520  Diagnostics for Fusion (3)
530  Engineering of Fusion (3)
5340 Introduction to Quantum Electronics (3)
5350 Properties of Quantum Devices (3)
5360 Application of Quantum Electronic Devices (3)
5370 Advanced Direct Electrical Energy Conversion I (3)
5380 Advanced Direct Electrical Energy Conversion II (3)
5390 Advanced Direct Electrical Energy Conversion III (3)
5410 Power System Networks (3)
5420 Fault and Load Flow Studies (3)
5430 Power System Stability and Control (3)
5440 Distribution Systems (3)
5460 Selected Topics in Power Systems (3)
5510-20 30  Advanced Analog Electronics (3,3,3)
5540 Thick Film Hybrid Microcircuits (3)
5570-90 Advanced Electronic Switching Circuits (3,3,3)
5610 Logic Design and Finite Automata Theory (3,3,3)
5615-5 Introduction to Switching Theory and Logic Design (3,3,3)
5620 Digital System Architecture (3)
5635 Introduction to Digital Computer and Analog Systems (3)
5650-60 Electric Communications Systems (3,3,3)
5670-90 Pattern Recognition (3,3,3)
5690 Introduction to Artificial Intelligence (3)
5710 Random Process Theory for Engineers (3,3,3)
5720-30 Prediction, Filtering and Detection Theory (3,3,3)
5740 Digital Processing of Signals (3,3,3)
5750-60 Radar Systems Analysis (3,3,3)
5770 System Identification (3)
5800 Power Transmission Lines (3)
5810-20 Electromagnetic Fields (3,3,3)
5830 Linear Antennas and Antennas Arrays (3,3,3)
5840 Aperture Antennas (3)
5850 Microwave Electronics (3)
5860 Electromagnetic Wave Propagation (3)
5870 Introductory Microwave Networks (3)
5930 Digital Image Processing (3)
6240-50-60 Advanced Systems Theory I, II, III (3,3,3)
6210-80-90 Special Topics in Systems Methodology (3,3,3)
6340-50-60 Special Topics in Quantum Electronics (3,3,3)
6500-10 Electrical Conduction in Gases and Plasma Physics (3,3,3)
6530 Special Topics in Image and Pattern Analysis (3)
6610-20-30 Microwave Networks (3,3,3)
6650 Advanced Antenna Theory (3)
6660 Electromagnetic Diffraction and Scattering (3)
6710-20-30 Network Synthesis (3,3,3)
6750 Detection Theory (3)
6760 Coding Theory (3)
6800-10-20 Advanced Topics in Electronic Instrumentation (3,3,3)
6910-20-30 Advanced Sequential Machine and Automata Theory (3,3,3)

Engineering Administration
(See Graduate School.)

Engineering Science and Mechanics

Professors:

Associate Professors:

Assistant Professor:
M. O. Soliman, Ph.D. Tennessee

*Space Institute, Tullahoma
BACHELOR OF SCIENCE PROGRAM
The curriculum in engineering science provides students an opportunity for education with breadth in engineering science, mathematics, and physical (or biological) science. Such a program will prepare students for a career in engineering development and research, professional education at the M.S. level, or additional graduate study leading to the master's or the doctoral degrees. The curriculum will provide students a broad engineering education which permits a strong emphasis on engineering principles and basic science.
In the first two years students in the engineering science program study engineering, science, and mathematics. The engineering science program in the upper-division years is essentially an elective curriculum which can provide for those special interests of students that cannot be accommodated in other programs. Examples of special interest elective groups presently available in the engineering science program are biomedical engineering, engineering mechanics, engineering analysis and synthesis, environmental sciences, engineering materials, and non-destructive evaluation. Other elective groups are currently being developed and will be available in the future.
The biomedical engineering elective group provides the basic background for an engineer to contribute to the fields of biology and medicine in such technical areas as the design of research and diagnostic equipment, the development of artificial organs, and the application of the engineering sciences to further the basic understanding of biological systems. With some modifications, the program can emphasize other areas such as the use of computer systems to automate hospital operations, to analyze medical data, and to contribute to the broad area of health care delivery systems. Interested and qualified students may choose to use this program as a background for graduate study in engineering or the life sciences. The program includes the courses required for entrance into most medical schools, including The University of Tennessee Center for the Health Sciences in Memphis.
The engineering mechanics elective group focuses on analytical and experimental methods used in investigating the interaction of forces and matter. It is designed especially to develop engineers capable of engaging in research and development in industrial and governmental research laboratories. Because such preparation involves emphasis on the link between the basic sciences and engineering fundamentals, the engineering mechanics elective group provides a good theoretical background for students wishing to pursue engineering graduate studies.
The engineering analysis and synthesis elective group affords a concentration on the application of such mathematical techniques as numerical analysis and similitude for the solution of practical engineering problems. As such, heavy emphasis is placed on the use of digital computing.
The environmental sciences elective group introduces the student to some of the areas of knowledge and some of the basic skills involved in engineering efforts aimed at solving environmental problems. This program gives the necessary background in both stress/structural analysis for a higher level of competence in this specialty during professional practice or through formal graduate study.
The engineering materials elective group provides background in the use of materials in the solution of engineering problems. This includes the selection of the proper materials to support the anticipated loads and consideration of the environmental conditions that are expected to exist during the designed life of the system. There is a special need in industry for individuals with background in both stress/structural analysis and materials properties. The engineering materials elective group provides the student an opportunity to acquire this background.
The non destructive evaluation elective group provides background in the application of non destructive techniques for evaluating material properties and determining material flaws. Demand for this background is increasing in high technology industries such as the nuclear industry. Techniques studied include ultrasonics, X-rays, dye penetration, and photoelasticity.

The basic engineering sciences curriculum provides an opportunity to study significant blocks of the engineering science areas
Engineering Science and Mechanics (335)

2720 Dynamics (3) Absolute and relative kinematics of rigid bodies using Newton’s laws, work-energy, and impulse momentum Prereq: 2705 or Basic Engr. 1320, Math 2840.


discussion of topics in engineering education and curriculum design.


3110-20 Fluid Mechanics (3,3) Basic laws of fluids, effects of viscosity and compressibility; empirical analysis: Navier-Stokes equations; boundary-layer concepts; potential flow; vortices, wakes, separation, reattachment. Prereq: 2720 or 3700, Math 2840, coreq for 3110: Mech. Engr. 3511 or equivalent.

3410 Introduction to Biomedical Engineering (4) Introduces the facets and opportunities of biomedical engineering and provides an understanding of ground knowledge for further courses in the field. Prereqs: Basic Engineering 4000, Math 2840 or consent of instructor.

