of department. Maximum 9 hrs.

Physics

GRADUATE COURSES


461-52 Modern Physics Laboratory (3,3) 461-Introducto to fundamental and modern techniques in experimental physics, and to theory and practice of measurement and data analysis. Selected experiments in nuclear, atomic, molecular and solid state physics, and modern optics. Preor: Electronics Laboratory and either Fundamentals of Physics: Modern Physics or consent of instructor. 462-Advanced experiments and experimental techniques in modern physics; experimental teamwork. Through quantum mechanics, introduction of results and preparation of scientific reports. Preor: 461. 6 hrs lab per week.

490 Senior Seminar (1-3) Topic of current interest. May be repeated with consent of department. Maximum 6 hrs.

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

501 Graduate Research Participation (3) Advanced research techniques under supervision of staff research director whose research area coincides with interests of student. Open to all graduate students in good standing. Preor: Consent of department and research director. May be repeated with consent of department. Maximum 18 hrs. E

Registration for Use of Facilities (1-15) 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

505 Physics of Fluids (3) Fluid mechanics, overview of fluid mechanics and associated computational techniques; general description of laminar and turbulent flows; subsonic, supersonic and hyperonic flows; continuum, transonic and free-forced flow; flow over bodies; pipe flow, nozzle flow and sonic orifice expansion flows; reaction and nonreacting flows fields; shock-tube physics; and introduction to method of characteristics and Monte Carlo computational techniques.

506 Experimental Methods (3) Principles, real operational behavior, and hazards of laser types, radiation detectors, photomultiplier tubes, image intensifiers, image converters, image dissector, streak cameras, and fast-imaging cameras; high-vacuum systems including goniometric devices, data acquisition techniques including synchronous detection, digital electronics methods and micro-computer acquisition and registration methods.

507 Contemporary Optics (3) Topics in geometrical, physical, Fourier, and nonlinear optics and introductory laser physics. Extensive laboratory components; emphasis on design of practical and sophisticated optical systems.

509 Laser Physics (3) Mode analysis, stable and unstable resonators; rate equations and population inversion, saturation, relaxation oscillations, fluctuations and noise, laser oscillators; quantum theory of laser oscillation, cavity design; mode-locking; Q-switching and frequency stabilization, specific laser types: semiconductor and solid-state, eximer, copper vapor and dye lasers.

511-12 Theoretical Physics (3,3) Classical theoretical physics, covered in previous Physics 312, 432, advanced calculus, differential equations, and vector analysis.


531 Classical Mechanics (3) Classical particle dynamics, variational formulation, Lagrange’s and Hamilton’s equations, conservation laws, central-force problems and scattering, small oscillations, rigid-body motion, constrained systems. Prerequisite: Mechanics.

532 Advanced Classical Mechanics (3) Canonical transformations, Hamilton-Jacobi theory and action-angle variables, KAM theorem and Hamiltonian chaos, dissipative chaos; relativistic kinematics, Minkowski spacetime, relativistic scattering and threshold problems. Prerequisite: 531.


555 Solid State Physics (3) Elementary solid state physics. Crystal structures, reciprocal lattice, bonding in solids, energy bands, semiconductors, phonons, free-electron theory of metals, superconductivity, magnetism, and other forms of broken symmetry. Preor: 522 or consent of instructor.

561 The Theory of Relativity (3) Geometry of space-time, relativistic electrodynamics, particle mechanics and continuum mechanics; Einstein’s field equations, Schwarzschild solutions, the classical test of general relativity. Preor or coreq: 531 and 542.


574 Group Theory for Physicists (3) Introduction to abstract group theory, discrete and continuous groups, representation theory, Noether’s theorem, symmetries and degeneracies, application of group-theoretical methods to atomic physics, solid state physics, and particle physics. Preor: 571-72.

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 Special Problems (3) Especially assigned theoretical or experimental work on problems not covered in other courses. May be repeated. Maximum 9 hrs. E


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

601-02 Advanced Atomic Physics (3,3) Atomic structure, Dirac equation for one-electron, Dirac-dyamitonic corrections, theory of many-electron atoms, quantum states, spontaneous and induced emission, population and relaxation, atomic relaxation, Bose-Einstein condensation, Thomas-Fermi method, angular momentum theory, atoms in external fields, interaction with radiation, oscil-
laboratory strengths, and research phenomena, atomic collision processes.

605 Laser Spectroscopy (3) Applications of lasers to spectroscopy of atomic and molecular systems; absorption, laser-induced fluorescence, and laser-induced fluorescence. Prereq: or coreq: 522.

661 Collision Interactions (3) Interaction of electromagnetic radiation and charged particles with atoms and molecules or free particles, scattering, ionization, transport and capture, collective excitations, and stopping power. Prereq: 522.

663 Advanced Plasma Physics (3) Same as Electrical Engineering 663.

671-72 Advanced Solid State Physics (3, 3) Lattice dynamics, phonons, Brillouin zones, high energy, band structure of solids, covalent energy, work function, semiconductor optics, magnetic fields, superconductivity, Fermi surface, and electron transport from phonons, electrons, and defects. Prereq: 522 or coreq: 561 or consent of instructor.

Planning

(MAJOR OF COLLEGE OF SCIENCES)

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

David A. Patterson, Director

Professors:

Johnson, David A., Ph.D. .................. Cornell

Kennedy, Kenneth B. (Emeritus), Ph.D.

North Carolina

Prochaska, J. M. (Emeritus), M.S.P. . Michigan

Shouse, Walter L. (Emeritus), M.D.S., Harvard

Spencer, James A., (Liaison), M.S.P.

Ohio State

Associate Professors:

Bowen, George E., M.A., George Washington

Patterson, David, D.B.A. .................. Indiana

Associate Professors:

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

Shupp, Terese, M.S.P. .................. Tennessee

Zanetta, Maria C., Ph.D. .................. Ohio State

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, a joint undertaking of the American Institute of Certified Planners (AICP) 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, and two letters of reference from faculty familiar with their prior academic work and a statement describing personal career objectives directly to the School of Planning. 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 required of all applicants whose undergraduate GPA is below 3.0. Other applicants are encouraged to submit them. Students who have not taken an appropriate undergraduate statistics course will be required to take one.

Degree Requirements

The M.S.P. requires completion of at least 48 hours of graduate credit, at least 45 of which must be in planning. The following courses are the core curriculum required of all students: 510, 511, 512, 515, 520, 521, 530, 531, 532, 540 and 570.

The student should plan to enter the program in the fall term to take 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 enrichment of the concentration is gained by focusing the thesis or major faculty 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, environmental planning, real estate development planning, and transportation 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 independent 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 complete 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.

Successful completion of a comprehensive exam is required before graduation. The exam will normally be taken after completion of the core requirements in the second year. Based on the material generally used by the American Institute of Certified Planners (AICP), this requirement provides an additional capstone experience as well as preparation for meeting AICP professional certification requirements.

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.

MINOR IN ENVIRONMENTAL POLICY

The department participates in a program designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Economics for program description.
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, Louisiana, Tennessee, and West Virginia. Additional information may be obtained from the Admissions Specialist, 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 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.


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 computers. Prereq: degree must be completed. May not be used toward degree requirements. May be repeated. S/NC only.

510 Fundamentals of Planning (3) History of planning, structure and development of urban areas, operations of contemporary planning process, problems and issues.

512 Graphic and Oral Communications in Planning (1) Preparation.

513 Community Planning Process (1) Planning process, policy processes and development process. Field reconnaissance of study community and development of approaches for assessing community.

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) Overview of major social science research methods and techniques, with emphasis on historical and contemporary methods. Methods of analysis and interpretation.

521 Information Systems and Networks in Planning (3) Use and impact of computer-based information systems and global networks in planning and public management. Development of practical skills in designing and implementing decision support systems, databases, Internet based tools and geographic information systems (GIS). Prereq: Basic computer skills or instructor consent.

523 Statistics for Planners (3) Application of statistical techniques. Intuitive explanations and practical applications. Computer analysis to explore concepts.


530 Policy and Land Use Analysis (4) Basic methods of policy analysis and planning. Concept and framework for land use planning. Population, employment, and economic base studies, and 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 (4) Preparation of comprehensive plans for urban areas, development of baseline data and forecasts, formulation of alternative plans and strategies, and development of plan implementation programs. Extensive laboratory experience. Prereq: 510, 512, 520, 530 and S/NC or consent of instructor.

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

538 Urban and Site Design (3) Principles of design for residential developments and some components of physical development of 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.

541 Cultural Resources Planning (3)Characteristics creating identity and spirit of place; role in environmental and land use planning; use in protection of natural environment and cultural heritage. Cultural components of National Environmental Protection Act and case studies.

545 Planning and Property Development (3) Process of urban physical growth and change; functioning of private sector real estate development and its relationship to planning. Partnership role of public and private sectors in urban development and redevelopment. Prereq: 510 or consent of instructor.

547 Negotiation (1) Methods, strategies 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 development 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 use framework of integrated resource management. (Same as Geography and Urban Planning 552.)

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

560 Strategic Planning & Policy Development (3) Models of strategic planning and process of policy development in application. Techniques of computer aided programs, program evaluation and impact assessment.

570 Plan Implementation Process (1) Interactive community and governmental dynamics in plan implementation. Dynamics of change, conflict, resolution and consensus building.

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

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

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

593 Problems in Planning (1-3) Prereq: Consent of instructor.
conducting research, the student must develop a detailed written research proposal that shall be approved by the student's committee. Upon completion of the thesis, this committee will also conduct the final oral examination that integrates the thesis and coursework.

Six hours of 500 Thesis are required. In addition to the thesis hours, a minimum of 24 hours of graduate coursework is required. At least 14 of these hours must be taken in courses numbered 501 and above. The student must take at least 12 of the 24 hours in Plant and Soil Sciences courses, exclusive of 500. The student's committee may require additional coursework beyond the 24 hours if the student's progress or background indicates a need or deficiency. All students pursuing the M.S. degree must take the following courses:

509 Scientific Communication (1 hr); 503 Seminar (1 hr); 511 Soil-Plant Relations (3 hrs)

The student must also present an exit seminar to the Department over the research project.

All students pursuing a concentration in soil science must take at least three of the following courses: 532, 513, 514, and 516. All students a concentration in plant breeding and genetics or in crop physiology and ecology must take two of the following courses: 532, 551, and 553.

A student who has started a degree under the thesis option is not eligible to transfer to the non-thesis option after the first semester of graduate studies or after receiving a graduate assistantship stipend for more than one semester. A student who has started under the non-thesis option may transfer to the thesis option upon approval of 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 a thesis, students are required to complete three 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.

A graduate advisory committee will be assembled at the beginning of the student's program. The committee consists of the major professor, who acts as chair of the committee, and at least two other faculty members. This committee approves the student's plan of study and the participation and report on research activity from 593. In addition, this committee administers and evaluates a comprehensive written examination that serves to integrate the student's coursework.

In addition to three hours of 593, a minimum of 30 hours of coursework is required. At least 20 hours must be taken in courses 501 or above. The student must also take at least 12 of the 30 hours in Plant and Soil Sciences courses, exclusive of Thesis 500. The student's committee may require additional coursework beyond the 30 hours if the student's progress or background indicates a need or deficiency. All students must take the following courses:

509 Scientific Communication (1 hr); 503 Seminar (1 hr); 511 Soil-Plant Relations (3 hrs)

All students pursuing a concentration in plant breeding and genetics or in crop physiology and ecology must take two of the following courses: 532, 551, and 553.

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 must be in courses numbered above 600. A minimum of 9 hours of graduate coursework work taken during the doctoral program must be outside the department in one or more cognate areas.

A 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 approved by the Graduate Council to direct doctoral research. At least one member must be from outside the department. The student and the major professor 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

412 Soil Genesis and Classification (3) Soil genesis and classification of agricultural and forest soils; soil and plant relations. 3 hrs and 1 rec.

413 Environmental Soil Chemistry (3) Composition and chemical properties of soils and processes that govern fate and behavior of chemicals in soil environment: clay mineralogy, organic matter and mineral weathering and stability; aqueous speciation; surface chemistry; ion exchange; adsorption and molecular retention; oxidation-reduction; and soil acidity, alkalinity, and salinity. Prereq: Soil Science and Introduction to Organic and Biochemistry or Organic Chemistry or equivalent.

414 Soil, Land Use, and the Environment (3) Soil as environmental component and soil properties affecting land use. Soil as resource in development planning: consideration of non-soil impacts of soil selection for land use, soil survey and resource data in land use, recognition and prevention of soil pollution. Prereq: Soil Science or consent of instructor. SP, A

415 Soil Hydrology (3) Physical relationships among solute, liquid, and gaseous phases of soil system. Relationships of soil properties to processes governing transport of water, and chemicals in soil. Prereq: Soil Science. 2 hrs and 1 lab. SP

431 Physiology and Ecology in Agroecosystems (3) Plant physiology and ecology applied to crop production and management. Plant physiology and ecology principles related to crop production practices from seedling to harvesting and handling. Interaction of crops with environment and sustainable agroecosystems. Prereq: Crop Science. 2 hrs and 1-2 hr lab. F

432 Bioclimatology (3) Soil energy budget; interactions between global, regional and local climates and biological systems; quantification of macro- and micro-climate; microclimates and their modification; automated weather station data collection and analyses; biological responses to diurnal, seasonal and extreme climate change and their effects on biological systems. Prereq: 1 yr of physical or biological science. SP

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

434 Fruit and Vegetable Crops (3) Principles of production systems to counter environmental stresses and to increase productivity of vegetable crops, small fruit crops, and deciduous tree fruit crops. Storage of crops after harvest. Prereq: Introduction to Crop Science and World Crops or Crop Science. 2 hrs and 1-2 hr lab. F

435 Field and Forage Crops (3) Agronomic principles of crop production and management. Crop improvement, cropping systems, tillage, fertilization, pest management, harvest and utilization of major field and forage crops. Prereq: Introduction to Crop Science and World Crops or Crop Science. 2 hrs and 1 lab. SP

453 Principles of Plant Breeding (3) Genetic principles and techniques used in crop improvement. Consideration of breeding methods for various crop production systems and applications. Discussion of heritability estimation, genetic advances through selection and theory, and genetic correlation methods used. Prereq: Biodiversity, Germplasm Conservation and Plant Improvement, 471, and General Genetics. 2 hrs and 1-2 hr lab. SP, A

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. Prereq: 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 their first year of graduate study. F

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 3 hrs. F, SP

507 Professional Development Seminar (1) (Same as Agriculture 507, Animal Science 507, BioSystems Engineering 507, Biosystems Engineering Technology 507, Food Science and Technology 507, Ornamental Horticulture and Landscape Design 507.) S/NC only. F

509 Scientific Communication (1) (Same as Agriculture 509, Animal Science 509, Food Science and Technology 509, and Ornamental Horticulture and Landscape Design 509.) F

511 Soil-Plant Relationships (3) Principles of mineral nutrition of higher plants: plant physiological characteristics that influence uptake of water and nutrients; functions of nutrient elements in plant metabolism, soil factors influencing nutrient availability to plants; important relationships at soil-plant root interface; and responses to adverse soil environmental conditions. Prereq: 413 or 451 or Introduction to Plant Physiology. 3 hrs and 1 rec. F, A