3420 Introduction to Clinical Engineering (3) Engineering applications in the clinical/hospital setting; description, analysis, and design of patient care delivery systems; hospital organization and structure; clinical use of biomedical equipment; principles of safety engineering; national, state and local codes and standards and regulations. Prereq: 3410, Physics 2320, or consent of instructor.

3510 Materials of Engineering (3) Mechanical properties of engineering materials; behavior of materials under load. 3 hrs. or 2 hrs. and 1 lab. Prereqs: 3311 and Met. Engr. 2110 or 3110.

3520 Materials Behavior and Chemical Process Equipment Design (3) (Same as Met. Engr. 3520, Chem. Engr. 3520.)

3700 Dynamics (4) Kinematics of rigid bodies; mass momentum of inertia; center of mass; central force motion; Lagrange’s equations. Prereq: 2720 or 3700, Math 2840.

3710 Intermediate Dynamics (3) Three-dimensional dynamics of rigid bodies of varying mass; central force motion; Lagrange’s equations. Prereq: 2720 or 3700, Math 2840.

4010 Project in Design and Development (4) Investigation, design, and report of an engineering science project. Prereq: Senior standing and a grade of C+ or better in 3110, 3700, and 3710.

4020 Computer-Aided Design (3) Use of computer graphics and analysis programs for design of selected systems, structures, and components. Evaluation of design alternatives. Prereq: 4010 or consent of instructor.

4011 Project in Design and Development (3) Investigation, design, and report of an engineering science project. Prereq: Senior standing.

4500 Biomechanics (3) Discuss objectives, review foundation, and present developments in areas of mechanical properties of living tissues, biomechanics of injury and prosthetics, material compatibility of prosthetic devices, and biomechanical problems related to impact. Prereq: 3311 or 4500 or consent of instructor.

4540 Fracture-Safe Design (3) A critical review of mechanical properties of materials that are indicative of fracture resistance, including transition temperature, R-curves, stress intensity factors, and J-integrals; the use of these properties in design. 3 hrs. or 2 hrs. and 1 lab. Prereqs: 3310 and Met. Engr. 2110. (Same as Met. Engr. 4540.)


4570 Introduction to Bioprosthetics (3) Introduction to bioprosthetics, bioprosthetic design and development, and clinical use of bioprostheses. Prereq: 2705 or consent of instructor.

4620 Dynamic Data Acquisition (4) Instrumentation of measuring systems for dynamic events and responses; signal conditioning; oscillographs, oscilloscopes, and magnetic tape recording; telemetry and data transmission; data processing. Prereqs: 3511, 4710, Elec. Engr. 3120: 3 hrs. and a 3-hr. lab.

4630 Introductory Photomechanics (3) Introduction to photomechanics, photoelastic coating method, More method, interferometry, and holography. Prereq: 3511, Phys. Engr. 3230. 2 hrs. and a 3-hr. lab.

4650 Fundamentals of Vibrations (3) Free and forced vibrations of damped and undamped lumped parameter systems; energy methods. Prereqs: 2720 or 3201, Math 2960.


4810-20 Engineering Analysis (4,3) Integration of fundamental physical laws and mathematical methods of analysis with emphasis on application to realistic engineering problems. Prereqs: 3311, 3510, and Com. Science 3150.

4850 Elementary Structural Matrix methods (4) (Same as Architecture 4850 and Civil Engineering 4850.)

4910-20 Special Engineering Science Topics (3,3) Problems related to recent developments and practice. Open to juniors or seniors with consent of instructor. May be repeated for credit once.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5110-20 Fluid Dynamics (3,3)

5130 Introduction to Turbulence (3)

5140 Finite Element Methods In Fluid Mechanics (3)

5180 Finite Element Structural Analysis (3)

5220 Mechanics of Viscous Flow (3)

5230 Non-Newtonian Fluid Mechanics (3)

5310-20 Advanced Mechanics of Materials (3)

5410-20 Fluid Dynamics (3,3)

5430 Thermal Stresses (3)

5440 Theory of Linear Viscoelasticity (3)

5550 Fracture Mechanics (3)

5630-40 Photelasticity (3,3)

5710-20 Advanced Dynamics (3,3)

5730 Advanced Vibrations (3)
5740 Vibrations of Continuous Media (3)
5750 Orbital Mechanics (3)
5800 Introduction to Continuum Mechanics (3)
5840 Perturbation Methods in Mechanics
5860 Introductory Finite Element Methods (3)
5910 Special Topics in Engineering Mechanics (3)
6000 Doctoral Research and Dissertation
6110-20 Advanced Topics in Fluid Mechanics and Convective Transfer (3)
6140 Advanced Finite Element Methods in Fluid Dynamics (3)
6230-40-50 Theory of Turbulence (3,3,3)
6310 Theory of Plates (3)
6320 Analysis and Design of Thin Shell Structures (3)
6330 Theory of Elastic Stability (3)
6340 Theory of Plasticity (3)
6610 Photoelasticity (3)
6710 Impact and Stress Waves in Solids (3)
6800 Non-Linear Viscoelasticity (3)
6810 Energy Methods (3)
6910 Special Topics in Engineering Mechanics (3)

Engineering Physics

Professor W. M. Bugg (Head); Physics staff as shown on page 224.

The curriculum in engineering physics is designed to fulfill the educational requirements for professional work in various fields of applied science which are based upon a thorough knowledge of physics. The first two years are concerned with fundamental courses in engineering, science, and mathematics. In the upper division, the curriculum allows some choice of courses in engineering and in physics depending upon the interest of the student. The undergraduate program is a complete, professional program, equipping the student for entry into a variety of work in industry and research. The program also leads to graduate work in either physics or engineering.

The courses in the engineering physics curriculum are shown in tabular form on page 132. Descriptions of the physics courses are found on page 225.

Industrial Engineering (556)

J. N. Snider (Head), Ph.D., Ohio State, P.E.; D. C. Doulet, M.S., Tennessee, P.E.; H. P. Emerson (Emeritus), S.B. Massachusetts Institute of Technology, P.E.; R. G. MaLaForge (Emeritus), M.S., Georgia Institute of Technology, P.E., H. L. Lovelace, M.S., North Carolina State, P.E.; W. G. Sullivan, Ph.D., Georgia Institute of Technology, P.E.; J. D. Westbrook, Ph.D. VPI & SU, P.E.

Associate Professor: W. W. Claycombe, Ph.D., Virginia Polytechnic, P.E.; E. L. DePorter, Ph.D. VPI & SU, D. H. Hutchinson, Ph.D. Georgia Institute of Technology, K. E. Kirby, Ph.D., Tennessee.

Assistant Professor: M. K. Goodnian, M.S., Tennessee, P.E.; J. C. Hungerford, M.S. Ohio State.

Kingsport

Undergraduate

The undergraduate curriculum in industrial engineering provides a strong background in both fundamental engineering principles and the analytic methods necessary for solving the multi-faceted problems associated with the production, maintenance, and delivery of goods and services. In particular, this curriculum emphasizes the knowledge and skills necessary to design integrated systems of people, materials, equipment, and energy whenever they are found, such that the overall system functions at an optimal level and such that the needs of the human components of the system are adequately met.

This curriculum, which is built upon a strong background in mathematics and statistics, includes fundamental course work in all of the engineering sciences, introductory economics and accounting, training in fundamental human factors which influence engineering design, the economic analysis of alternative design choices, quality control techniques, manufacturing processes and materials, production and inventory system design and control, material handling systems and facilities design, the mathematical modeling and simulation of complex systems, and the design and installation of information acquisition and control systems. The technical and non-technical electives further allow the students to specialize in an area(s) which meets particular needs.

The solid, broad base in engineering, combined with training in applying engineering methodology to traditionally non-engineering problem areas as provided through the industrial engineering curriculum, leads to participation by industrial engineers in an unlimited range of fields including, among others, retail distribution, banking, health care delivery, corporate management, municipal management, aerospace systems, research groups, and government as well as in the traditional area of manufacturing.

MASTER OF SCIENCE PROGRAM

The graduate program in industrial engineering contains a basic requirement of 18 hours of course work covering topics in industrial engineering at the graduate level. The remaining 18 hours in the program are based upon the educational objective of the student and determined with the approval of the student's advisor. A minor is usually taken in an area related to industrial engineering, and a thesis is required. The program is open to graduates of recognized curricula in all fields of engineering.

A non-thesis program of 45 hours of course work plus a 3-hour project is also available and open to graduates in engineering or science. Basic courses (5110, 5520 and 5700, 5710, 5720) are 18 hours of the total and are identical to the basic courses in the program for thesis students. An option is selected from manufacturing, health systems, operations research, human factors, or decision processes. Each option requires 9 hours of non-engineering electives to support the selected option. The project requires the design of a procedure or operating system based especially upon the course work in the selected option and clearly applicable as a solution to a problem in actual professional practice. The student is examined on the project and related course work.

2310 Seminar (1) Introduction to the industrial engineering profession, its history, and current trends. Plant trips and lectures by the faculty. Prereq: Sophomore standing.


3330 Computer Applications and Analysis Methods in Industrial Engineering (3) Use of digital computer in problem solving involving matrix operations, deterministic and stochastic simulations, large scale data base manipulation, and general optimization techniques. Prereq: 2320 and Math 1860.


3440 Quality Control (3) Application of statistical methods to control quality of manufactured parts and techniques of inspection. Prereq: 3420.

3510 Introduction to Operations Research I (3) Introduction to methodology of operations research and the application of operations research to industrial problems. Topics covered include statistical inference, decision theory, and queueing theory. Prereq: 3430 and Computer Science 3150.

3520 Introduction to Operations Research II (3) Introduction to mathematical programming includes classical optimization theory, linear programming (with emphasis on the simple method, the transportation problem, and the assignment problem), and dynamic programming. Prereq: Computer Science 3150 or consent of instructor.


3600 Motion and Time Study (3) Design of work methods, including analysis, improvement, timing of work, and determining standards. Laboratory work included. Prereq: Industrial engineering students. Prereq: Junior standing.

3610 Human Factors in Work Design I (3) Human capabilities and limitations which must be reflected in: work place layout; working environment specifications; tool, equipment, and vehicle design; and design of industrial communication-control systems. Prereq: Junior standing in College of Engineering or consent of instructor.

3620 Work Methods and Design (3) Job analysis, job evaluation, design of wage structures, design of work-place layouts, flow charting, activity chart and analysis, and methods improvement. Laboratory work included. Prereq: 2310 and 3610.

3630 Work Measurement (3) Use of work measurement tools such as time study, predetermined time systems, work sampling, historical data analysis. Construction of time study, development of time systems, use of time data, use of learning curves, and design of wage incentive systems. Laboratory work included. Prereq: 3620 and Statistics 3450.


4060 Production Systems Planning and Control I (3) Theory and application of forecasting, capacity and materials planning, production systems design and inventory control. Prereq: 2510-20.

4070 Production Systems Planning and Control II (3) Theory and application of master scheduling, materials requirements planning systems, lot sizing and safety stocks, and distribution requirements planning. Prereq: 4060.

4080 Forecasting Methods in Industrial Engineering (3) Application of technological forecasting techniques to industrial engineering problems. Includes moving averages and exponential smoothing, and polynomial regression models, autocorrelated time-series analysis, Delphi methods, and other selected industrial forecasting methods. Prereq: 4060.

4150 Project Control with CPM and PERT (3) A study of project planning and control based primarily
on "critical path" techniques, including resource allo-

cation and programs for prevention and control of ac-

cidents with emphasis on OSHA Rules and Regula-
tions. Prereq: Senior standing.

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5110 Work Design (3)

5210 Advanced Work Measurement (3)

5240 Facilities Planning and Design (3)

5250 Advanced Scheduling (3)

5260 Information Systems Design (3)

5280 Production and Inventory Systems (3)

5340 Applied Decision Theory (3)

5360 Statistical Methods in Industrial Engineering (3)

5300 Seminar (3)

5420 Reliability Engineering (3)

5520 Advanced Engineering Economy (3)

5600 Human Factors Engineering (3)

5610 Human Factors Engineering (3)

5700 Optimization Methods in Industrial Engineer-
ing (3)

5701 Operations Research Applications (3)

5710 Linear, Quadratic, and Separable Pro-
gramming (3)

5720 Queuing Models and Simulation (3)

5730 Game Theory and Random Processes (3)

5810 Theory of Industrial Automatic Control (3)

5830 Health Systems Engineering II (3)

5840 Air Traffic Control Systems (3)

5850 Dynamic System Simulation (3)

5900 Design Project (1-9)

5910-20-30 Special Topics in Industrial Engineer-
ing (3,3,3)

6400 Probabilistic Methods in Engineering Sys-
tems (3)

6520 Operations Research Models in Engineering Economy Decisions (3)

6700 Nonlinear Programming (3)

6730 Dynamic Programming (3)

6740 Advanced Topics in Optimization and Dy-
namic Systems (3)

6910 Advanced Topics in Industrial Engineering (3)

Mechanical and Aerospace Engineering


Assistant Professors: P. E. George, II, Ph.D. Purdue, M. Parang, Ph.D. Oklahoma; J. R. Parsons, Jr., Ph.D. North Carolina State.