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

513 Advanced Soil Chemistry (3) Chemical properties and processes that operate in soil environment: thermodynamics of soil solutions and surface chemistry of soils, soluble complex formation; solubility, electrochemical equilibria, geochemical modeling of exchange equilibria, surface functionality and reactivity, adsorption phenomena, and surface complexation modeling. Prereq: 413 or consent of instructor. SP, A

514 Advanced Soil Physics (3) Theory and mathematical modeling of flow and solute transport in saturated, unsaturated soil: statistical analysis of soil heterogeneity, adsorption properties, multi-scale porous processes, anisotropy, hysteresis. Analytical and numerical solution of surface tension, transport and reaction mechanisms for unsaturated zone. Prereq: Calculus III, 415, or consent of instructor. SP, A

516 Soil Biology and Biochemistry (3) Soil organisms and their activities in soil: carbon, nitrogen, and hydrologic cycling of important elements, organic matter dynamics, and applications of agricultural and environmental biology and biochemistry. Prereq: Soil Science. 2 hrs and 1-3 hr lab. F, A
530 Integrated Pest Management (3) [Same as Entomology and Plant Pathology 530]. F, A

532 Environment, Crop Physiology and Ecology (3) General and specific relations among environmental factors, crop organisms, and agricultural systems. Interactions of biotic and abiotic factors affecting crop productivity.-lined crops, methodologies in crop production, soil and water management, and environmental stresses. Prereq: 531 or equivalent. F, A

536 Ecology of Grazing Land Systems (3) Multi-university, field-oriented course. Components and functions of grazing lands and how they vary in different ecosystems; rangeland productivity, and impact of human management. Prereq: Botany 533. F, A

551 Organizational Plant Genetics (3) Recovery of genetic diversity, polymorphism, and expression in crop improvement. Concepts of qualitative and quantitative trait improvement. Parental germplasm, population formation, hybridization, interaction effects, and evaluation of yield, disease resistance, and other traits. Prereq: 552. F, A

553 Plant Breeding Technologies (3) Principles and methodologies in crop improvement. Concepts of qualitative and quantitative trait improvement. Parental germplasm, population formation, hybridization, interaction effects, and evaluation of yield, disease resistance, and other traits. Prereq: 552. F, A

564 Integrated Pest Management (3) [Same as Entomology and Plant Pathology 564]. F, A

Political Science

(College of Arts and Sciences)

MAJORS

DEGREES

Political Science .................... M.A., Ph.D.
Public Administration ................ M.P.A., J.D.-M.P.A.
Patricia Freeland, Head

Professors:

Carlisle, D. H. (Emeritus), Ph.D. ............... North Carolina
Cunningham, Robert B., Ph.D. ............... Indiana
Fitzgerald, John R., Ph.D. ............... Oklahoma
Freeland, Patricia K. ............... Wisconsin (Milwaukee)
Gant, Michael M., Ph.D. ............... Michigan State
Gorman, Robert A., Ph.D. ............... New York
Lyons, William, Ph.D. ............... Oklahoma
Peters, John, Ph.D. ............... Illinois
Plas, Hyram, Ph.D. ............... Utah
Robinson, Nelson M. (Emeritus), Ph.D. ............... Syracuse
Scheb, John M., Ph.D. ............... Florida
Smith, T. Alexander, Ph.D. ............... Ohio State
Stephens, Otis H. (Distinguished Prof.) ............... Johns Hopkins
Ungs, Thomas D. (Emeritus), Ph.D. ............... Iowa
Welborn, David M. (Emeritus), Ph.D. ............... Texas

Associate Professors:

Fitzgerald, Michael R., Ph.D. ............... Oklahoma
Hunt, William R., Ph.D. ............... South Carolina
Jones, Thomas D. (Emeritus), Ph.D. ............... North Carolina
Keller, Andrew, Ph.D. ............... North Carolina
Koerner, Philip L., Ph.D. ............... Wisconsin (Milwaukee)
Kurz, Elizabeth, Ph.D. ............... North Carolina
Lanham, Nancy A., Ph.D. ............... North Carolina

Assistant Professors:

Van Cott, Donna, Ph.D. ............... Georgetown

The Department of Political Science offers the M.A., M.P.A., and Ph.D. degree. 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 overall average of 3.0 is also required together with an average of 3.2 in the last two years of political science or social science. In addition, a composite score of at least 1100 on the verbal and quantitative parts of the GRE is normally required.

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

Thesis Option: (30 hours) Coursework preparation of a thesis, and an oral examination on coursework and the thesis, is required. At least 12 of these hours must be in political science, with 6 in the field of methodology (Political Science 510 and either 511 or 512). Six hours may be earned through thesis credit.

Non-Thesis Option: (36 hours) Coursework, plus a written comprehensive examination on all coursework is required. At least 12 of these hours must be in political science, with 6 in the field of methodology (Political Science 510 and either 511 or 512), and 3 hours in the 600-level research seminar in the student’s first field of interest.

THE MASTER OF PUBLIC ADMINISTRATION PROGRAM

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

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

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

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

1. Core Curriculum (24 hours)
   a. General perspectives (9 hours) - 550 Public Administration; 552 Organization Theory; and any one of the following: 539 State and Local Government; 540 Public Law; 546 Law and the Administrative Process; 548 Public Policy Process; 558 The Politics of Administration; or 566 Ethics, Values, and Morality in Public Administration.
   b. Analytical skills (6 hours) - 512 Quantitative Political Analysis; 514 Research and Methodology in Public Administration.
   c. Management skills (9 hours) - 560 Public Budgeting and Finance; and any two of the following: 562 Public Management; 564 Human Resources Management; 556 Policy Analysis.
   d. Specialization (9 hours)
2. Specialization (9 hours)
3. Recommended Internship (6 hours)
4. Final Examination
   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
Graduate Record Examination.

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 academic record of the student maintained by the Registrar of the University shall show the actual grade assigned by the instructor without conversion.

The Graduate School 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 academic record of the student maintained by the Registrar of the University shall show the actual grade assigned by the instructor without conversion.

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 academic record of the student maintained by the Registrar of the University shall show the actual grade assigned by the instructor without conversion.

The Graduate School 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 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.

In addition, students must satisfy a research tool requirement. Usually, students meet this requirement by completing 12 hours of coursework numbered above 500 in empirical theory and research methodology. However, if a student’s advisor and program committee certify that competency in a foreign language is 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 of political science, and must pass a final oral examination in the dissertation.

After the first two years in the dual program, students will spend one academic year completing the required first year of the College of Law curriculum and one academic year taking courses solely in the 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 receive 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.

MINOR IN ENVIRONMENTAL POLICY

The department participates in a program designed to give graduate students an opportunity to develop an interdisciplinary specialization in environmental policy. See Economics for program description.
550 Public Administration (3) Overview of public administration theory and function.

552 Organization Theory (3) A conceptual analysis of the organization and their impact on the public sector.

553 Management of Information Systems (3) Theory, design, development, implementation, and evaluation of information systems with a focus on database systems, computer applications, and training programs that manage information technology.

556 Policy Analysis (3) Strategies and techniques for identifying problems and analyzing public policies 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 planning, preparing and adopting government budgets. Management implications of revenue collection, debt management, and fiscal policy. May be repeated with consent of department. Maximum 9 hrs.

562 Public Management (3) Interpersonal and leadership skills, techniques and methods for planning, decision making, and implementation of management strategies in the public sector. May be repeated with consent of department. Maximum 9 hrs.


566 Ethics, Values, and Morality in Public Administration (3) Moral-ethical-value dilemmas confronting administrators in American political system.

569 Internship in Public Administration (3-6) Open to students participating in approved internship programs. May be repeated with consent of department. Maximum 9 hrs. S/N 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 Area Seminar in Comparative Government and Politics (3) Special topics in area studies: African, Asian, Latin American, 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.

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

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

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

594 College Teaching in Political Science (1) Instructed effectiveness, techniques, organization, materials for teaching political science at college level. Prereq: Consent of instructor. May be repeated. Maximum 15 hrs.

596 Workshops in Computer Applications (1) Training in software applications to support research and decision making tasks in public service. Successful completion certifies proficiency of MPA students in the use of software applications for personal computer. S/N only.

600 Doctoral Research and Dissertation (3-15) May be repeated. Minimum 9 hrs.

596 Special Topics in International Politics (3) Selected topics dealing with political problems of less developed countries. May be repeated with consent of instructor. Maximum 9 hrs.

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, public choice, and mathematical modeling. May be repeated with consent of instructor. Maximum 9 hrs.

628 Topics in Political Theory (3) Selected topics 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 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) Examination of contemporary problems of research and public policy formulation: criminal justice, 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 from political 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.

668 Special Topics in Public Administration (3) Analysis of selected issues and problems in public administration. May be repeated. 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.

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

688 Special Topics in International Politics (3) Selected topics dealing with political problems of less developed countries. Specific content determined by instructor. May be repeated with consent of instructor. Maximum 9 hrs.

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 analysis 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 provisions, 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 roles, functions and decision making processes of public policymakers, including legislative, executive and judicial actors.

554 Area Seminar in Comparative Government and Politics (3) Selected topics in area studies: African, Asian, Latin American, Middle East, Soviet Union and Eastern Europe or Western Europe. 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 planning, preparing and adopting government budgets. Management implications of revenue collection, debt management, and fiscal policy. May be repeated with consent of department. Maximum 9 hrs.

562 Public Management (3) Interpersonal and leadership skills, techniques and methods for planning, decision making, and implementation of management strategies in the public sector. May be repeated with consent of department. Maximum 9 hrs.


566 Ethics, Values, and Morality in Public Administration (3) Moral-ethical-value dilemmas confronting administrators in American political system.

569 Internship in Public Administration (3-6) Open to students participating in approved internship programs. May be repeated with consent of department. Maximum 9 hrs. S/N 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 Area Seminar in Comparative Government and Politics (3) Special topics in area studies: African, Asian, 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.

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

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

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

594 College Teaching in Political Science (1) Instructed effectiveness, techniques, organization, materials for teaching political science at college level. Prereq: Consent of instructor. May be repeated. Maximum 15 hrs.

596 Workshops in Computer Applications (1) Training in software applications to support research and decision making tasks in public service. Successful completion certifies proficiency of MPA students in the use of software applications for personal computer. S/N only.

600 Doctoral Research and Dissertation (3-15) May be repeated. Minimum 9 hrs.

596 Special Topics in International Politics (3) Selected topics dealing with political problems of less developed countries. May be repeated with consent of instructor. Maximum 9 hrs.

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, public choice, and mathematical modeling. May be repeated with consent of instructor. Maximum 9 hrs.

628 Topics in Political Theory (3) Selected topics 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 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) Examination of contemporary problems of research and public policy formulation: criminal justice, 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 from political 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.

668 Special Topics in Public Administration (3) Analysis of selected issues and problems in public administration. May be repeated. 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.

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

688 Special Topics in International Politics (3) Selected topics dealing with political problems of less developed countries. Specific content determined by instructor. May be repeated with consent of instructor. Maximum 9 hrs.
in Education, concentration in school psychology, (2) Ed.S. with a major in Education, concentration in school psychology, and (3) Ed.D. with a major in Education, concentration in educational psychology: collaborative learning. One program has application deadlines of 15 January and 15 October: Ph.D. in Education, concentration in adult education. Application reviews are completed throughout the year for both concentrations under the M.S. degree program with a major in Educational Psychology.

Admission Requirements
Admission requirements include completion of all items in the unit admissions packet and three letters of recommendation. Up-to-date GRE scores are required for application to all degree programs except the master's program. For all doctoral programs, a writing sample is also required.

GRADUATE COURSES
432 The Disadvantaged Student: Psychoeducational Perspectives (3) Theory and research regarding psychological behavior and appropriate interventions. Sp
460 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 clientele. Prereq: Introductory course in psychology or consent of instructor. SNC or letter grade. 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 for facility time before degree is completed. May not be used toward degree requirements. May be repeated. SNC only. E
503 Problems in lieu of Thesis (2-3) May be repeated. Maximum 9 hrs. SNC 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. SNC or letter grade. E
506 Internship in Adult Education (3) Practical field experiences in selected settings under supervision of practitioner and departmental representative. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs. SNC only. 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
513 Reflective Practice in Education and Psychology (3) Concepts, theories and processes of reflective practice applied to educational settings. E
514 Individual Study in Adult Education (3) Prereq: Consent of supervising instructor. Approval form must be completed in office of unit head. May be repeated. Maximum 6 hrs. E
515 Educational Applications of Behavioral Theories of Learning (3) Behavioral theories and research, conditioning, observational learning, and ethological learning as systems apply 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 applied to education. Su
518 Educational Specialist Research and Thesis (3) May be repeated. P/NP only. E
520 Survey of Adult Education (3) Historical development, philosophies of adult education agencies, associations, programs, issues, and literature illustrating process of adult education and diversity of continuing education. Prereq: Consent of instructor. F, Su
521 Program Development and Operation in Adult Education (3) Theories and methods from research to practice in planning and operating adult education programs. Prereq: Consent of instructor. F, Su
522 Adult Development (3) Theory and research in adult development and change over lifespan and its implications for adult learning in formal and informal contexts. F, Su
523 Post-Secondary Education for Adults (3) History, evolution, philosophies, and functions of post-secondary, sub-university institutions, their programs and clientele. Prereq: Consent of instructor.
524 Continuing Professional Education (3) Theories and concepts supporting design and management of educational programs for adults in professions. Prereq: 520 or equivalent.
525 Characteristics of Adult Learners (3) Key characteristics of adult learners, current theory and research on adult learning, and implications for teaching and learning concepts. Sp
527 Controversies in Adult Education (3) Controversies confronting field of adult education; development of critical analysis skills by looking at controversies from different perspectives. Sp
528 Psychology of Aging (3) Theory and research of aging and gerontology related issues: physical, mental and related physiological changes that occur in later life stages of human development. Implications for treatment programs and policy. Sp
529 Facilitating Adult Learning (3) Theory, research, and practice related to working with adults in teaching-learning situations. Sp, Su
530 Methods of Collaborative Inquiry (3) Philosophical and theoretical frameworks for designing and conducting collaborative inquiry projects. Practice in conducting research. Prereq: 531 and 530. F, Sp
540 Seminar in School Psychology (3) Essentials of theory and practice of school psychology as professional specialty. Consideration of history and current issues in school psychology. Sp
541 Psychoeducational Assessment (3) Direct, psychometric and naturalistic assessment methods in learning environments. Prereq: Admission to school psychology program or consent of instructor, and Counselor Education and Counseling Psychology 525 or equivalent. May be repeated. Maximum 6 hrs. SNC only. Su
542 Practicum in Psychoeducational Assessment (3) Application of assessment skills to clients in learning environments. Coreq: 541 or consent of instructor. May be repeated. Maximum 6 hrs. SNC only. F, Sp
543 Psychoeducational Consultation (3) Use of two-and three-person models of consultation in educational and therapeutic settings based on behavioral, ecological, social learning and cognitive-behavioral theories. F
546 Practicum in Consultation (3) Application of consultation skills to educational settings. Prereq: 545. Sp
549 Internship in School Psychology (1-6) Supervised employment in a unit approved school psychology internship site. Prereq: Enrollment in school psychology program and consent of instructor. May be repeated. Maximum 12 hrs. SNC only. E
560 Discipline and Conflict Resolution (3) Applications of major models of discipline and conflict resolution strategies in development of constructive atmosphere for classroom learning. Sp
572 Cognitive Education: Models and Approaches (3) Models and approaches in field of cognitive education: research and theoretical support for various program components, critical variables of psychological and political learning that affect success of implementation. Sp
573 Meeting Needs of Nontraditional and Underachieving Learners (3) Exploration of students' needs at any age and level of functioning and how they can be best served. Prereq: Consent of instructor. F
574 Facilitating Group Change (3) Practical issues of group change. Analyses of processes of individual experiences in all types of educational settings in relation to systems theory and collaborative learning theory. Needs of individuals and groups, research on change and roles of inside and outside change agents. F, Su
593 Independent Study (1-3) May be repeated. SNC or letter grade. E
600 Doctoral Research and Dissertation (3-15) P/NP only. E
602 Directed Research (1-3) Prereq: Eta Kappa Nu and student-initiated group investigation of experimental and theoretical problems in educational and counseling psychology. May be repeated. Maximum 12 hrs. SNC only. E
604 Special Topics (1-3) Prereq: Instructor-initiated courses offered at convenience of unit on topics of interest. May be repeated. Maximum 15 hrs. SNC or letter grade. E
608 Advanced Seminar in Curriculum and Learning (3) Team-taught interdisciplinary seminar: trends, themes, and issues in curriculum and learning. Reading and discussions based on significant research and scholarly publications. F
612 Modes of Inquiry in Educational Research (3) (Same as Leadership Studies in Education 612.) F
620 Seminar in Adult Education (3) Issues in adult education, theories and concepts, philosophical positions, research trends and methodologies. Prereq: 620 or equivalent. F
621 Advanced Seminar in Program Planning (3) Concepts, principles, and theories related to program planning in adult education. Prereq: 521 or equivalent. Sp
622 Advanced Seminar in Adult Development and Learning (3) (Same as Counseling Psychology 553.) Prereq: 522, 553, or equivalent. F, Sp
635 Ethical, Legal, and Professional Issues in Psychology (3) (Same as Psychology 635 and Counselor Education and Counseling Psychology 635.) Prereq: Consent of instructor. F, Sp
649 Advanced Internship in School Psychology (1-4) Supervised experience as school psychologist in unit-approved internship site for doctoral level students. Prereq: Enrollment in doctoral level school psychology program and consent of instructor. May be repeated. Maximum 9 hrs. SNC only. E
650 Professional Practice in School Psychology (1) Field setting to facilitate academic, social and interpersonal development of children and adults. School and mental health settings for intervention, consultation, prevention, and assessment services. May be repeated. Maximum 9 hrs. SNC only. F, Sp
655 Research in Psychoeducational Studies (1) Data analysis, collection, and interpretation. May be repeated. Maximum 9 hrs. SNC only. F, Sp
663 Scale Construction (3) Development, pilot testing, and revision of attitude inventories, rating scales, and other paper-and-pencil techniques for assessing beliefs, personality characteristics, interests, and attitudes. F
665 Research in Instructional Technology (3) Research on human learning, design of learning environments, analysis of teacher behavior, text development, computer software design and video presentations. A
668 Practicum in Instructional Planning (3) Development and management of course or program of instruction in educational psychology. Prereq: 665, or consent of instructor. F, Sp
669 Internship in Educational Psychology (1-6) Supervised employment in unit approved educational psychology internship site. May be repeated. Maximum 12 hrs. SNC only. E