*Alumni Distinguished Service Professor.

' Space Institute, Tullahoma.

REM Professor

On leave

BACHELOR OF SCIENCE PROGRAM

Separate, complete curricula are offered in aerospace and mechanical engineering; however, the first two years of these curricula are identical. During the first two years, the curricula provide for training and study in the basic sciences and engineering principles and techniques. This option involves work in physics, mathematics, chemistry, and engineering common to these fields. The third year of both programs continues with the development of the particular engineering sciences of the aerospace and mechanical engineering fields. Both curricula are arranged with flexibility in the upper-division years to permit emphasis on preparation for graduate study or technical employment.

Aerospace engineering has scientific foundations close to those of mechanical engineering. The aerospace engineer, however, devotes attention particularly to the research, development, design, testing, and production of aircraft including engines, spacecraft, missiles; auxiliary systems—heating, cooling, guidance, control; and propulsion systems—piston engines, turbojets, ramjets, and rockets. Mechanical engineering has its foundation in the basic sciences and requires an understanding of such areas of applied science as solid and fluid mechanics, thermodynamics, heat transfer, structures, vibrations, mechanical design, manufacturing processes, and instrumentation in order to resolve the complex engineering problems of the real world.

In the mechanical engineering curriculum the student, with the aid and approval of an advisor, must select a senior year program of mechanical engineering and technical electives. The following areas of concentration are available.

Energy. A study of energy conversion systems and the laws governing energy transformations. This option includes the design and analysis of conventional and future power generating systems utilizing various energy sources. The central courses are M.E.A. Engnr. 4140-4141.

Environment. A study of the systems which control the environment within enclosed
Division level are admitted on a Provisional departmental class rolls. Exception of ME and Aero Eng. 2040. Aerospace engineering courses with the performance. Admission to upper division courses is specified hours in the department. Further required engineering courses (including 9 hours of Lower Division) are expected to maintain an overall GPA of at least 2.4. Students who are admitted to Upper Division Programs are expected to maintain an overall GPA of at least 2.0 and a concurrent GPA of at least 2.0 in departmental courses. Failure to maintain these minimum levels of performance will result in a review of the overall progress of the student through the prescribed curriculum and probable loss of Admission Status. GRADUATE STUDY PROGRAMS Graduate programs leading to the degrees of Master of Science, Master of Engineering, and Doctor of Philosophy with specialization in mechanical engineering or aerospace engineering are available to graduates of recognized undergraduate curricula in mechanical or aerospace engineering and to graduates of other curricula who satisfy the necessary prerequisite courses. The general requirements for advanced degrees are summarized in the Graduate Catalog.

Mechanical Engineering (650)

2040 Introduction to Mechanical Engineering (1) Presentation and discussion of topics related to mechanical engineering. S/NC.

3000 Energy—An Overview (4) Introduction to available energy resources, recovery and utilization; power generation techniques including conservation schemes; emphasis on the resources-environment interaction associated with energy; primarily for non-engineering students.

3040 Seminar (1) Presentation and discussion of topics related to mechanical engineering. Prereq: Junior standing. S/NC.

3110 Applied Engineering Thermodynamics (3) Energy and laws governing energy transformations; thermodynamic properties; applications to engineering problems. Prereq: Basic Engr. 1320, Chem. 1100, and Math 1860, for non-departmental engineering students.


3321-30 Engineering Thermodynamics (2,3) Properties of gases, ideal gas laws, chemical reactions; equilibrium, applications to mechanical engineering problems. Prereq: 3311 and 3321 respectively.

3410 Fluid Flow (3) Development of continuity, momentum, and energy principles for fluid systems; applications to mechanical and aerospace engineering problems. Prereq: Math 2860; coreq: 3311.


3520-30-40 Thermal Sciences (3,3,3) Fundamental principles of thermodynamics and transport phenomena as applied to engineering design. For non-departmental majors. To be taken in sequence. Prereq: Math 2850 and Basic Engr. 1330.


3660 Manufacturing Processes (3) Selection of processes as related to the design of machine parts. Casting, internal and external force, bending, cold forming, metal removal, and heat treatments. Manufacturing tolerances and surface finish. 2 hrs. and one 2-hr. lab. Prereq: Met. Engr. 2110.


4010 Thesis (3) Problem investigation and report. Prereq: Senior standing.

4140 Energy Conversion Systems (3) Operating and design characteristics of energy conversion systems including new technology development; selected direct conversion techniques. Prereq: 3390; coreq: 4420.

4150 Energy Conversion Systems (3) Fossil fuel energy conversion systems with emphasis on coal technology. Prereq: 4140.

4160 Design of Energy Conversion Systems (3) Synthesis and design of a complete energy conversion system including economic and technical considerations. Participation in team design effort including formal presentations and design report. Prereq: 4150 and Ind. Engr. 4520.

4170 Turbo-Machinery (3) Basic principles of turbo-machinery; systematic methods of analysis, design, performance evaluation. Prereq: Aerospace Engr. 3511.

4180 Energy Production and Utilization (3) Thermodynamic constraints on energy sources and concepts; energy conservation schemes. Prereq: Senior standing in engineering.

4220 Environmental Noise (3) Basic principles of acoustics—measurement and control of noise in industrial and community environments. Prereq: Senior standing in engineering or consent of instructor.

4310 Seminar (1) Discussion of topics related to engineering; includes inspection trips to industrial plants. Prereq: Senior standing. S/NC.

4320 Seminar (1) Formal oral presentations by students on engineering. Evaluations of technical talks. Prereq: Senior standing.

4420 Heat Transfer (3) Heat transfer by free and forced convection, heat transfer in phase change, heat exchanger applications. Prereq: 3440; coreq: Aerospace Engr. 3511.

4450 Lubrication (3) Hydrodynamic theory of lubrication of sliding bearings; application of Navier-Stokes equations to infinite and finite bearings; analytical and numerical solutions; applications to design. Prereq: 3440, Aerospace Engr. 3511.

4470 Energy Production and Utilization (3) Thermodynamic constraints on energy sources and concepts; energy conservation schemes. Prereq: Senior standing in engineering or consent of instructor.

4710 Experimental Mechanical Engineering (3,3) Experimental methods and measurements of force, length, time, temperature, pressure, transport rates, and other physical properties. Planning, conducting, analyzing, and reporting experimental tests run according to test standards and other specifications. Prereq: 3321, 3410, 3440, Engr. Sci. & Mech. 3320 for 4471; 4471 and 4442 for 4491.


4520-90 Creative Design (3) Application of engineering principles to the solution of current problems with emphasis on design innovation. Prereq: Consent of instructor.
5120 Convection Heat Transfer (3)
5130 Radiation Heat Transfer (3)
5140 Phase Change Heat Transfer (3)
5210 Classical Thermodynamics (3)
5220 Microscopic Thermodynamics (3)
5230 Special Topics in Thermodynamics (3)
5310 Intermediate Fluid Mechanics (3)
5314 Hydrodynamic Lubrication (3)
5410-20-30 Research in Mechanical Engineering (3,3,3)
5510-20-30 Mechanical Engineering Design (3,3,3)
5540-50-60 Advanced Strength of Materials (3,3,3)
5601 Dynamics of Mechanical Systems (3)
5602 Computer Aided Mechanical Design (3)
5610-20-30 Experimental Stress Analysis (3,3,3)
5640-50-60 Advanced Machine Design (3,3,3)
5670-80 Dynamics of Machinery (3,3)
5690 Vibrations of Mechanical Systems (3)
5710 Metal Machining (3)
5800 Transfer Matrix Methods in Elastomechanics (3)
5810-20-30 Rocket Propulsion Systems (3,3,3)
5840-50-60 Turbo-Machinery Systems (3,3,3)
5870 Dynamic Modeling and Simulation (3)
5900 Selected Engineering Problems (3-9)
5950 Seminars (1)
5990 Special Topics in Mechanical Engineering (1-3)
6000 Doctoral Research and Dissertation
6110-20 Advanced Topics in Fluid Mechanics and Heat Transfer (3,3)
6130-40 Advanced Radiation Heat Transfer (3,3)
6420-30 Selected Topics in Thermodynamics (3,3)
6610 Engineering Vibrations (3)

Aerospace Engineering (1018)
2040 Introduction to Aerospace Engineering (1)
Presentation and discussion of topics related to aerospace engineering. S/NC.
3040 Seminar (1) Presentation and discussion of topics related to aerospace engineering. Prereq: Junior standing. S/NC.
3620 Mechanical Vibrations (3) Free and forced vibrations of single and multiple degree vibrating systems, balancing of rotating machinery. Prereq: 3610 and Mech. Engr. 3910.
4010 Thesis (3) Problem investigation and report. Prereq: Senior standing.
4110 Aerodynamic Fundamentals (3) Atmosphere, dynamics and thermodynamics of perfect gases, fluid flow types, airfoil theory, wing theory, drag. For non-aerospace engineering majors only. Prereq: Consent of instructor.
4120 Aircraft Propulsion and Performance (3) Propellers, propulsion systems for aircraft, static performance and special performance problems, maneuverers, control surfaces, stability, and control. For non-aerospace engineering majors only. Prereq: 4110.
4220 Low Speed Aerodynamics (3) Potential flow theory; kinematics and dynamics of perfect fluids; analysis and design of aerodynamic bodies. Prereq: 3511 and Mech. Engr. 3910.
4230 Viscous Flow (3) Boundary layer theory; laminar and turbulent flow; compressibility effects; numerical solution methods. Prereq: 3511 and Mech. Engr. 3910, 4420.
4260 System Design (3) Synthesis and design of a complete aerospace system including economic and technical aspects. Participation in team design effort including formal presentations and design report. Prereq: 4250 and Ind. Engr. 5420.
4310 Seminar (1) Discussion of topics related to engineering, includes inspection trips to industrial plants. Prereq: Senior standing.
4320 Seminar (1) Formal oral presentations by students on engineering topics. Evaluations of technical talks. Prereq: Senior standing.
4510 Airplane Performance (3) Introduction to airfoil and wing characteristics, drag; propellers; static performance and maneuvers; theory and design of control surfaces; stability. Prereq: 3511.
4510 Selected Topics In Aerospace Science (3) Current problems in aerospace science; topics in science and engineering required for an understanding of the several areas of aerospace science. Prereq: Consent of Instructor.
GRADUATE
5000 Thesis
5002 Non-Thesis Graduation Completion (3-15)
5110 Fundamentals of Aerodynamics (3)
5120 Experimental Methods in Fluid Mechanics (3)
5150-60-70 Vehicle Aerodynamics and Performance (3,3,3)
5210-20 Aerodynamics of Compressible Fluids (3,3)
5240 Dynamics of Viscous Fluids (3)
5250 Introduction to Hypersonic Flow (3)
5260 Selected Topics in Aerodynamics (3)
5270-80-90 Aerospace Ground Test Facilities (3,3,3)
5310 Magnetohydrodynamics (3)
5340-50 Atmospheric Entry (3)
Nuclear Engineering (716)

Professors:
P. F. Pasqua (Head), Ph.D. Northwestern, P.E.; G. de Saussure, Ph.D. Massachusetts; H. L. Dodds, Ph.D. Tennessee; J. B. Fussell, Ph.D. Georgia Institute of Technology; T. W. Kerlin, Jr., Ph.D. Tennessee; H. G. MacPherson (Emeritus), Ph.D. California (Berkeley); J. T. Mihalezo, Ph.D. Tennessee; R. B. Perez, Ph.D. University of Madrid; P. N. Stevens, Ph.D. Northwestern, P.E.

Associate Professors:
L. F. Miller, Ph.D. Texas A & M

Assistant Professors:
E. M. Katz, Ph.D. Tennessee; B. R. Upadhyaya, Ph.D. California (San Diego).

Honorary.

BACHELOR OF SCIENCE PROGRAM

The curriculum in nuclear engineering is designed to provide basic training in many of the fields encountered in the applications of nuclear and radioactive materials. The first two years are concerned with the fundamental courses in engineering, physics, mathematics, chemistry, and English. The last two years encompass scientific and engineering courses equipping the student for entry into a variety of work in industry, research, or graduate studies.

MASTER OF SCIENCE AND MASTER OF ENGINEERING PROGRAMS

A graduate program leading to a degree of Master of Science and Master of Engineering is available to graduates of recognized undergraduate curricula in engineering and physics. Each applicant will be advised as to the necessary prerequisite courses before entering the program.

The general requirements of the masters' degrees are summarized in the Graduate Catalog.

DOCTORAL PROGRAM

A program leading to the Ph.D. degree is available in nuclear engineering. For details, see the Graduate Catalog.

2310-20-30 Seminar (1,1,1) Presentation and discussion of topics related to nuclear engineering. S/NC.