Psychoeducational Studies 169
671 Mediated Learning Theory (3) Feuerstein's theory of mediated learning experience and its contributions to work of Piaget, Vygotsky and others. Implications for transformational learning and building of learning communities for learners of all ages. Prior: Admission to doctoral program or consent of instructor. F

673 Collaborative Learning (3) Team taught, interactive course on collaborative learning theory related to professional practice. Integration of mediated learning theory with reflection and critical thinking. Emphasis on fostering collaborative learning in professional practice settings. Engagement of class members in collaborative learning. Prereq: S 513 and 671 or consent of mat. cor. Sp


693 Independent Study (1-3) May be repeated. SNC or letter grade. E

Psychology
(College of Arts and Sciences)

MAJOR

Psychology .......................................... M.A., Ph.D.

James E. Lawler, Head

Professors:
Burghardt, Gordon M., Ph.D. ................. Chicago
Burstein, Alvin G., Ph.D. ...................... Chicago
Calhoun, William H., Ph.D. ............... California
Fine, Harold J. (Emeritus), Ph.D. .......... Syracuse
Handel, Stephen J., Ph.D. ..................... Johns Hopkins
Handler, Leonard, Ph.D. .................... Michigan State
Jones, Warren H., Ph.D. ...................... Oklahoma State
Lawler, James E., Ph.D. ...................... North Carolina
Lawler, Kathleen A. (Liaison), Ph.D. ....... Tennessee
Ph.D. ............................................... North Carolina
Lounsberry, John W., Ph.D. .................... Michigan State
Lubor, Joel F., Ph.D. ............ Chicago
Malone, John C., Ph.D. ...................... Duke
Newton, Kenneth R. (Emeritus), Ph.D. .... Tennessee
Pollio, Howard R. (Distinguished Prof.), Ph.D. Michigan
Samejima, Fumiko, Ph.D. ............... Keio
Saudargas, Richard A., Ph.D. ............. Florida State
Schadler, Raymond R. (Emeritus), Ph.D. ... Tennessee
Sundstrom, Eric D., Ph.D. .................... Utah
Travis, Cheryl B., Ph.D. ................. California (Davis)
Verplanken, William S. (Emeritus), Ph.D. . Brown
Wahler, Robert G. (Liaison), Ph.D. ...... Washington
Wiberley, J. Albert (Emeritus), Ph.D. .... Syracuse

Associate Professors:
Baldwin, Debora R., Ph.D. ........ Kent State
Hopson, Ronald E., Ph.D. .............. Michigan State
Johnson, Michael G., Ph.D. ............. Johns Hopkins
McIntyre, Anne, Ph.D. ..................... Yale
Morgan, Wesley G., Ph.D. .................... Tennessee
Nash, Michael R., Ph.D. ..................... Ohio

Assistant Professor:
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 two additional faculty members to comprise the student's major'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 504-05, or Statistics 511-12 or an equivalent sequence; 665 or 420; six semester hours of Thesis 500; and twelve hours of 500- or 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 is offered through the Life Sciences program. Doctoral study in industrial and organizational psychology is offered through the Intercollegiate 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 careers in research, teaching, and application of psychology in academic, institutional, or industrial settings. The program is flexible, individualized, and emphasizes a professional apprenticeship model of training. A full description of the program is given in the "Handbook for Students in Experimental Psychology," available from the department. The basic requirements are as follows:

1. Twelve semester hours of statistics and research (504-05 or Statistics 531-32 or equivalent and 6 additional hours in research methods or design).
2. Fifteen semester hours in experimental psychology (565 or equivalent and 4 courses from the following: 511, 511 or 512, 513, 543, 546 or 547, 550, 560, and 570 or 571).
3. Six semester hours of research practicum (509).
4. Psychology 528 - preparation for college teaching.
5. Two 600-level graduate seminars.
6. Six semester hours of graduate level courses outside the Psychology Department.
7. A research proposal project involving the collection of original data and the original analysis of existing data, reported in publishable form and accepted by the student's advisory committee.
8. Comprehensive examination, determined and evaluated by the student's doctoral committee. This examination is comprised of an integrative review or theoretical paper and an oral exam or additional questions.
9. Twenty-four hours of dissertation research (600).
10. An original piece of research in the form of a doctoral dissertation, proposed, conducted, 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 emphasizes the theoretical foundations of psychology as well as supervised experience oriented toward the development of practical skills. The program embodies a model of clinical psychology in which practice and research are integrated. Clinical program students must complete a predissertation research project by the end of the second year.

After forming the doctoral committee, students must then pass a comprehensive examination administered and evaluated by the committee. This examination is comprised of two papers, one addressing a topic of the student's choice, and the second addressing an understanding of one individual's personality and cognitive functions. All doctoral students must complete a minimum of 78 hours of graduate level courses, including courses required by their program; at least 6 hours in courses outside of psychology; and at least 24 hours of dissertation research (Psychology 600). Finally, students must complete an acceptable doctoral dissertation and conduct a satisfactory oral defense of the dissertation. Requirements are as follows:

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 external presentation, by one member of the faculty.
3. Supervised clinical placement two days (16 hours) each week during the second year, and the following option during the third and fourth years:
   a. continued two day clinical placement in the third and fourth years.
   b. teaching assistantship in the department in either the third or fourth year and two day clinical placement in the other year.
4. Satisfactory completion of listed courses (or equivalents) in the following sixteen categories:
   a. Foundations of Psychology: Biological Factors, Perception, Learning, Thinking, Motivation (513);...
Rehabilitation, Deafness, and Human Services

(College of Education)

MAJORS

DEGREES

Counseling 
M.S.
Ph.D.

Robert F. Kronick, Leader

Professors:

Doll, E. E. (Emeritus), Ph.D. 
Freysinger, M. (Emeritus), Ed.D.

Illinois

McClam, T., Ph.D. 

Tennessee

Miller, James H. (Liaison), Ed.D.

Auburn

Welch, Olga, Ed.D.

Tennessee

Woodside, M.R., Ed.D.

Mississippi

Associate Professor:

Warden, K., Ph.D.

Tennessee

Research Professors:

Cassell, Jack L., Ph.D. 

Kansas

Colvin, Craig R., Ed.D.

Virginia

Mulkey, S. Wayne, Ph.D. 

Florida State

The Rehabilitation, Deafness and Human Services Education unit participates in graduate programs leading to degrees, majors, and concentrations in:

Master of Science in Counseling

Rehabilitation counseling

Education

Track 1-education of the deaf and hard of hearing

Track 2-education of the deaf and hard of hearing

Doctor of Philosophy

Education

Rehabilitation/special education

See Education under Fields of Instruction for full description of all degree requirements.

The vision of the Rehabilitation, Deafness, and Human Services unit is one of full inclusion for 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 graduate students in diverse roles in business and industry, education, and community and government service.

The Rehabilitation, Deafness, and Human Services unit includes several educational programs sponsored by the U.S. Department of Education, Office of Special Education and Rehabilitation Services. Rehabilitation Services Administration, including: Regional Rehabilitation Continuing Education Program, Orientation to Deafness, Southeast Regional 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. Comprehensive and production differences, idiomatic and figurative structures.

419 Speech Development of Hearing Impaired (4)

Theories of speech development, approaches in teaching perception and production of speech, and aural habilitation. Practice in experiential.

424 Nature of Hearing Impairments (3)

Basic principles of audiometry, 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 rehabilitation 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 methodology, language development and education of hearing impaired. Survey of literature. Visits to programs.

431-32 American Sign Language III, IV (3, 3)

Fluency of expressive and receptive sign communication skills. Use of language in context. Grammatical structures of ASL and cultural implications of deaf community. Must be taken in sequence.

450 Thesis (1-16) P/NP 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. S/N only.


504 Clinical Experience in Teaching an Exceptional Children (3-9)

(Same as Inclusive Early Childhood Education 504.)

509 Vocational Guidance and Career Planning With Hearing Impaired (3)

Utilization of psychological, educational, social, and vocational, diagnostic 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 individuals. Designing, teaching, and assessing a unit of instruction for remediation of specific language errors.

528 Curriculum Development Applied to Programs for the Hearing Impaired (3)

Current curriculum trends address the needs of hearing impaired individuals. New curriculum options and current educational technologies. Development and field-testing of instructional techniques.

529 Teaching Reading to the Hearing Impaired (3)

Specific, methods necessary to teach the reading abilities of hearing impaired students. Original design of appropriate reading materials. Methods which extend the reading abilities of hearing impaired students in regular reading curricula and materials.

530 Orientation to Rehabilitation (3) History, philosophy, legal and economic bases, current issues, and practices in public and private rehabilitation programs. Qualifica-
Religious Studies

Charles H. Reynolds, Head

Professors:
Dungan, David L., Th.D. ................. Harvard
Hackett, Rosalind I. J., Ph.D. .......... Aberdeen
Humphreys, W. Lee, Ph.D. .......... Union
Linge, David E., Ph.D. .................. Vanderbilt
Norman, Ralph V., Jr., Ph.D. .......... Colgate Rochester
Reynolds, Charles H., Ph.D. .......... Harvard

Associate Professors:
Fitzgerald, James L., Ph.D. .......... Chicago
Gwynne, Rosalind W., Ph.D. .......... Washington
Hodges, John O., Ph.D. ............... Chicago
Levering, Miriam L., Ph.D. .......... Harvard
Schmidt, Gilya G., Ph.D. ............. Pittsburgh

Assistant Professor:
Huether, Mark, Ph.D. .................. Minnesota

602 Seminar in Social Processes in Special Education and Rehabilitation (3) Social phenomena which influence impact of disability on person and on significant others. Implications for habilitation. Prereq: Admission to doctoral program or consent of instructor.

603 Seminar in Research in Special Education and Rehabilitation (3) Development and implementation of research. Independent research studies. Research proposal. 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/N only.

620 Internship in Research in Special Education and Rehabilitation (3-9) Placement with professional engaged in theoretically-based research. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

630 Internship in Institutional Leadership in Special Education and Rehabilitation (3-9) Experiences under supervision of practitioners. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

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

693 Independent Study (1-3) Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N or letter grade.

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

405 Modern Jewish Thought (3) History, culture, and geography of the modern Jewish people. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

411 Modern Religious Philosophies (3) Religious implications of major Western thinkers and movements from


416 Jesus and Paul Compared (3) Central ideas and concepts of each person compared with equivalent concepts in the other. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

425 Seminar in Western Religions (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.


440 Seminar in Comparative Religion (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

490 Readings and Research in Religious Studies (3) Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

493 Topics in Religious Thought (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

495 The Rehabilitation Interview (3) Interview as used in professional contact. Prereq: Consent of instructor.


505 Religious Texts and Contexts (3) Selected topics and interpretations of religious literature. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

506 Historical and Comparative Studies of Religions (3) Selected topics and interpretations of religious literature. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

507 Religion, Power and Society (3) Selected topics and interpretations of religious literature. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

513 Religion, the Arts, and the Media (3) Selected topics and interpretations of religious literature. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

514 Religion and Healing (3) Selected topics and interpretations of religious literature. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

515 Critical Reflection on Religion (3) Selected topics and interpretations of religious literature. Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

532 Topics in the History of Religions (3) Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.

533 Topics in Religious Thought (3) Prereq: Consent of instructor. May be repeated. Maximum 9 hrs. S/N only.
MAJOR DEGREES
Social Work........................................... M.S.S.W., Ph.D.

Karen Sowers, Dean

Professors:
Bloch, Mary H. (Emeritus), M.S., Ohio State
Cetingok, Muammer, Ph.D., Washington (St. Louis)
Faver, Catherine, Ph.D., Michigan
Fryer, Gideon W. (Emeritus), Ed.D., Columbia
Glisson, Charles A., Ph.D., Washington (St. Louis)
Granger, Ben P. (Emeritus), Ph.D., Brandeis
Hirayama, Hisashi, D.S.W., Pennsylvania
McCaman, Georgiana (Emeritus), M.S.S.W., Tennessee
Mulhins, M. Kate (Emeritus), Ph.D., Chicago
Noe, Roger M., D.S.W., Tulane
Orten, James D. (Emeritus), D.S.W., Alabama
Rubenstein, Hia (Emeritus), Ph.D., Chicago
Shatz, Eunice (Emeritus), Ph.D., Brandeis
Sowers, Karen, Ph.D., Florida State

Associate Professors:
Bell, William J., D.S.W., Tulane
Campbell, Paul M., D.S.W., Alabama
Combos-Ormo, Tori, Ph.D., Washington (St. Louis)
Cruthirds, C. Thomas, D.S.W., Tulane
Dupper, David R., Ph.D., Florida State
Egan, Marcia, Ph.D., Maryland
Fiene, Judith (Liaison), Ph.D., Tennessee
Nugent, William, Ph.D., Florida State
Orme, John, Ph.D., Washington (St. Louis)
Patterson, David, Ph.D., Utah
SICUZZA, Frank, M.S.S.W., Tennessee
Vaughn, Hugh H., Ed.D., Memphis State

Assistant Professors:
Bowie, Stan L., Ph.D., Barry
Collier, Jenny C., M.S.W., Tulane
Cummings, Sherry, Ph.D., Georgia
Davey, Timothy L., Ph.D., Florida State
DeCoster, Vaughn, Ph.D., LSU
Marley, Marsha, D.S.W., Tulane
Neff, James A., Ph.D., Florida State
Page, Timothy F., Ph.D., Western Michigan
Rocha, Cynthia, Ph.D., Washington (St. Louis)
Rogge, Mary, Ph.D., Washington (St. Louis)
Staudt, Mary, Ph.D., Washington (St. Louis)

Field Practice Coordinators:
Allen, Sandra (Memphis), M.S.S.W.
Bales, Melinda (Nashville), M.S.S.W.
Betz, Phyllis (Knoxville), M.S.S.W.

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 social welfare management and community practice. The M.S.S.W. program is accredited by the Council on Social Work Education.

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. Applicants must have a course in human biology and demonstrate a liberal arts perspective through coursework in at least four of the following five areas: economics or mathematics; government, political science or history; sociology or anthropology; psychology; philosophy, literature, or the arts. Applicants with other academic backgrounds may request consultation to discuss ways that they can meet the requirements.
2. A grade point of 2.7 or higher on a 4.0 scale. Applicants falling below this average may be considered for probationary admission on the basis of supplemental evidence of the ability to perform at a satisfactory level. The University requires a minimum GPA of 2.7 for admission to The Graduate School.
3. Personal qualifications acceptable for entrance into the professional practice of social work.
4. All applicants must submit up-to-date scores from the Graduate Record Examination (general).

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 welfare 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-year period.

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. 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. The program requires successful completion of a minimum total of 60 semester hours including completion of the foundation curriculum (30 hours) and 30 hours in one of the two concentrations (clinical social work practice or social welfare management and community practice).
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
All students must complete 30 semester hours in the foundation curriculum consisting of 24 hours in foundation classroom courses and 6 hours in field practice. The foundation is the initial phase of the master's program and contributes to the process of professional identification, and presents a comprehensive, broad base of theory, knowledge and skills from which to practice. The foundation classroom courses include: Foundations of Social Welfare Practice I and II; Human Behavior in the Social Environment I and II; Social Welfare Policy and Services; Social Work Research; and Social Work and Oppression. Students also complete a two-semester field placement, Field Practice I (6 hours). Upon successful completion of the foundation curriculum, all students must complete a minimum of 30 hours in the concentration curriculum including field practice (12 hours). Students select a concentration in clinical social work practice or social welfare management and community practice.

Clinical Social Work Practice: Clinical social work practice concentration focuses on students developing expertise in clinical social work practice with client systems including individuals, families and small groups, particularly with clients from high-risk and vulnerable groups. The concentration emphasizes theoretical and empirical knowl-
The College of Social Work offers the Doctor of Philosophy with a major in Social Work. The focus of social work education at the doctoral level is to foster the development of an attitude of scientific inquiry, knowledge of the scientific method, ability to extend the knowledge base of social work practice, and effective participation in leadership roles in social work education, research, and practice. The emphasis of the doctoral program is upon:

1. The analysis of direct intervention and social administration and of the interrelationships among each of them and their social policy, organizational, and community contexts.
2. Research-based knowledge to inform and guide social work practice, social policy, and social welfare program development.
3. 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 63 hours beyond the master's degree including: a) completion of 24 hours of required coursework, b) completion of 15 credits of advanced electives, at least 12 of which are taken outside the department, and 9 of those 12 related to the dissertation, and c) completion of at least 24 credit hours of dissertation research.
2. Successful completion of qualifying and comprehensive examinations.
3. Completion and defense of the dissertation.
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 assistance 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 specialized minor in gerontology. This interdepartmental/interdisciplinary minor gives the student an opportunity for combining the knowledge about aging in American society with his/her major concentration. 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.W., and Ph.D. programs in Social Work are available through the state of Arkansas; the Ph.D. to residents of Delaware, 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) F/NP only. E

501 Foundations of Social Work Practice I (3) Survey of history, mission, and identity of profession, basic theory, values, and methods; social work practice at various levels; assessment, planning, communication, intervention, and evaluation skills. Prereq: Admission to College or consent of instructor. F

502 Registration for Use of Facilities (3-15) Required for the student not otherwise registered during any semester when the 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

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

504 Foundations of Social Work Practice III (3) Basic theory, methods, programs, 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. Sp

505 Social Work Research (3) Research methodologies with respect to evolution and application to: social work theory and practice; history and philosophies of science; problem formulation; research design; ethics; instrument use and construction; data collection; analysis and reporting; and evaluation and utilization of research. Prereq: Admission to college or consent of instructor. Sp

506 Practicum in Social Work Research (3) Supervised practice in application of research methods to social work.

508 Graduates Seminar in Public Health I (1) (Same as Public Health 508). Exercise Science 508, Nutrition 508, and Nursing 508. F

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

515 Human Behavior and Social Environment II (3) Patterns of adaptive and maladaptive behavior, recognizing different theoretical models and criteria. Interactions among individuals, families, organizations, communities, and problematic behavior: mental illness and abusive behavior. Prereq: 514 or consent of instructor. Sp

516 Social Welfare Policy and Services (3) Development of contemporary social structure: race, ethnicity, national, and international levels. Contribution of social welfare professionals to formal policy-making process through which microsocial change is effected and through which aggregates of social welfare services are proposed, authorized, financed, and programmed. Theories of complex organizations 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/educational systems and personal experience. Connections among various forms of oppression: racism, sexism, classism, homophobia, ableism, heterosexism, for which perpetuate such conditions. Prereq: Admission to College or consent of instructor. F

521 Clinical Social Work Practice with Individual (3) Theories, knowledge, and skill for clinical practice with individuals from an ecological perspective. Therapeutic processes and treatment strategies incorporating content from psychodynamic and cognitive Christian practitioners. 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 interactions 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 social 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 principles supporting specific types of group work used in clinical social work. Prereq: Completion of foundation or consent of instructor. F

526 Research for Assessment of Social Work Treatment (3) History and philosophy, conceptual approaches, techniques and methods in the practice and use of research 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 planning short-term treatment, emergency treatment, and crisis intervention. Prereq: Foundation or consent of instructor.

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

535 School Social Work (3) Placement of schools as community institution and resource. Methods, processes, and techniques employed in school social work. Prereq: Foundation or consent of instructor. F

541 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 Financial Management and Resource Development (3) Administrative issues and strategies relevant to financial planning and resource allocation in human service organizations. Knowledge and skills in budgeting, allocating, expenditures controlling, fundraising, grant writing, marketing, and evaluation. Prereq: Foundation or consent of instructor. F

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

550 Seminar in Management and Community Practice (2-3) Topics in theory and practice of management and community practice. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs.

551 Seminar in Social Welfare Policy (3) Advanced social welfare policy seminar in specific fields of practice. Prereq: Foundation or consent of instructor. May be repeated. Maximum 6 hrs. E

552 Community Organization (3) Locality development, social planning and social action as models for development of resources to meet human needs. Prereq: Foundation or consent of instructor.

555 Current Issues in Management and Community Practice (3) Major trends affecting delivery of human services and requisite knowledge and problem solving skills to address them: board/leadership development, coalition building, conflict management, and team development. Prereq: Completion of foundation or consent of instructor. F

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

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

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

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

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

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

582 Field Practice (6) Instruction and supervision in clinical social work practice and management and community practice. Prereq: Completion of foundation. S/NC only.

583 Field Practice (6) Instruction and supervision in clinical social work practice and management and community practice. Prereq: 582. S/NC only.

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

585 Seminar in Gerontology I (Same as Human Ecology 585, Counseling Education and Counseling Psychology 585, Exercise Science 585, Nursing 585, Public Health 585, Psychological Studies 585, and Sociology 585.)

593 Independent Study (1-15) Individualized study, student selects, designs, and completes examination of special issue or problem. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs. F, Sp

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

601 Research for Social Work Practice (3) Epistemological and methodological considerations for both quan-
Sociology

(College of Arts and Sciences)

MAJOR DEGREES

Sociology M.A., Ph.D.

Suzanne B. Kurth, 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
Perrin, Robert G., L.H.D.

Ph.D. British Columbia
Shover, Neal, Ph.D. Illinois
Wallace, Samuel E., Ph.D. Minnesota

Associate Professors:

Benson, Michael L., Ph.D. Illinois
Cable, Sherry, Ph.D. Penn State
Jalata, Asafa, Ph.D. SUNY (Binghamton)
Kurth, Suzanne B., Ph.D. Illinois (Chicago)

Assistant Professor:

Jones, 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 medical sociology, organizational sociology, social stratification, and social theory and methodology.

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 SINC credits). Twelve hours of course credit in Sociology at the 600 level are required. Students who enroll in 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 522, 533, 563, 635, 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 600 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 offered upon completion of theory and methodology courses. Detailed information on examinations and examination options (generalist, specialist, and co-thesis) 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.

MINOR IN ENVIRONMENTAL POLICY

The department participates in a program designed to give 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 interdepartmental interdisciplinary minor gives the student an opportunity for combining the knowledge and skills 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.A. program in Sociology is available to residents of the state of Virginia (concentration in criminology only); the Ph.D. to residents of Florida (concentration in criminology only), or West Virginia. Additional information may be obtained from the Admissions Specialist in the Office of Graduate Admissions and Records.

GRADUATE COURSES

405 Sociology of Sport (3) Social meaning, organization, and process of sport. Prereq: 391 or consent of instructor.

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

415 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, affect of society on older people.

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


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

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

462 Population (3) Demographic factors and social structure: trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

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

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

480 Diffusion of Agricultural Technology (3) (Same as Rural Sociology 480.)

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/NC only: E

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


507 Foundations of Social Psychology (3) Current and classical theoretical perspectives in social psychology.

510 Teaching Sociology (3) Art and craft of teaching sociology from curricular considerations through teaching techniques. May be repeated. Maximum 6 hrs 521 Sociological Theory (3) Assessment of what sociological theory is: its major figures and their approaches to understanding society.

531 Research Methods in Sociology (3) Research design, measurement, sampling, quantitative and qualitative data collection techniques, data reduction, and analysis.

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

540 Occupations (3) Occupations in relation to individuals and society, technology, economic stratification, and social organization.

541 Collective Behavior, Social Movements, Social Change (3) Basic theory and research on conditions of social unrest in human communities and efforts of collectives to change existing society.

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

545 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 structural influences, and changing views about responsibility and punishment.

546 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.)

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 633.)

636 Field Research (3) Research experience in selected fields using techniques of interview, participant observation, and other methods of field research. 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 on research on class structure and conflict.

644 Political Sociology (3) Critical examination 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 interaction between humans and their environment. 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) Topical seminar covering particular lines of research and theory within area. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

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

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

698 Tutoring in Advanced Topics (3) Individual instruction. Prereq: Consent of department. May be repeated. Maximum 6 hrs.

Spanish

See Modern Languages and Literatures

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 nature and special 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 physical and biological sciences drawing on history of science, critical figures in shaping of scientific thought, 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 Communications)

John Haas, Head

Professors:
Julian, Faye D. (Liaison), Ph.D. Tennessee
Lester, Lorraine W., Ed.D. Tennessee
Yeomans, G. Allan (Emeritus), Ph.D. Kentucky

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

Assistant Professors:
Ambler, R. S., Ph.D. Ohio
The Sport and Physical Activity unit participates in graduate programs leading to degrees, majors, and concentrations in:

Master of Science

Human Performance and Sport Studies

Sport Management

See Education under Fields of Instruction for full description of all 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.

The purpose of the unit is twofold: 1) to provide the opportunity for students to attain knowledge and to develop the essential skills to be successful sport managers, and 2) to coordinate and provide instruction in many physical activities designed to improve physical fitness and encourage future participation in lifetime sports.

ADMISSION REQUIREMENTS

Applicants are required to complete the unit application which will be sent to all persons upon their initial inquiry about the program. Preference will be given to students with an overall GPA of 3.0 or higher. Students with a GPA between 2.7 and 2.99 are encouraged to submit GRE scores. The following retention policy applies to all graduate students seeking a degree in this unit:

1. Graduated 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 15. Letters should be addressed to Coordinator, Graduate Assistantship Program, Sport and Physical Activity unit, The University of Tennessee, Knoxville, TN 37996-2700.

Sport Management

GRADUATE COURSES

415 Development and Maintenance of Leisure, Sport, Tourism Services (3) (Same as Recreation and Tourism Management 415.)

440 Sport Marketing (3) Application of fundamental marketing concepts to sport industry. Marketing research, promotions, fund raising, advertising, and assessment of marketing programs specific to sport. Historical development of sport marketing. Prereq: Marketing or consent of instructor.

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

501 Special Project (3) Culminating experience for masters major. Research study suitable for publication or practicum 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/NC only. E


511 Administration/Supervision in Sport (3) Development of knowledge and analytic skills desirable for managers/administrators in sport business organization: organizational, administrative, and supervisory strategies related to sport and profit and non-profit settings. F,Sp

512 Application of Legal Concepts to Sport Settings (3) Application of contract law, breach of contract, and monetary damages in sport settings; risk assessment and development of effective risk management strategies; development of contracts in sports; and analysis of cases involving discrimination, gender, race, age, and sex 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, analysis procedures, and proposal development. F,Su

533 Ethics in Sport Administration (3) Development of ethical and moral values and knowledge desirable for middle and upper level managers in sport business organizations. F,Sp

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

553 Case Studies in Sport Administration (3) Current issues and problems in sport administration at all levels of amateur and professional sport. May be repeated under different topic. Maximum 9 hrs.

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

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

570 Event Management (1-3) Review of current research related to theory and practice in event management and involvement in management capacity with one or more special events. Su

575 Seminar in Sport Management (1) Selected topics in sport management. May be repeated with consent of instructor. Maximum 3 hrs. S/NC only.

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

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

593 Independent Study (1-15) May be repeated. S/NC or letter grade. E

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

Dance

GRADUATE COURSES

415 Teaching Creative Dance for Children (2) Theory, methods, materials and practical experience in presentation and integration of creative dance in grades K-6. Mini-teaching experience.

480 Dance Through the 19th Century (3) Dance of various societies and culture from pre-history through 19th century.

490 Dance in the 20th Century (3) History and philosophy of dance.

495 Dance Pedagogy (3) Principles and methods of teaching dance with practical application in mini-teaching experience. Prereq: Upperclass or graduate standing and consent of instructor.
Statistics

(College of Business Administration and Intercollegiate Program)

MAJORS

Statistics .................................................. M.S.
Business Administration ................................. MBA, Ph.D.