3030 Introduction to Reactor Analysis (3) Nuclear reactions and radiations, cross section, fission process, diffusion and slowing down, steady state reactor theory criticality conditions, reflected reactors. Prereq: Physics 3720; Math 4710.

3150 Dynamics and Controls (3) Systems differential equations; solution by classical methods; Laplace transform method; frequency response, stability, and control. Coreq: 4110.

3210-20 Thermodynamics (4,4) Properties and laws of thermodynamic systems. First and second laws used to analyze power plant systems—both fossil and fission. Prereq: Math 2860 and Basic Engr. 1330.

3730 Momentum Transport (4) Development of differential and integral momentum equations; elements of turbulence, applications to piping systems, pumps and nuclear reactors. 3 lecs. and one lab. Prereq: Math 4710.


4110-20-30 Introduction to Nuclear Reactor Theory (3,3,3) Nuclear structure; radioactive decay laws; neutron interaction; fission process, chain-reacting systems; diffusion equation including multigroup diffusion theory, neutron moderation; reactivity coefficients; perturbation theory. Prereq: Physics 3730 or consent of instructor.

4140 Thermonuclear Systems (3) Fusion reactions; properties of plasmas; plasma containment; plasma diagnostics; thermonuclear devices. Prereq: Physics 3730; Math 4550.

4210-30 Nuclear Engineering Laboratory (3,3,3) Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes, gamma spectrometry, cross-section measurements, analog computation, diffusion properties of neutrons, critical loading experiments, control rod calibration, statistical weight, shielding, xenon poisoning, prompt critical reactor behavior, fission density, and adjacent flux. Prereq: 4110 (or registration therein), or equivalent.


4610-20-30 Reactor Power Systems (3,3,3) Nuclear structure, decay laws, neutron diffusion, time behavior of reactors, heat removal, analysis of reactor power plants; economic, safety, and environmental aspects of nuclear power. Prereq: Math 4610; non-nuclear engineering students only.

4710 Energy Transport (4) Development of differential and integral energy conservation equations; conduction, convection, and radiation heat transfer; application of nuclear reactor fuel elements and heat exchangers. Prereq: 3790.

4720 Reactor Thermal Design (4) Hydrodynamics and heat transfer in boiling systems; boiling crises; fuel element thermal design, steam generator design. Prereq: 4710.

4730 Nuclear Reactor Design (3) First order reactor design, integration with non-nuclear heat transfer and power conversion system, economic evaluation; optimization procedures, description of typical systems. Coreq: 4150.

4810 Radiation Shielding (3) Types of radiatich sources, gamma ray and neutron attenuation, biological effects of radiation, shield design. Prereq: Physics 3730, Math 4550.

4820 Reactor Kinetics and Controls (3) Derivation of kinetic equations; basic kinetic parameters; transient response with feedback; control and protective systems. Prereq: 4110.

4840 Nuclear Reactor Safety (3) Presentation of reactor safety concepts and criteria; credible accidents; fission product release and transport; containment systems; accident analysis; engineered safeguards. Preq: 4120.

4930 Nuclear Fuel Management (3) Discussion of problems associated with processing of nuclear fuels; fuel cycle analysis; burn-up calculation. Prereq: 4120.

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5110-20-30 Transport Processes in Nuclear Engineering (3,3,3)

5210 System Dynamics (3)

5220 Reactor System Dynamics (3)

5230 Experimental Methods in Reactor Dynamics (3)

5240 Reactor Instrumentation (3)

5310-20-30 Nuclear Systems Reliability (3,3,3)

5410 Nuclear Fuel Cycle Analysis (3)

5420 Reprocessing and Waste Disposal (3)

5510-20-30 Nuclear Systems (3,3,3)

5710-20-30 Nuclear Reactor Theory (3,3,3)

5740 Reactor Shielding (3)

5790 Monte Carlo Shield Design Shielding (3)

5810 Fundamentals of Fusion Physics and Engineering (3)

5820 Plasma Engineering (3)

5830 Fusion Technology (3)

5840-50 Fast Breeder Reactors (3,3)

5970 Special Topics in Nuclear Engineering (3-12)

6000 Doctoral Research and Dissertation

6110-20-30 Selected Topics in Reactor Theory (3,3,3)

6140 Radiation Shielding (3)

6150 Reactor Dynamics (3)

6510 Nuclear Reactor Noise Analysis (3)

6710 Two-Phase Flow and Heat Transfer (3)
College of Home Economics

Nancy H. Belck, Dean
Jay Stauss, Associate Dean, Graduate Studies and Research
Frances E. Andrews, Assistant Dean, Undergraduate Studies

The College of Home Economics is an integral part of The University of Tennessee’s academic program in its three major functions of teaching, research, and extended services. The college ranks among the top two colleges of home economics in the nation in enrollment and first in the number of master’s and doctoral degrees granted. All undergraduate programs of the college are accredited by The American Home Economics Association. Much of the qualitative and quantitative growth of the college is due to its highly qualified faculty and staff who, being aware of the current community problems and needs, have made its programs relevant to the goals and aspirations of today’s students.

Today’s students are seeking professional positions in which they can better serve people—individuals, families, consumers—by helping them predict and solve problems arising from the increasingly rapid changes occurring in the society in which we live. The basis of the college’s professional programs is to prepare young men and women to serve the needs of people in their many varied environments and different stages of life.

The philosophy of the college is best stated as follows: home economics does seek knowledge that describes and analyzes, but it is not content with only studying “what is.” In order to enhance the quality of life and well-being of people and society, the college is also concerned with promoting “what can and should be.”

The college’s mission is twofold: its undergraduate programs prepare students to work with people in a professional capacity so that they make use of what has been learned in serving as professional agents of change; its graduate programs are geared toward research, producing alternative solutions to technical and social problems which are and will be encountered by the people who are to be served.

The University of Tennessee pioneered as one of the first institutions of higher education in the South to offer home economics and has continued to hold a position of leadership. The first class was taught in 1897.

The faculty of the college numbers 60 full-time teaching and research staff. There are three departments with curricula leading to the Bachelor of Science degree: Child and Family Studies; Nutrition and Food Sciences; and Textiles, Merchandising and Design. The undergraduate program in Home Economics Education is offered in cooperation with the College of Education. Approximately 350 courses are offered in these departments. The graduate programs leading to the Master of Science degree were begun in the summer of 1925. Programs for the Doctor of Philosophy degree were initiated in 1960. The Doctor of Philosophy degree program in home economics now includes three options: Interdisciplinary, Food Science, and Nutrition. Food Systems Administration may be taken as a concentration in the Food Science doctoral option.

Special Resources

Several special programs enhance the offerings of the college: Selected students have the opportunity to study for one quarter at the Child Development Center of the Center for Health Sciences in Memphis or at the Fashion Institute of Technology in New York. Credits earned may be applied toward a Bachelor of Science degree in appropriate curricula of the college.

Model research programs for infant care and preschool day care provide home economics students the opportunity to train for careers as directors of, and teachers in, child care facilities. The need for appropriate child day care facilities staffed with well-trained, competent staff is recognized as one of the most urgent problems of today’s urban society. Opportunities for home economics graduates with special interest in preschool programs are numerous and continue to increase. The Nursery School through Grade Three program offered jointly with the College of Education provides certification for teachers in early childhood education.

The U.S. Department of Agriculture Textiles and Clothing Research Laboratory is part of the Southern Region Mid-Atlantic Area and was located at The University of Tennessee in 1967. Textiles and clothing researchers collaborate with the U.S.D.A. staff to conduct investigations that will (1) determine consumer needs for textiles and clothing and the adequacy of products available to meet these needs, (2) develop basic principles to guide consumers in selecting and caring for textiles and clothing, and (3) solve other economic and technical problems pertaining to the field. Graduate students in this area may be trained at the laboratory.

International study tours in several areas of home economics are offered when a demand is indicated. The course “Home Economics 4910 International Study Tour” is offered for 6 credit hours at the undergraduate level. At the graduate level, “Home Economics 5100 International Studies” is available, depending on demand and resources, for up to 15 graduate credit hours. The length of the tours may vary from 6 to 8 weeks and the program is under the direction of a member of the faculty.

The Department of Nutrition and Food Sciences has a cooperative arrangement in which food service systems, such as those of the University, hospitals, schools, hotels, and restaurants are available for laboratory experience for Tourism, Food and Lodging Administration students and in food industries for those in the food science curriculum. During the junior and senior years, students in the Coordinated Undergraduate Program in Dietetics receive clinical experience integrated with courses in hospitals and other health care facilities. The Tourism, Food, and Lodging Administration program offers coordination of theory and experience with industry during all four years. It also provides a cooperative plan of study that combines supervised employment experience in approved tourism, food, or lodging industry facilities during the summer and fall quarters of the sophomore, junior, and senior years. Graduates of the Coordinated Undergraduate Program in Dietetics will be eligible for membership in the American Dietetics Association (ADA) and to apply for the ADA Registration Examination. The Nutrition and
Food Sciences department is affiliated with the Child Development Center, UT Center for Health Sciences, Memphis, for special study in mental retardation and development disorders. A liaison is maintained with the Knox County Health Department to provide concurrent field experience for students in Nutrition and Food Sciences options. The Nutrition and Food Sciences option also meets academic requirements for membership in the American Dietetic Association.

All departments of the college conduct basic and applied research that may be supported in part by the college, by special grants and contracts, and by the Agricultural Experiment Station. The University of Tennessee's Atomic Energy Commission program at Oak Ridge also provides opportunity for training and research. Workshops on special topics of current importance are offered by the different departments in home economics. These will be of special interest to those desiring to work in home economics at centers across the state for updating and retraining as faculty resources permit. The program includes short courses, workshops, evening courses, and special videotape and telelecture courses. Individually planned graduate programs should be arranged with the appropriate department head.

Facilities

The Jessie W. Harris Home Economics Building was dedicated in 1926. Since that time, all wings have been added, one in 1937 and another in 1959. All departments have well-equipped laboratories for both graduate and undergraduate work.

The Child Development Center is a separate building, especially planned as a laboratory for teaching and research with preschool children. It houses toddler and infant day care centers, a nursery school for two-, three-, four-, and five-year-old children, a preschool curriculum laboratory, and rooms for observation and research. A separate Child Day Care Center housed in the UT Golf Range Apartments is staffed by the college and provides a laboratory for study as well as an adequate center for group care of children 2 to 6 years of age. The Family Life Center provides office and classroom space.

Nutrition and Food Sciences facilities include well-equipped laboratories for basic food science, experimental food science, experimental nutrition (animal), and chemistry for undergraduate and graduate students. Laboratories include instruments for the evaluation of the chemical, physical, histological, and sensory properties of food, in addition to facilities for metabolic and survey studies of human nutrition.

Home economics education offices and laboratories are located in the Home Economics Building.

The Department of Textiles, Merchandising, and Design facilities include provisions for study, regular classroom, laboratory, and studio experiences. Laboratories for interior design and housing studies are especially equipped for this purpose.

Textile research facilities are available to undergraduate and graduate students and to research personnel interested in textile studies that benefit fiber producers, fabric and clothing manufacturers, and consumers. Laboratories are well equipped for the physical and chemical analyses of fabrics, yarns, and fibers.

Certification in Vocational Home Economics Education

Certification to teach vocational home economics requires either a bachelor's or master's degree in home economics from an institution offering a curriculum for teacher training approved by the State Board for Vocational Education and by the United States Office of Education. The University of Tennessee, Knoxville, is approved for the training of teachers in home economics.

A description of the vocational home economics education curriculum leading to recommendation for certification will be furnished upon request. Graduate students interested in meeting certification requirements should consult the Coordinator of Home Economics Education. Transfer and graduate students who desire to qualify for certification in home economics should state this desire when applying for admission.

Certification in Early Childhood Education

A joint program in Early Childhood Education—Nursery School through Grade Three is available through the Department of Child and Family Studies (College of Home Economics) and the Department of Curriculum and Instruction (College of Education). In addition to preschool education, graduates are certified to teach kindergarten through third grade.

Educational Programs for Home Economics Extension Education

Students interested in careers as home economics extension agents have many opportunities for employment in service to rural and urban families. The Extension and Community Services option in Home Economics Education is designed for individuals interested in working in community based home economics programs such as Extension. This course of study includes comprehensive study in all areas of home economics as well as in educational principles.

Students interested in this program should contact their adviser or the Office of the Dean of the College of Home Economics for detailed information.

Undergraduate Study in Home Economics

Curricula in the following areas lead to the degree of Bachelor of Science in home economics:

Child and Family Studies (CFS)

Option 1—Early Childhood Development

Option 2—Human Development and Family Studies

Option 3—Nursery School-Grade 3

Nutrition and Food Sciences (NFS)

Option 1—Nutrition and Food Sciences

Option 2—Coordinated Undergraduate Program in Dietetics

Textiles, Merchandising and Design (TMD)

Textiles and Clothing (TC)

Option 1—Merchandising

Option 2—Textile Science

Option 3—Apparel and Textiles

Home Economics Education (HEED)

Option 1—Vocational Home Economics Education

Option 2—Extension and Community Services

The curriculum in the following major leads to the degree of Bachelor of Science in Interior Design:

Interior Design (ID)

The curriculum in the following major leads to the degree of Bachelor of Science in Tourism, Food, and Lodging Administration:

Tourism, Food and Lodging Administration Plan A

Plan B

NOTE: Students are advised to consult the University's degree requirements as stated in the front section of this catalog as well as the requirements for their particular college or school.