Robert W. Mee, Head

Professors:
Bozdogan, Hamparsum, Ph.D. .................. Illinois
Guess, Frank M., Ph.D. ................ Florida State
McLean, Robert A. (Emeritus), Ph.D. ............ Purdue
Mee, Robert W. Ph.D. ................ Iowa State
Parr, William C., Ph.D. .......................... Southern Methodist
Philpot, John W., Ph.D. ............................ VPI
Sanders, Richard D. (Emeritus), Ph.D. .......... Texas
Sylwester, David L., Ph.D. .................. Stanford
Thigpen, Charles C. (Emeritus), Ph.D. .......... VPI

Robert W. Mee, Head

Associate Professors:
Leitnaker, Mary G., Ph.D. .......................... Kentucky
Leon, Ramon V., Ph.D. ............................. Florida State
Walker, Esteban, Ph.D. ............................... VPI
Younger, M. S. (Liaison), Ph.D. ............... VPI

Additional Intercollegiate Program Faculty:
Aikens, Charles, Engineering; Bunting, Dawey, Arts and Sciences; Chatterjee, Arun, Engineering; Desaat, Don; Education; Dyer, Carl, Human Ecology; Fitzpatrick, Een, Arts and Sciences; Fribourg, Henry, Agricultural Sciences and Natural Resources; Cant, Michael, Arts and Sciences; Gillison, Charles, Social Work; Gross, Louis, Arts and Sciences; Huck, Schuyler, Education; James, Lawrence, Business Administration; Ladd, R. T., Business Administration; Lounsbury, John, Arts and Sciences; Lyons, William, Arts and Sciences; McLemore, Dan, Agricultural Sciences and Natural Resources; Miller, Mark, Communications; Omne, John, Social Work; Ploch, Donald, Arts and Sciences; Rajput, Baliram, Arts and Sciences; Richardson, Jr., Lillard, Arts and Sciences; Resnik, Jan, Arts and Sciences; Samejima, Fumiko, Arts and Sciences; Saxton, Arnold, Agricultural Sciences and Natural Resources; Singletary, Michael, Communications; Smith, Julius, Arts and Sciences; Wagner, Carl, Arts and Sciences.

THE MASTER'S PROGRAM

The M.S. program in Statistics provides students with the foundations in theory and practice required for careers in applied statistics. In addition to the education traditionally offered in such a program, the department offers a concentration in industrial statistics, which provides unique opportunities for experiences in practical applications of statistics. Through involvement in the University of Tennessee Institute for Productivity by Quality and related programs, department faculty participate in a variety of consulting and research projects in industry. Students may supplement their classroom study with an industrial internship and participation in research projects dealing with industrial problems. Department faculty also collaborate with researchers from many academic disciplines and hold joint appointments with the College of Agriculture, the Computing Center and the Medical Center. Statistics graduate students may gain consulting experience by working with faculty involved in these consulting activities. All students are encouraged to participate in supervised internship or consulting activities as part of their graduate program.

Individuals with undergraduate or graduate degrees in other disciplines are encouraged to enter the program. The candidate's mathematics background should include differential and integral calculus of several variables. Individuals with limited mathematics background should seek departmental guidance regarding specific ways in which they may prepare themselves for 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 or ewalker@utk.edu or http://www.pemba.utk.edu/igsp.

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 linear 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 33 credit hours must be completed for the master's degree. Required of all students are 6 hours in statistical methods, 6 hours in statistical theory and 1 hour in statistical computing. 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-hour 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 doctoral requirements in 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

Hours in Approved IGSP Courses
Master's in home department, minor in Statistics 9
Master's in home department, M.S. in Statistics* 24
Doctorate in home department, minor in Statistics 15
Doctorate in home department, M.S. in Statistics* 24

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

Course options consist of courses in statistics, other than the home department, 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 Examination Committee. No formal comprehensive examination is required of students earning a Statistics minor along with a master's in another field beyond questions which the home department wishes to include as part of the comprehensive examination for the master's degree.

General Admissions and Degree Requirements

1. The student's home department must have approved a 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 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 off in 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 departments 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 requirements of the 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, 566, 572 with prereq or coreq of 561.

**Ph.D. Concentration: Statistics**

This degree provides students with a broad knowledge of the field of statistics, the ability to apply statistics in practical situations to problems of business and industry and the ability to develop new statistical methods; all of which takes place while students are exposed to coursework in the basic functional areas of business.

Minimum course requirements are: 673, 666, 691, and 592.

**ACADEMIC STANDARDS**

A graduate student in the College of Business Administration whose grade-point average falls below 3.0 will be placed on probation. Failure to improve probation will be dropped from the program unless his/hers cumulative grade-point average is 3.0 or higher at the end of the probationary period. The probationary period is defined as the next semester's coursework as established by the degree program for full-time students and the next two semesters' coursework as established by the degree program for part-time students.

**GRADUATE COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>461</td>
<td>Regression Analysis</td>
<td>Linear regression and correlation, multiple regression, polynomial regression, selection of variables, use of dummy variables, analysis of residuals, logistic regression and its applications. Matrix formulation of model. Use of standard computer packages. Prereq: Regression and Correlation Methods.</td>
<td>3</td>
</tr>
<tr>
<td>500</td>
<td>Thesis (1-15)</td>
<td>P/NP only.</td>
<td>E</td>
</tr>
<tr>
<td>502</td>
<td>Registration for Use of Facilities (3-15)</td>
<td>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/C only.</td>
<td>E</td>
</tr>
<tr>
<td>531</td>
<td>Survey of Statistical Methods I</td>
<td>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 and multiple regression. Use of computing facilities required. Credit not given for both 531 and 537. Prereq: Mathematics 530.</td>
<td>3</td>
</tr>
<tr>
<td>532</td>
<td>Survey of Statistical Methods II</td>
<td>Multiple linear regression, including use of dummy variables; simple and multiple factor analysis of variance and covariance; issues in experimental design and analysis. Use of computing facilities required. Prereq: 531.</td>
<td>3</td>
</tr>
<tr>
<td>537</td>
<td>Statistics for Research I (3)</td>
<td>Principles and application of statistical methodology, integrated with considerable use of major statistical computing system. Probability and probability distributions, forming and testing hypotheses using parametric and nonparametric inference methods. Mixed-based inference for categorical data. Credit not given for both 531 and 537. Prereq: 1 yr undergraduate mathematics and 1 undergraduate statistics course.</td>
<td>3</td>
</tr>
<tr>
<td>538</td>
<td>Statistics for Research II (3)</td>
<td>General linear model as applied to multiple regression and analysis of variance. Diagnostic and influence techniques. One-way, factorial, blocking, and nested designs, preplanned versus post hoc contrasts. Random and fixed factors and repeated measurements. Prereq: 537 or 532.</td>
<td>3</td>
</tr>
<tr>
<td>561</td>
<td>Introduction to Computing for Data Management and Analysis</td>
<td>(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.</td>
<td>1</td>
</tr>
<tr>
<td>563</td>
<td>Introduction to Mathematical Statistics</td>
<td>Basic probability models and theory of distributions of random variables. Prereq: Mathematics 241.</td>
<td>3</td>
</tr>
<tr>
<td>564</td>
<td>Theory of Statistical Inference</td>
<td>Introductory theory underlying common statistical procedures of hypothesis testing and estimation. Prereq: 563.</td>
<td>3</td>
</tr>
<tr>
<td>566</td>
<td>Statistical Techniques in Industrial Processes</td>
<td>Applications of control charts and other statistical techniques in industrial setting. Attributes and variables control charts, process capability analysis, aspects of sampling, statistical tolerancing, estimation of variance components, problems of measurement, special industrial applications. Prereq: 571 or equivalent.</td>
<td>3</td>
</tr>
<tr>
<td>571</td>
<td>Statistical Methods</td>
<td>Applied statistical methods; estimation, tests of hypotheses, analysis of variance, nonparametric methods. Prereq: 251.</td>
<td>3</td>
</tr>
<tr>
<td>572</td>
<td>Applied Linear Models</td>
<td>Simple and multiple linear regression using matrix algebra and general linear model; polynomial regression, weighted least squares regression, variable selection techniques, multicollinearity, regression diagnostics. Linear model approach to analysis of data from designed experiments. Use of standard computer packages. Prereq: 571 and matrix algebra.</td>
<td>3</td>
</tr>
<tr>
<td>573</td>
<td>Design of Experiments</td>
<td>One-way ANOVA, multiple range tests, transformations, orthogonal designs; factorial experiments, completely randomized designs; analysis of covariance, split-plot and nested designs, fractional factorial, sequential designs. Prereq: 571.</td>
<td>3</td>
</tr>
<tr>
<td>575</td>
<td>Applied Time Series</td>
<td>Fundamental concepts of time series analysis. Box-Jenkins approach. Stationary and nonstationary models, forecasting model identification, seasonal models, transfer function models, and spectral theory. Prereq: 536 or 572 and consent of instructor.</td>
<td>3</td>
</tr>
<tr>
<td>673</td>
<td>Advanced Topics in Design of Experiments and Linear Models</td>
<td>Linear models, experimentation for product and process improvement: response surface methodology and robust design methods; mixture experiments; optimal design theory; distribution theory and inference for linear models. Prereq: 573 or consent of instructor.</td>
<td>3</td>
</tr>
<tr>
<td>677</td>
<td>Statistical Modeling</td>
<td>Modern techniques of statistical modeling: predictive, likelihood, Bayesian, and information-based model selection and evaluation paradigms. Application of techniques in various types of models for both continuous and discrete data modeling problems. Interactive computational tools. Prereq: 564 and 572 or 583, or consent of instructor.</td>
<td>3</td>
</tr>
<tr>
<td>592</td>
<td>Internship (1-6)</td>
<td>Supervised off-campus experience in application of statistical principles and methods in business, industry, or government. Written and oral report. Prereq: Consent of department head. Students must be in regular graduate courses of statistics department director of graduate studies. May be repeated. Maximum 6 hrs. S/C only.</td>
<td>1-6</td>
</tr>
<tr>
<td>593</td>
<td>Independent Study (2-6)</td>
<td>Faculty directed readings and research on a specified topic in probability or statistics. Written report and oral presentation. Prereq: 2 courses in statistics and consent of the statistics department director of graduate studies. May be repeated. Maximum 6 hrs. S/C only.</td>
<td>2-6</td>
</tr>
<tr>
<td>595</td>
<td>Statistical Consulting Project (1-9)</td>
<td>Supervised experience helping on-campus management, clients, manage data, and develop and perform analyses specific to designs and hypotheses. Discussion of activities in regular seminar meetings. Field research reports and/or detailed diaries. Prereq: 572 or 538. May be repeated. Maximum 6 hrs.</td>
<td>1-9</td>
</tr>
<tr>
<td>662</td>
<td>Computational Methods in Statistics</td>
<td>Up-to-date computational methods in statistics: open architecture interactive computational languages supplemented by other statistical packages with graphical capabilities. Statistical computing, numerical methods for linear models and generalized linear models, nonlinear statistical methods, matrix computations and special matrices, essence of Monte Carlo simulation, and resampling techniques. Prereq: Knowledge of programming language and 572 or consent of instructor.</td>
<td>3</td>
</tr>
<tr>
<td>664</td>
<td>Advanced Statistics Theory II</td>
<td>Testing statistical hypotheses, Bayesian methods and estimation, linear model theory and model selection. Prereq: 663.</td>
<td>3</td>
</tr>
<tr>
<td>666</td>
<td>Advanced Statistical Process Control</td>
<td>Development of advanced SPC concepts: theory governing properties of Shewhart-type control charts. Comparisons with computing methodology. Readings and discussion based on current literature. Prereq: 564 and 566.</td>
<td>3</td>
</tr>
<tr>
<td>673</td>
<td>Advanced Topics in Design of Experiments and Linear Models</td>
<td>Experimentation for product and process improvement: response surface methodology and robust design methods; mixture experiments; optimal design theory; distribution theory and inference for linear models. Prereq: 573 or consent of instructor.</td>
<td>3</td>
</tr>
<tr>
<td>677</td>
<td>Categorical Data Analysis</td>
<td>Log-linear analysis of multidimensional contingency tables. Logistic regression. Theory, applications, software, and computer simulation. Prereq: 1 yr graduate-level statistics, regression analysis and analysis of variance and familiarity with UNIX or other operating systems.</td>
<td>3</td>
</tr>
<tr>
<td>677</td>
<td>Statistical Modeling</td>
<td>Modern techniques of statistical modeling: predictive, likelihood, Bayesian, and information-based model selection and evaluation paradigms. Application of techniques in various types of models for both continuous and discrete data modeling problems. Interactive computational tools. Prereq: 564 and 572 or 583, or consent of instructor.</td>
<td>3</td>
</tr>
<tr>
<td>679</td>
<td>Multivariate Statistical Modeling</td>
<td>Modern information-based techniques and model selection in multivariate analysis, information-based tests of association with multivariate data, multivariate analysis of variance, multivariate regression and variable selection, multivariate cluster analysis, common principal component model, factor analysis model, covariance structural models with latent variables, mixture-model cluster analysis. Prereq: Matrix algebra and 564, or matrix methods with experience in interactive computing, or consent of instructor.</td>
<td>3</td>
</tr>
<tr>
<td>683</td>
<td>Special Topics in Statistics</td>
<td>Presentation of specialized topics in statistics. May be repeated. Maximum 3 hrs.</td>
<td>3-15</td>
</tr>
<tr>
<td>691</td>
<td>Graduate Seminar in Applied Statistics</td>
<td>Reading of literature and discussion of open problems of importance to industry: design of experiments, modeling, process control, regression, and reliability. Prereq: Consent of instructor. S/C only.</td>
<td>3-15</td>
</tr>
</tbody>
</table>

**Statistics 18 1**
The Theatre Department offers the Master of Fine Arts degree with a major in Theatre, concentrations in costume design, international performance studies in acting, international performance studies in directing, lighting design, scene 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.

Three letters of recommendation and interviews with appropriate faculty are required of all applicants. Applicants for admission to the M.F.A. design/technical theatre programs must submit samples of their work. Auditions are required of M.F.A. degree acting 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, which is normally to be completed in three consecutive years of full time residence. Theatre 501 is required the first year of residence. Three additional hours at the 500 level are required from history, literature, or dramatics. Students in the M.F.A. degree program are evaluated annually by juries of performance or portfolio submission. Continuation in the program is with the approval of the faculty committee for the M.F.A. degree program. Theatre 599, Projects in Lieu of Thesis, and an oral defense of the project must be completed satisfactorily before the degree is conferred.

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

Design/Technical Production

Required courses are at least 12 hours of Theatre 580, Design and Technical Production Seminar, and at least 6 hours in the projects courses. Theatre 401, Principles of Design is required in the first year of residence.

International Performance Studies in Acting

Theatre 520-22-23-24-25 Master Class are required, along with one course in directing and two hours each in voice and dance.

International Performance Studies in Directing

Theatre 530-31-32-33-34-35 Master Class are required along with Theatre 401 Principles of Design. Directing candidates are also expected to take art and music survey courses and language courses as advised.

REQUIREMENTS FOR SECOND MASTER'S DEGREE

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

Any such credits applied from a previous graduate program would be from courses that are directly relevant to the student's MFA curriculum and must have been earned within the time limit (6 years) established for completion of the MFA degree.

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 (3) Study and problems in make-up design and application; character analysis. Prereq: Introduction to Theatre.

420 Special Studies in Acting (3) Content varies. Exercises in selected concentrated areas such as styles, techniques, approaches, e.g. Shakespeare, movement, humor. Prereq: Advanced Acting and consent of instructor. May be repeated. Maximum 6 hrs.

423 Period Movement and Dance (2) Movement styles and dances 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 4 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.


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

446 Costume Patternmaking (3) Draping patterns for period costumes. Consistency and study of historic patterns 1500-1900. Prereq: 345 or consent of instructor.

449 Advanced Costume Patternmaking (3) Advanced studies in pattern period costume. Development of historic patterns through flat pattern method. Prereq: 446.

450 Advanced Scenery Technology I (3) Study and practice of theatre woodworking; 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 woodworking for theatrical productions; 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 monochrome and full color illustration of space and form. Prereq: Tackle with basic 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 Theatre (3) Advanced techniques in computer assisted design for theatre. Work with CAD, Computer Drawing Graphics, and/or 3D Modelling software for preparation of theatrical designs. Specific content varies with semester. Admission by consent of instructor only. May be repeated. Maximum 9 hrs.

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 (1-15) 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. SNC 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 approaches of major playwrights, using a variety of analytical approaches from Aristotelian to Structuralist.

520-21-22-23-24-25 Master Classes in Acting (6,6,6,6,6,6) Master classes in acting techniques, voice, and movement. Theatre MFA students only.

530-31-32-33-34-35 Master Classes in Directing (6,6,6,6,6,6) Master classes in directing techniques. Prereq: Admission to MFA program.

536 Projects in Play Directing (3) Practical work in play direction developing 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.


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

556 Advanced Costume Patternmaking (3) Advanced studies in pattern period costume. Development of historic patterns through flat pattern method. Prereq: 446.
Transportation

See Marketing, Logistics and Transportation

Veterinary Medicine

(College of Veterinary Medicine)

MAJOR DEGREE
Veterinary Medicine .................. D.V.M.
Comparative and Experiential Medicine ........... M.S., Ph.D.

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 course requirements listed below. These may be completed at any accredited college or university. Pre-veterinary courses 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.

Subject Area Semester Hours
English 6
Humantities and Social Sciences* 18
Physics 8
General Chemistry 8
Organic Chemistry 8
Biochemistry** 4
General Biology 3
Genetics 3
Cellular Biology*** 3
TOTAL 66

*May include, for example, courses in English literature, speech, music, art, philosophy, religion, languages, 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.

The College of Veterinary Medicine utilizes the Veterinary Medical College Application Service (VMCAS) for all applicants. Forms and instructions for making application for admission may be obtained beginning June 1, 1999 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 FOR APPLICATION TO BE CONSIDERED.

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 generally 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 54 weeks.

Development of a strong basic science foundation is emphasized in the first year. Courses consist mostly of preclinical subjects of anatomy (gross and microscopic), physiology, immunology, bacteriology, virology and parasitology. Also included in the first year are clinical subjects of physical diagnosis and epidemiology. 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 participate exclusively in clinical rotations in the Veterinary Teaching Hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably off-campus). The student will be assigned to various areas of the hospital and in required externships (preferably of
813 Infection and Immunity I—Immunology (2) Basic biology and prnciples of immunology: cells of the immune system, immune function, and dysfunction; immunopathophysiology, diagnostic testing and specific diseases involving immune system.

814-16 Clinical Correlations and Ethics I, II, (2) Comparative principles of disease and ethical issues from concurrent courses and practice of veterinary medicine. Thought on wide spectrum of current veterinary ethical issues. Student-led discussions follow faculty presentations.


821-22 Veterinary Anatomy I, II, (6,6) Integrated approach to study of developmental, microscopic (gross), and microscopic anatomy of common domestic animals. Dissections of entailed specimens of common domestic species for comparative purposes. Microscopy relates structure with function. Study of developmental anatomy related to normal anatomy inherited abnormalities.

823-24 Physiology I, II, (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, nervous, cardio-vascular, renal, respiratory, digestive, endocrine, and reproductive physiology.

827 Special Problems in Animal Science I—Extramural and specially designed study for students interested in select topics in animal husbandry, pathology, and physiology.

831 Physical Diagnosis I—Basic care, feeding, restraint, and handling domestic animals. Introduction to physical examination and diagnosis techniques used by veterinarians.

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

833 Epidemiology and Evidence Based Medicine (2) Study of distribution and determinants of disease in animal populations. Use of knowledge (evidence) gained from management of clinical patients in past to improve future clinical decision making processes.

834 Hematopoietic System—Pathophysiology and diagnosis of disorders involving bone marrow and blood cells, platelets, and blood coagulation in domestic animals: interpretation of laboratory test results using illustrative clinical cases.


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

837 Food Hygiene and Zoonoses—Host-guest relationships, public health, and veterinary medicine and role of veterinarians in ecology and food hygiene.

840 Integumentary System—Pathophysiology, special pathology, medicine and surgery of diseases of integumentary system. Laboratory examination, pathology, diagnosis and treatment.

841 Reproductive System—Pathophysiology, special pathology, medicine and surgery of diseases of reproductive system.

842 Alimentary System—Pathophysiology, special pathology, medicine and surgery of diseases of alimentary system.

843 Musculoskeletal System I—Pathophysiology, clinical description of normal and abnormal anatomy and/Ball and surgical disease of skeletal system of small animals: development of basic diagnostic and treatment skills.

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

845 Veterinary Nutrition—Principles of nutrition, and nutrition of animals in health and disease. Applied nutrition relating to individual small or large animal patient or herd situations.

846 Multispecies Medicine I—Anatomy, pathophysiology, medicine, and surgery of ascidian species, laboratory and zoo animals and reptiles. Species and diseases seen by practicing veterinarian. Current topics on foreign animal diseases.

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

852 Cardiovascular System—Pathophysiology, special pathology, medicine and surgery of diseases of cardiovascular system. Anatomic, physiologic and pharmacologic principles which provide basic for treatment.


854 Respiratory System—Pathophysiology, special pathology, medicine and surgery of diseases of respiratory system. Upper and lower respiratory systems: infectious and noninfectious diseases.

855 Radiology—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—Pathophysiology, special pathology, medicine and surgery of diseases of vision and auditory systems.

861 Pharmacology I—Principles of pharmacokinetcs and pharmacodynamic properties of veterinary drugs: mode of action and pharmacokinetic effects including important metabolic aspects, chemical and physical properties, side effects (toxicities) and clinical application.

862 Pharmacology II—Continuation of 861; modes of action, pharmacokinetic effects, and clinical application of drugs to control specific disease conditions.

866 Infectious Diseases—Pathogenesis and clinical findings of major viral, bacterial, and fungal infectious diseases of domestic animals: cattle, horses, swine, sheep, goats, dogs and cats; relevant case-based presentations.

867 Clinical Rotation in Comparative Medicine—Clinical training in avian medicine, laboratory animal medicine, and zoo animal medicine, epidemiology, public health, and other related disciplines.

868 Special Problems in Comparative Medicine—Extramural and specially designed study for students interested in select topics in avian medicine, laboratory animal medicine, zoo animal medicine, epidemiology, public health, pharmacology or toxicology.

869 Introduction to Animal Behavior—Basic principles of normal and abnormal animal behavior in domestic animals; clinical case presentations to illustrate common behavioral problems and current approaches to therapy.

870 Anesthesiology—Clinical training in sedation and anesthesia of companion animals, food animals and horses. Direct responsibility for diagnosis, care and treatment of clinical patients.

871 General Pathology—Principles of pathobiology, causes of disease, disturbances of cell growth and inflammation.

872 Infection and Immunity IV—Parasitology I—Principles of parasitology: protozoology, helminthology, and entomology and relationship to diseases in animals.

874 Oncology I—Fundamental aspects of cell biology and pathology relative to etiology and natural history of various neoplasms in domestic animals. Introduction to diagnosis, treatment and prevention of neoplasia.

875 Special Problems in Pathology—Extramural and specially designed study for students interested in select topics in morbid pathology, clinical pathology, clinical microbiology, and parasitology.

876-79 Elective Clinical Rotation I, II, (2,2) Special rotations in applied clinical education in Small Animal Clinical Sciences, Large Animal Clinical Sciences, Comparative Medicine and Pathology. Unique experience not associated with required clinical rotations may be arranged.

881 Clinical Rotations in Small Animal Clinical Sciences I—Clinical training in medicine, surgery and specialty disciplines for companion animals. Direct responsibility for diagnosis, care, and treatment of clinical patients.

882 Clinical Rotations in Small Animal Clinical Sciences II—Clinical training in medicine, surgery and specialty disciplines for companion animals. Direct responsibility for diagnosis, care, and treatment of clinical patients.

883 Clinical Rotations in Small Animal Clinical Sciences III—Clinical training in medicine, surgery and specialty disciplines for companion animals. Direct responsibility for diagnosis, care, and treatment of clinical patients.

886-89 Clinical Rotation in Radiology and Pathology I, II—(4,4) Two weeks in each discipline. Clinical training in radiographic technology and pathology. Ultrasound, post-mortem examination and laboratory diagnostics; clinical pathology and introductory histopathology of biopsy specimens.

887 Special Problems in Small Animal Clinical Sciences—Extramural and specially designed study for students interested in select topics in medicine, surgery, radiology, and medical specialties of small (companion) animals.

890 Transition and Accreditation Seminars—Discussion of USIC, state, and local animal laws and regulations; preparation of animal movement forms, veterinary ethics, jurisprudence, basic practice management, and other topics involved in practice of veterinary medicine.

891 Clinical Rotations in Large Animal Clinical Sciences I—Clinical training in medicine, surgery, specialty disciplines and herd health of food animals and horses. Direct responsibility for diagnosis, care and treatment of clinical patients.

892 Clinical Rotations in Large Animal Clinical Sciences II—Clinical training in medicine, surgery, specialty disciplines and herd health of food animals and horses. Direct responsibility for diagnosis, care and treatment of clinical patients.

893 Clinical Rotations in Large Animal Clinical Sciences III—Clinical training in medicine, surgery, specialty disciplines and herd health of food animals and horses. Direct responsibility for diagnosis, care and treatment of clinical patients.

894 Special Problems in Large Animal Clinical Sciences—Extramural and specially designed study for students interested in select topics in medicine, surgery, radiology and medical specialties of large (thoracic) animals.

895-96 Externship I, II—(2,2) Educational experiences in a private practice, research facility, zoological preserve, aquarium, or other veterinary-related facility outside Veterinary Teaching Hospital; to provide experiences not frequently available in large referral veterinary teaching hospitals.
FACILITIES FOR RESEARCH AND SERVICE
Facilities for Research and Service

Bureau of Educational Research and Service
(College of Education)

Carol E. Kasworm, Director

Housed in the Associate Dean's Office for Research and Technology, the Bureau is responsible for the coordination of research activities and for the development of college research and service activities based in external funding. In addition, it may be called upon to provide brokering services to connect faculty expertise with needs for consultant services, technical assistance, and possible professional development activities. The Bureau directly coordinates select development of research proposals, as well as college grant and contract review, administration, and fiscal processes. The Bureau also provides the administrative home for the interdisciplinary Center for Literacy Studies, the Appalachian Rural Systemic Initiative Resource Collaborative, and the High School Equivalency Program (Migrant Education).

Center for Business and Economic Research
(College of Business Administration)

William Fox, Director

In its economic research endeavors, CBER today has the same basic mission determined at its inception 60 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 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 areas of research, information technology and information dissemination, located at 100 Glocker.

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, and business and industry. 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.

Center for Literacy Studies
(College of Education)

The Center for Literacy Studies was founded in 1988. The Center's purpose is to bridge theory and practice in the field of adult learning and literacy. To achieve its purpose, the Center collaborates with practitioners, policy makers, and other research organizations on projects that address five common themes: 1) building the capacity for literacy delivery systems that can meet the needs of a changing society; 2) forming partnerships with practitioners who are working to make changes in their practice of adult education; 3) developing innovative approaches to adult learning and literacy; 4) developing innovative technology applications for the field; and 5) disseminating results to the field.

Center for Physical Activity and Health
(College of Education)

The mission of the Center for Physical Activity and Health is to integrate scientific research, education, and practical applications of exercise and health science in a manner that enhances health, fitness, performance, and quality of life. The Center is a service oriented organization designed to educate the UTK and Knoxville communities about the benefits of regular physical activity as well as warn about the serious potential health outcomes of leading a sedentary existence.

The Center focuses its efforts in four main areas: training future leaders in exercise promotion, providing exercise opportunities for members of the UTK community, promoting exercise within the UTK and Knoxville communities, and providing exercise testing and assessment.

For additional information about services, contact Dr. Dixie L. Thompson at (423) 974-1271 or via e-mail at dixielee@utk.edu.
Center of Excellence for Materials Processing

The Center for Materials Processing is one of the "Centers of Excellence" created by the State of Tennessee. It has an interdisciplinary program designed to bring together individuals with appropriate expertise to solve important materials processing problems. It emphasizes (1) the development of desirable materials properties through the control of composition, molecular structure, and microstructure, (2) measurement of process variables, and (3) control of those variables to ensure proper processing. The Center conducts basic research and teaching in materials processing and carries out research to improve existing processing technologies and transfer of research results to private industry. A major aspect of the Center is student participation in industry-sponsored research programs.

The Center is located in 100 Estabrook Hall, 974-0816.

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 and the governor approved $1 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. Now four 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 state. The Chairs are appointed by the state's Board of Regents, and the University must match the gift money. Chairholders are noted within their respective academic units.

The Chairs of Excellence are:

- Bernadette E. Schmitt Chair of Excellence of History
- Benard Blasingame Chair of Excellence in Agricultural Policy
- Chair of Excellence in Science, Technology and Medical Writing
- Clayton Homes Chair of Excellence in Finance
- College of Business Administration Chair of Excellence of Policy Studies
- Condra Chair of Excellence in Computer Integrated Engineering and Manufacturing
- Condra Chair of Excellence in Power Electronics Applications
- Goodrich Chair of Excellence in Waste Management and Environmental Engineering
- Hodges Chair of Excellence of English
- J. Fred Holly Chair of Excellence in Political Economy
- Nancy Gore Hunger Chair of Excellence in Environmental Studies
- UT Willis Lincoln Chair of Excellence in Physics
- Pilot Chair of Excellence in Management
- Ivan Rachett Chair of Excellence of Ornamental Horticulture
- Ivan Rachett Chair of Excellence in Materials Science and Engineering
- Forrest & Patsy Shumway Chair of Excellence in Romance Languages

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 of Excellence for Livestock Diseases and Human Health
  Dr. G. M. H. Shires, Director
  College of Veterinary Medicine
  UT Knoxville
  109 Morgan Hall
  Knoxville, TN 37996
  (423) 974-7262

- Center of Excellence for Materials Processing
  Dr. Carl McHargue, Director
  UT Knoxville
  100 Estabrook
  Knoxville, TN 37996-2351
  (423) 974-7680

- The Science Alliance
  Dr. Thomas A. Callcott, Director
  UT Knoxville
  101 South College
  Knoxville, TN 37996
  (423) 974-6765

- Waste Management Research and Education Institute
  Dr. Gary Sayler, Director
  676 Dabney Buehler
  Knoxville, TN 37996-0845
  (423) 974-8080

Child Development Laboratories

(College of Human Ecology)

Anne Miller Stott, Staff Director

The Child Development Laboratories, operated by the Child and Family Studies Department within the College of Human Ecology since 1927, currently offer child care programs for young children ages six weeks to five years. The Child Development Laboratories consist of three purposes: to promote observation, participation, and research activities of the department and other university faculty and students; to prepare undergraduate and graduate child development professionals for working effectively with young children; and to provide a model early childhood education program for children, families and early childhood professionals.

The programs are equipped with a tele-telemetry laboratory that features unique video-taping capabilities in all classrooms, small group research rooms, and observation booths that facilitate teacher training and research. A variety of research projects (such as the development of creativity in young children, emergent literacy, children's political socialization, mainstreaming, and peer interactions) involves students and faculty in the college and many departments on campus. Graduate Assistants in the Laboratories participate in teaching, assessment, administrative, supervisory and research activities while working with children and families under the guidance of faculty and staff. The Child Development Laboratories are accredited by the National Association for the Education of Young Children.

For more information, check Web site at http://web.utk.edu/~udcdl/.

Communications Research Center

(College 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 communication.

Division of Information Infrastructure

The UTK Division of Information Infrastructure (DII) provides computing and telecommunications resources and services for students, faculty and staff on the Knoxville campus. DII consists of three operating units: Innovative Technologies, Computing and Academic Services, and Telecommunications and Network Services. Information about DII is available on the web site http://www.utk.edu/computing.

INNOVATIVE TECHNOLOGIES COLLABORATIVE (ITC)

Susan Metros, Director

The Innovative Technologies Collaborative (ITC) enriches the educational experience of UTK students by supporting the academic community in advancing learning through the use of instructional technologies. The ITC's services and resources are available to all UTK faculty, academic teaching staff, and graduate teaching assistants and associates. The ITC staff is available to consult with instructors on everything from developing technology-driven course components to
offering fully online curricula. At the heart of the ITC is a team of highly skilled professionals. The group has expertise in instructional, multimedia, graphical interface, and Web design. The center also specializes in technology assessment and integration, computing, programming, and information science.

Each semester, the ITC offers a comprehensive selection of courses and workshops (itc.utk.edu/itc/courses) to all members of the UTK academic community. In addition to the hands-on approach directed during instruction, online components are available for reference and practice.

In response to current trends in higher education to move instructional materials and courses onto the World Wide Web, the ITC selected Blackboard's Courselnfo as the campus course management system. Courselnfo allows instructional staff to create, edit, and add course materials, organize content flow, communicate with students, manage grades and student materials, and facilitate the course either wholly online or in conjunction with a face-to-face component. This service not only makes publishing class materials on the Web easier, it is free and hosted by the ITC on a restricted server, protecting intellectual property and student privacy. The ITC maintains the Online@UTK Web site (online.utk.edu) and links to UTK courses with a Web presence and courses powered by Courselnfo and the Get Online@UTK Web site (itc.utk.edu/getonline) for access to training and support for the Courselnfo initiative.

The ITC maintains a variety of hardware and software resources for instructional use (itc.utk.edu/itc/resources). The ITC Development Lab is a multi-platform computer laboratory equipped with updated peripherals, software, and resources for designing, developing, authoring, producing, and evaluating online courseware and multimedia prototypes. Faculty may reserve a station and work independently, or consult with one of the ITC staff. In addition to the lab, the ITC maintains a small inventory of equipment that faculty may check out for instructional use.

The ITC works with Academic Affairs to prioritize needs and standardize and implement technology-enhanced upgrades and renovations for classrooms and labs. This initiative includes oversight for the electronic delivery of instruction and the establishment of policies for the use, support, and maintenance of these facilities. Small classroom information, equipment use, and training classes are available upon request (itc.utk.edu/itc/smtclass/home.html).

The ITC also maintains the "UTK Homepage" (www.utk.edu) as the Internet portal to The University of Tennessee at Knoxville. This site is an educational and information resource for current and prospective students, alumni, faculty, staff, and the general public. The site averages more than four million hits a month.

The Innovative Technologies Collaborative is located on the 4th floor of Dunford Hall, 915 Volunteer Blvd., Telephone: 423-974-9670, FAX: 423-974-2050, E-mail: itc@utk.edu. The ITC Web site: itc.utk.edu.

Hours: 8 a.m. to 5 p.m., Monday through Friday, or by appointment.

COMPUTING AND ACADEMIC SERVICES
Dewitt Latimer, Director
Computing and Academic Services (CAS) provides computing facilities, services, and support for the university's teaching, research, public service, and administrative activities. Information and assistance in accessing all services may be obtained by calling the Help Desk at 974-9900, or by visiting the Aconda Court Help Desk, Room 104. Both facilities are open weekdays from 9 a.m. to 4 p.m. The CAS web site at http://www.cas.utk.edu can also provide up-to-date information and documentation.

Individual UNIX and Lotus Notes computer accounts are provided for all UT Knoxville students, faculty and staff for the duration of their affiliation with UT Knoxville at no charge to the individual. Either (or both) of these accounts may be utilized for e-mail, course work, research, and personal Web pages. Go to the main CAS web page for more information and to obtain these accounts on-line.

To provide access to computing facilities and services around campus, CAS maintains six staffed computing labs, 15 unstaffed labs, and supports computing installations in all residence halls. The computing labs are equipped with more than 300 workstations, 100 servers, and 8 workstations including current models of Apple, IBM, Sun, Dell, and Gateway machines. In addition, there are laser printers, scanners and zip drives available. A variety of industry standard software applications are available for use on the machines in the computing laboratories.

Training and documentation are also available through CAS. "The Life Preserver," an introduction to computing and networking at UT, is both a manual and a course for the new user to a basic level of expertise. In addition to orientation training, CAS provides classes using Microsoft Office products, basic Web page development, and Internet use. Over 300 self-paced computer-based training (CBT) courses on computing and network topics are also available. Some of the CBT course topics include Microsoft Word, Excel, Access, PowerPoint, Lotus Notes, Novell, UNIX, Win95, Win98, Internet, HTML and Java.

Statistical and mathematical consulting is available to help students, faculty and staff enhance the quality of their instruction and research by effectively applying statistical methodology. Information about the Statistical and Computational Consulting Center (SCCC) is available at either the Web site http://www.cas.utk.edu/sccc or by calling the Help Desk at 974-9900.

CAS operates the core mainframe and large-scale servers that serve a variety of functions including mail, file, print, and user logins. Equipment includes multiple systems from Sun, SGI, and IBI systems. Software available on the central servers includes commonly used compilers and interpreters, and a large number of programs for statistical, mathematical, engineering, operations research and graphics applications. CAS also coordinates computing resources for research activities on the Knoxville campus. A 34 node (32 thin, 2 high) IBM SP parallel architecture machine is available for high performance research computing needs. S.CT Banner 2000, the student information system that handles the financial aid, recruiting, registration, and grading aspects of the University, to name a few, is maintained and supported by CAS as well.

ENERGY, ENVIRONMENT, AND RESOURCES CENTER
Jack N. Barkenbus, Executive Director
The Energy, Environment, and Resources Center, 600 Henley Street, Suite 311, was created in 1973 to encourage interdisciplinary research related to 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 the Joint Institute for Energy and Environment, and Oak Ridge National Laboratory. Sponsors include federal and state agencies, industry, and foundations.

Current research includes solid and hazardous waste management, information policy, energy efficiency, energy technology, Community Solar, and the sustainable energy economy.
systems, environmental education, global environmental problems, and pollution prevention. The Center operates the Waste Management Research and Education Institute, the Center for Clean Products and Clean Technologies, the Water Resource Research Center, the Center for Geography and Environmental Education, and the System Development Institute. Current grants and contracts are approximately nine million dollars per year.

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., (423) 974-3404; FAX (423)974-6383.

Institute of Agriculture

Jack H. Britt, 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 mechanical 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

Thomas H. Clindt, 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 resource 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 affect 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, processing, and distributing 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, more efficient 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, Lewsiuburg, 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

Pat Sober, Associate Dean

Charles Norman, Associate 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.

Libraries, The University of Tennessee, Knoxville

Paula T. Kaufman, Dean

Aubrey H. Mitchell, Associate Dean

Professors:

Bayne, Pauline S., M.S.L.S. North Carolina

Feiler-Hoehne, Felicia H., M.S.L.S. Atlanta

Kaufman, Paula T., M.B.A., M.S. Columbia

Joyd, James D., Ph.D., M.S. Mississippi

Phillips, Linda J., M.S.L.S. Rutgers

Rader, Joe C., M.S.L.S. Tennessee

Associate Professors:

Baker, Gayle D., M.S., M.L.S. Alabama

Bridges, Anne E., M.A., M.S.L.S. Rhode Island

Britten, William A., M.S.L.S. Clarion

Clement, Russell T., M.A., M.S.L.S. Brigham Young

Crowther, Karon N.T., M.A., M.Ln. Emory

Dixon, Lana, M.S.L.S. Tennessee

Garrett, Marie A., M.A., M.S.L.S. Vanderbilt

Haris, Steen, M.A., M.S.L.S. Arizona

Harwood, Richard M., M.M., M.S.L.S. Texas

Keally, Jillian M., M.S., M.S.L.S. Tennessee

Kim, Sook-Hyun, M.S.L.S. Indiana

Leach, Sandra S., M.A., M.Ln. Emory

Mack, Thura, M.S.L.S. Tennessee

Miller, Tamara J., M.S.L.S. Kentucky

Minton, James O., M.S., M.S.L.S. Tennessee

Mitchell, Aubrey H., M.S.L.S. Tennessee

Prescod, Janette, M.S.L.S. Western Michigan

Row, Jane S., M.S.L.S. Tennessee

Sammataro, Linda, M.L.S. Southern Connecticut State

Smith, Reta H., M.S. Illinois

Thompson-Wise, Deborah A., M.Ln. South Carolina

Wallace, Alan, M.Ln. Washington

Wise, Norman K., M.B.A., M.S.L.S. Tennessee

Assistant Professors:

Atkins, David P., M.A.L.S., M.L.S., M.S. Wisconsin

Berry, Teresa, M.S.L.S., M.S. Tennessee

Ellis, Kathryn D., M.S.L.S. North Carolina

Johnson, Kay G., M.L.S. Pittsburgh

Ratledge, David, M.S.L.S. Tennessee
Robertson, Michelle, M.S.L.S.... North Carolina
Robertson, Nathan, M.S.L.S..... North Carolina
Shrode, Flora G., M.I.L.I.S.......................... Texas
Thomas, Deborah L., M.B.A., M.S. ...................... George Peabody
Thomas, Steve, M.S.L.S.............. Tennessee
Viera, Ani, M.S.L.S............................ California, Berkeley
Williams, Sara, M.A., M.S.L.I.S................. Simmons
Wise, Flossie, M.S.L.S..................... Tennessee

The University of Tennessee, Knoxville Libraries’ own approximately 2 million volumes and subscribe to more than 11,000 periodicals and other serial titles. The Libraries’ membership in the Association of Research Libraries reflects the University’s emphasis on graduate instruction and research and the support of large, comprehensive collections of library materials on a permanent basis.

The UT, Knoxville Libraries consists of the main library (John C. Hodges Library), four branches on the Knoxville campus (Agriculture-Veterinary Medicine Library, Map Library, Music Library, and University Archives & Special Collections), and the Social Work Library in Nashville.

Research assistance is available at the reference desk in each library. Free self-searching of selected databases is also available in the reference area and remotely, through the World Wide Web.

Users can search the catalog of holdings at any library branch or via the UT Libraries’ Web site at www.lib.utk.edu. Materials that are not available in the UT Libraries can be requested through Interlibrary Services.

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 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 over 300 graduate student carrels, 200 faculty studies, and comfortable study space for more than 2,000 people.

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. Most of the publications of the U.S. Department of Agriculture and the State Agricultural Experiment Stations and Extension Services are collected.

The Map Library (Room 15, basement of the Hoskins Library, Cumberland Ave. & 15th St.) maintains and develops a collection of sheet maps, atlases, journals, and books related to cartography. Materials in print, film, and digital formats are acquired from commercial sources as well as the Government Depository program.

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.

Special Collections (2nd floor, west wing, of the Hodges Library) maintains and develops a collection of primary source materials and costly modern library materials. The University Archives contains official records of the University; items published officially and unofficially; and other materials that document University of Tennessee life. Materials from Archives and Special Collections are pagated for library users from closed stacks for use in the Reading Room.

The Social Work Library (1720 West End Ave., Nashville) serves College of Social Work students in field practice and 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 individualized as needed. Each library at The University of Tennessee is accessible to all students and faculty in the UT system.

*Data excludes Law Library faculty and statistics.

Maintenance and Reliability Center

(College of Engineering)

The Maintenance and Reliability Center (MRC), located in 103 Estabrook Hall, was created in 1996 to provide an international center for research, development and application of advanced maintenance and reliability engineering. MRC’s primary goal is to provide productivity improvements to industry by advances in failure prevention technology. Associated with this effort is the establishment of maintenance and reliability engineering as an interdisciplinary activity with application across a broad spectrum of industrial activities. In addition, MRC stresses the development of management techniques that will provide decision makers with the means to assess the availability, costs and benefits of failure prevention techniques.

MRC is an association consisting of industrial members and the University of Tennessee College of Engineering. Interested and qualified students may affiliate as interns with the MRC program while pursuing a degree in an engineering department. A certification in maintenance and reliability engineering can be obtained along the the regular degree. Maintenance engineering courses are available as electives for these students. Research opportunities and graduate assistantships are also available for qualified students.

Center sponsored research projects are focused on life prediction technology; information processing technology; sensors, measurement systems and automation; and maintenance design engineering. Other research focus areas will be developed as the needs of industrial members are identified and matched with areas of university expertise.

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, 708 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 from the perspective 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 externally valued, and (2) acting as a facilitator in guiding this knowledge into the credit curriculum of the College.

The Center prides itself on the development of long-term relationships with organizations that provide a living laboratory to test and validate the new knowledge of the Center that is disseminated in a variety of forms. Executive and Management Education Programs are one form of dissemination. The Center has provided custom and public programs for 80 of the Fortune 500 companies.

The Center emphasizes consistent, high-quality programming, small class sizes, outstanding faculty who bring the added value of experience in the private and public sectors to the classroom, a highly interactive style of instruction, and an applied orientation. The focus is on longer term, more developmentally oriented programs of one to four weeks in length such as the four-week University of Tennessee Executive Program, three-week Practical Strategies for Process Improvement Institute, and one-week Lean Enterprise Systems Design Institute.

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 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, signal and image processing, and sensor development. Research in process control concentrates in the areas of process analysis, process modeling, control system design, and real-time expert systems. Fiber optic systems development is underway for monitoring and control of chemical processes.
Nutrition Institute
(College of Human Ecology)

Michael B. Zemel, Director
Thomas C. Namey, Associate Director

The Nutrition Institute is a systemwide, multidisciplinary consortium of faculty who are engaged in clinical and experimental nutrition research, teaching and service. Its expertise and resources are multilocalized 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 unified forum for exchange and interactions 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.

The Institute publishes an on-line magazine Nutrition Uncovered which addresses current issues and controversies in the field. It may be found on the Web at http://nutrinst.he.utk.edu/.

Off-Campus Graduate Centers

KINGSPORT GRADUATE PROGRAM

UT Knoxville offers at Kingsport graduate programs in engineering and Human Resource Development at the master's level.

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 ETSU/UT at Kingsport, 1501 University Boulevard, Kingsport, Tennessee 37660.

OAK RIDGE GRADUATE PROGRAM

UT Knoxville offers graduate programs at Oak Ridge leading to the master's degree in several engineering and related technical areas. Students can earn a master's degree in Chemical Engineering, Environmental Engineering (concentrations in mixed waste management, environmental risk assessment), Industrial Engineering (engineering management or traditional industrial engineering concentrations), Nuclear Engineering (radiological engineering concentration), or Safety Education.

Students who enroll in these programs must be admitted to The Graduate School at UT Knoxville. Information and application forms may be obtained from the University Evening School, 451 Communications Bldg., Knoxville, TN 37996-0341, or Website at http://www.acad.utk.edu/evening.

CHATTANOOGA EDUCATION PROGRAM

UT Knoxville offers a graduate program in education leading to the Doctor of Education degree with a major in Education, interdisciplinary concentration in leadership for teaching and learning.

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 UTK/UTC Graduate Center, UTC, 120 Race Hall, Chattanooga, Tennessee 37403.

THE UNIVERSITY OF TENNESSEE-OAK RIDGE GRADUATE SCHOOL OF BIOMEDICAL SCIENCES

UT Knoxville offers a program leading to the Ph.D. degree with a major in Biomedical Sciences. Graduate students have the opportunity to study and do research in conjunction with the Oak Ridge National Laboratory.

For complete information concerning the program, see Biomedical Sciences under Fields of Instruction.

COLLEGE OF SOCIAL WORK

UT Knoxville offers a fully accredited two-year program leading to the Master of Science in Social Work through the College of Social Work, with programs in Knoxville, Nashville, and Memphis.

The UT Knoxville College of Social Work also offers a Doctor of Philosophy with a major in Social Work.

For complete information concerning the programs, see Social Work under Fields of Instruction.

Psychological Clinic
(College of Arts and Sciences)

Leonard Handler, Director

The Psychological Clinic supports graduate research and training in clinical psychology. Psychological assessment and psychotherapy are offered on an outpatient basis to the general public as well as to University students and staff.

Research Consortiums

The University of Tennessee is a member of three not-for-profit research consortiums: Oak Ridge Associated Universities (ORAU); Southeastern Universities Research Association (SURA); and Universities Research Association, Inc. (URA).

1. ORAU is a nonprofit consortium of colleges and universities and a management operating contractor for the U.S. Department of Energy (DOE) for the design, construction, and operation of the Fermi National Accelerator Laboratory (Fermilab) located near Batavia, Illinois. ORAU provides funds to support courses for graduate students at Fermilab. Member institutions have graduate study programs in science and are active in particle physics and astrophysics.

For more information about ORAU and its programs, ORAU, SURA, and URA, contact Dr. Michael D. Devon, Vice Chancellor for Research and ORAU Council member at 423-974-3466 or mdevine@utk.edu, or contact Ronnie E. Champion, ORAU Corporate Secretary at 423-567-3306. Additional information may also be found on World Wide Web sites at http://www.orau.gov and http://cebaf.gov/ura.
**Textiles and Nonwovens Development Center**  
*(College of Human Ecology)*  

Carl Dyer, Director of Resources and Technology Development  
Larry C. Wadsworth, Director of Marketing and Technology

The Textiles and Nonwovens Development Center (TANDEC) was officially dedicated in October 1990. TANDEC was made possible through a grant from Exxon Chemical Company.  

Nonwovens products loom large in a number of markets and TANDEC looms large in both basic research and nonwoven product development. Nonwovens research programs at UT Knoxville include structure-property-process relationships in melt blowing polyolefins, polyesters, nylon, elastomeric polymer, engineering thermoplastics and recycled plastics; mechanism of melt blown web formation; modeling of the melt blowing and spunbonding processes; development of on-line optical measurements for control of the critical properties of melt blown webs; electrical measurement of fiber alignment and bonding in nonwoven webs; thermal bonding and characterization of cotton/synthetic fiber nonwovens; computational analysis of heat transfer behavior in thermal calendaring; study of protective apparel for agricultural, industrial and medical uses; and finishing of nonwovens.  

In addition to the basic research, technology transfer has been accomplished during the past several years by assisting companies in applied projects, primarily in the melt blowing area.  

The primary missions of TANDEC are to conduct nonwoven and textile grant research programs and to develop new product applications. The TANDEC facilities further allow production of nonwovens on a limited basis for participating companies while equipment is not being used for research activities. The nonwovens laboratory hosts numerous guests from industry and academic, and the facilities are planned to meet their needs, while safeguarding research confidentiality.

**Tourism Institute**  
*(College of Human Ecology)*

Nancy Fair, Director

The Tourism Institute at UTK uses a systems approach to enhance economic development in Tennessee and the Southeast Region. Coordination with the Department of Consumer and Industry Services Management, the Institute integrates faculty expertise from the hotel and restaurant administration program, the recreation and tourism management program, and the retail and consumer sciences program to address emerging issues and needs. The Institute is also supported by the Graduate School of Planning and the College of Agricultural Sciences and Natural Resources.  

Successful tourism requires attractions to draw tourists and supporting businesses that provide high quality food, lodging and related consumer goods and services. The mission is to deliver research, development, and training projects that will promote sustainable tourism in Tennessee and the Southeast Region. The Institute pursues research studies to better understand the needs of the state's region's tourist customers to enable the industry to provide the goods and services that will increase and diversify the tourist base. It works with agencies and businesses to develop strategies for creating and expanding tourism enterprises. It also provides management-level personnel to the tourism industry through the degree programs in the department and assists the industry in workforce training.

**Transportation Center**  
*(Office of Vice Chancellor for Research)*

Stephen H. Richards, Executive Director

The Transportation Center was created in 1970 to foster and facilitate interdisciplinary research, public service, and outreach in the field of transportation at The University of Tennessee. It began operating full-time in 1972 and since then has contributed greatly to the overall research program of The University.  

The Center, 600 Henley St., Suite 309, is a University-level organization administratively positioned within the Office of the Vice Chancellor for Research at UT Knoxville. The Center's multidisciplinary staff includes over 100 full-time researchers and technicians augmented with numerous faculty and students. The Center is presently organized into four major divisions: Logistics and Systems Analysis; Infrastructure and Environment; Safety and Traffic Operations; and Mobility Services and Policy.  

The Center has three goals. The first is to conduct a program of research in transportation that is recognized for its excellence, comprehensiveness, innovation, productivity, and national leadership. The second is to develop and sustain the technical expertise for high quality transportation research by the faculty and students within the various departments and colleges of UT. The third goal is to serve the transportation research, service, and training needs of state and local government, business, and industry in Tennessee, the southeast region, and the nation.

**University Evening School**  
*(Office of Vice Chancellor for Academic Affairs)*

Dr. John Muldowny, Associate Dean of Undergraduate Academic Affairs and Director of Summer, Evening and Special Programs

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. The College of Business Administration offers the M.S. degree program in Statistics in the evening. The College of Communications offers the M.S. degree program. The School of Information Sciences offers the M.S. degree program which can be completed by attending evenings and summer sessions. The College of Arts and Sciences offers the Mastering program in Public Administration. The College of Engineering offers the M.S. degree program in Environmental Engineering or in Civil Engineering. The College of Human Ecology offers the M.S. degree program in Human Resource Development or in Retail and Consumer Sciences. Some departments within the Colleges of Agricultural Sciences and Natural Resources, Business Administration, and Education offer courses required for an advanced degree during the evening. For a specific major, consult the appropriate 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 individual 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 a number of 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: Master of Science with a major in Human Resource Development in Nashville; Master of Arts with a major in Speech Pathology in Chattanooga and Tullahoma (State Department of Education contract program).  

The Evening School offers courses at Oak Ridge leading to advanced degrees in science and engineering (see listing under Off-Campus Graduate Centers).

**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, geography 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

Priority registration by touchtone phone, mail, FAX, or regular phone is offered as a convenience to current Evening School students. Final registration at both on and off campus locations is available by phone or in person.

Fee Waiver Program for Senior and/or Disabled Citizens

The Evening School administers this state legislated program for UTK. Senior or totally disabled Tennessee citizens who wish to take UT credit courses may audit these free of charge or, upon admission, may pay a reduced rate to receive regular credit. Specific information about the program may be obtained in the Evening School office.

For information, contact the UT Evening School, 451 Communications Bldg, University of Tennessee, Knoxville, TN 37996-0341, or telephone (423) 974-5361 or 1-800-676-8657, FAX (423) 974-2027; email: utevingschool@gateway.utk.edu; Website: http://www.acad.utk.edu/evening.

University of Tennessee Space Institute

T. Dwayne McCoy, Vice President

The Space Institute is a graduate education and research institution located on a 365 acre lakeshore campus in Middle Tennessee. UTSP was established in 1964 and has evolved into an internationally recognized institution for graduate study and research in engineering, physics, mathematics, and computer science. The accredited academic programs and educational policies of the Space Institute have their origins in appropriate departments of The University of Tennessee, Knoxville. The more than 40 faculty members of the Institute carry out these accredited academic programs through classroom teaching, informal seminars, active research, and directing the research of their students in an environment of creative work and advanced study. Programs are available to students devoting full-time or part-time effort toward M.S. and Ph.D. degrees, those interested in continuing education for updating and broadening knowledge, and those who wish to pursue post-doctoral research. Graduate degree programs are available with majors in Aerospace Engineering, Aviation Systems, Chemical Engineering, Computer Science, Electrical Engineering, Engineering Science, Industrial Engineering (engineering management concentration), Mathematics, Mechanical Engineering, Metallurgical Engineering, and Physics. In addition to the fundamental studies characteristic of each discipline, research opportunities are available in many areas including aerodynamics, fluid mechanics, advanced space propulsion, neural networks, energy conversion processes, superconducting materials, thermal sciences, coal combustion, magnetohydrodynamics, plasma physics, space systems, propulsion, computational fluid dynamics, and other aspects of atmospheric and space flight.

The Institute has an established Center of Excellence in Laser Applications and offers graduate studies and research opportunities in laser diagnostics, laser materials interactions, pico-second processes, and coherent and non-linear optics.

The Institute was established in part to increase the research and engineering resources of Tennessee through education and practice in relevant scientific and technical areas and in part to interface University faculty and student research with the Air Force Arnold Engineering Development Center. The faculty, research activities, and facilities of the Institute, and those available at Arnold Center through appropriate contractual arrangements, provide students an unusual opportunity for significant research in these areas. Students who enroll at UTSP are admitted to The Graduate School, The University of Tennessee, Knoxville. Graduate Research Assistantships are available for qualified students. Further information may be obtained from the Dean for Academic Affairs, The University of Tennessee Space Institute, Tullahoma, Tennessee 37388.

Water Resources Research Center

(Office of Vice Chancellor for Research)

Timothy R. Gangaware, Associate Director

The Water Resources Research Center, 600 Henley Street, Suite 311, is a federally designated institute for sponsoring and coordinating water 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.
Residency Classification, 26
Responsibility, Graduate Student, i
Restricted Theses and Dissertations, 20
Retail and Consumer Sciences, 84
Returned Check Service Fee, 28
Revision of Program, 15
Rules of Residency Classification, 26
Rural Sociology, 52
Russian, 150

S
Safety, 112
Safety Education and Service, 110
Scholarships, I, 29
School Counseling, 87, 92, 93
School Psychology, 93, 94, 168
Schools, 39
Architecture, 39, 56
Biomedical Sciences, 65, 192
Information Sciences, 123
Journalism, 41, 126
Science Alliance, 40, 188
Science Education, 92, 93, 94, 95
Second Master's Degree, 20, 182
Secondary Teaching, 93, 95, 114, 127
Security Information, 30
Senior Citizens, 16, 194
Seniors, 16
Services Fee, 27
Services, Student, 33-36
Short Courses and Workshops, 16, 193
Small Animal Clinical Sciences, 43
Small Animal Research Laboratory, 42
Social Foundations, 88, 92
Social Science Education, 92, 93, 94, 95, 114
Social Science Research Institute, 40
Social Security Number, 30
Social Work, 43, 174, 192
Social Work, College of, 43, 174, 192
Sociology, 40, 177
Soil Sciences, 164
Space Institute, 42, 193
Spanish, 147
SPEAK Test, 17
Special Education, 94, 119, 172
Special Education: Early Childhood, 92, 119
Special Federal and State Laws and University Policies, 30-33
Special Programs, 178
Specialized Education, 67, 92, 95, 114, 127, 131, 168
Specialist in Education Committee, 21, 24
Specialist in Education Degree, 21, 24
Specialization, Definition of, 19
Speech and Hearing Science, 61
Speech Communication, 41, 178
Speech Pathology, 61
Speech Services, 34
Sponsored International Students, 29
Sport and Physical Activity, 41, 92, 179
Sport Management, 93, 179
Sport Studies, 88, 89
Staff Members, Admission of, 15
State Laws and University Policies, 30-33
Statistics, 40, 68, 71, 180
Student Apartments, 34
Student Counseling Services Center, 35
Student Employment, I, 30
Student Health Insurance, 29
Student Health Service, 35
Student Housing, I, 34
Student Identification Number, 30
Student Loans, 30
Student Responsibility, I
Student Services, 33-35, 194
Summary of Procedures for Degrees, 24, 25
Summer Term Fees and Expenses, 29

T
Teacher Licensure, 94
Technology Fee, 27
Telecommunications and Network Services, 189
Tennessee Internship Consortium in Professional Psychology, 41
Termination, 19
Terms, Definition of, 19
Test of English as a Foreign Language, 14, 15
Textile Science, 84
Textiles and Nonwovens Development Center, 42, 193
Textiles, Retailing and Consumer Sciences, 84
Theatre, 40, 182
Therapeutic Recreation, 85
Theses, 20, 21, 24
Theses and Dissertations, 20, 24, 25
Thesis Registration, 20
Time Limit, 21, 23
Tool, Definition of, 19
Tourism, 65
Tourism Institute, 42, 193
Track, Definition of, 19
Traffic Rules, 35
Transcripts, I, 14, 15
Transfer Credits, 19
Transient Admission, 14
Transportation and Logistics, 136
Transportation Center, 193
Trustees, Board of, 5
Tuition, 27
Tuition Payment Plans, 28

U
Undergraduate and Professional Students, 16
University Administration, 5
University Apartments, 34
University Calendar, 4
University Evening School, I, 193
University Fees, 27-29
University Policies, 30-33
University Programs and Services Fee, 27
Urban Studies, 126
Use of Facilities Registration, 17
Use of Social Security Number, 30
UT, Knoxville Administration, 5

V
Vehicle Operation and Parking, 35
Veterans Benefits, 30
Veterinary Medicine, 43, 53, 82, 146, 183
Veterinary Medicine, College of, 43
Animal Science-Veterinary Medicine, 43
Comparative Medicine, 43
Large Animal Clinical Sciences, 43
Microbiology-Veterinary Medicine, 43
Pathology, 43
Small Animal Clinical Sciences, 43
Veterinary Medicine Students, 16
VoCard, 29
VOLXpress, 27

W
Waiver of Fees, 29
Waste Management Research and Education Institute, 188
Water Resources Research Center, 184
Wildlife and Fisheries Science, 105
Withdrawal, 17, 29
Women's Center, 35
Women's Studies, 126
Work-Study, I, 30
Workshops, 16, 193
Written Examination, 21