For the degree of Bachelor of Science in Home Economics, students must complete the last 45 quarter hours of work (three quarters) at The University of Tennessee, Knoxville, and in association with the College of Home Economics. Seventy-two hours must be earned in courses numbered 3000 and above at The University of Tennessee, Knoxville. The prospective transfer student is advised to preplan the total college program before starting any college-level work. Careful planning prior to transferring to the college is essential to maintaining a program of study with maximum utilization of credit and sequence of course work. New freshmen and transfer students whose majors require chemistry must enroll in the freshman chemistry course sequence until requirements are completed. It is recommended that transfer students complete the freshman chemistry requirements before transferring to the college.

Students wishing to transfer 36 or more credit hours into the College must have an average of 2.0 for admission. Students with an average of less than 2.0 are not eligible for enrollment in junior or senior courses.

During the first quarter each student generally takes courses basic to all curricula and is assigned a faculty adviser for program planning.

A normal student load per quarter is 15-16 hours. The maximum load is 18 credit hours per quarter (16 hours maximum for the Coordinated Undergraduate Program in Dietetics) unless otherwise approved by the Assistant Dean for Undergraduate Studies.

When a student has completed one quarter in residence at The University of Tennessee, Knoxville (with at least a 2.0 average in course work), the student will be eligible to participate in self-registration, except for those quarters for which the student is scheduled for mandatory advisement. Students participating...
in the voluntary academic registration program bear full responsibility for meeting degree requirements in the proper sequence.

Students may choose to take elective courses designated by major departments under the satisfactory/no credit grading system. (Required courses may not be taken for a satisfactory or no credit grade). The purpose of the satisfactory/no credit (S/NC) grading system is to encourage the student to explore subject matter areas outside of the requirements and other courses of the major by minimizing causes for the student's concern that performing them will be somewhat less outstanding than that in preferred subject areas. These courses will count as hours for graduation but not for calculating the student's grade point average. A final grade of C- or better will be recorded as satisfactory. The maximum satisfactory or no credit hours that can be counted toward a degree is 30 hours. When the student wishes to take a satisfactory or no credit course, the student must so indicate at the time of registration.

Proficiency examinations are offered for numerous courses of the college. Information on courses for which proficiency examinations are offered may be obtained from departments of the college.

Field training provides the opportunity for practical pre-professional experience and constitutes one part of many of the college's programs. Students enrolled in certain College of Home Economics courses who are involved in field experiences are required to participate in the group liability insurance plan offered through the college. The annual cost to the student for this insurance coverage is $4 (subject to change).

The first digit in course numbers indicates the major department for whom the course is primarily offered: 1000 indicates courses for freshmen, 2000 for sophomores, 3000 for juniors, 4000 for seniors, 5000 and 6000 for graduate students.

Education 3810 should be elected in the sophomore year by those students majoring in the vocational home economics education curriculum. This course is a prerequisite for other required courses in education. Psychology 2500 is a prerequisite for Education 3810.

For majors in the food science, nutrition, or textiles curricula, Nutrition and Food Sciences 3130 should be taken preferably in the sophomore year and not later than the first quarter of the junior year. The following four courses are fundamental to home economics and are required in all curricula:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Home Economics 1510 Family</td>
<td>4</td>
</tr>
<tr>
<td>Home Economics 1520 Family</td>
<td>4</td>
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<tr>
<td>Home Economics 2510 Family</td>
<td>4</td>
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<tr>
<td>Home Economics 3510 Family</td>
<td>4</td>
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</tbody>
</table>

**Professional Curriculum in Child and Family Studies**

The Department of Child and Family Studies is concerned with early education, human development and family interaction throughout the life span, and with resource management and consumer studies. Departmental goals and objectives are designed to contribute to the interdisciplinary and professional competence of men and women students, and to provide preparation for careers in the helping professions related to children, adolescents, adults, and families, depending on the option the student selects. The curriculum is appropriate for persons oriented toward teaching and/or administrative positions in child care centers and nursery schools, in public schools, with family services, child welfare agencies, Cooperative Extension, banks, and consumer agencies. Other opportunities exist that require study beyond the bachelor's level (for example: administration, research, and clinical services). All options provide necessary background for graduate study in child development, family relationships, early childhood education, and social work.

**OPTION 1. EARLY CHILDHOOD DEVELOPMENT**

This option is appropriate for persons interested in the following types of positions: day care teacher, nursery school teacher, worker in center for socially disadvantaged and/or handicapped children, entry level positions in service work, or preparation for graduate school.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Home Economics 1510</td>
<td>4</td>
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<tr>
<td>Home Economics 1520</td>
<td>4</td>
</tr>
<tr>
<td>English 1010 or 1090</td>
<td>3</td>
</tr>
<tr>
<td>English 1091 or 1092 or 1093</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 1450</td>
<td>4</td>
</tr>
<tr>
<td>Philosophy 1510 or 2510 or 2520 or 2310 or 2310 or upper-division foreign language</td>
<td>4</td>
</tr>
<tr>
<td>Music 1210 (Art 1615 or 1825)</td>
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**Sophomore**

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<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
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<tr>
<td>Nutrition and Food Sciences 1130</td>
<td>3</td>
</tr>
<tr>
<td>Physical education elective</td>
<td>2</td>
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<tr>
<td>Speech 1221 or 221 or 2215</td>
<td>4</td>
</tr>
<tr>
<td>Physical or biological science elective</td>
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<tr>
<td>History or political science elective</td>
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**Junior**

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<th>Course</th>
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<tr>
<td>Child &amp; Family Studies 3125</td>
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<td>Child &amp; Family Studies 3210-20</td>
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<td>Child &amp; Family Studies 3300</td>
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<td>Child &amp; Family Studies 3350-60</td>
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<td>Child &amp; Family Studies 3420 or 4830</td>
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<tr>
<td>Child &amp; Family Studies 3510 or 3515</td>
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<tr>
<td>Home Economics 2510</td>
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<tr>
<td>Economics 2110</td>
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<tr>
<td>Philosophy or religious studies elective</td>
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<tr>
<td>Special Education 3333</td>
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<tr>
<td>Physical Education 3360 or 3370</td>
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<td>Public Health 3210</td>
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<td>Electives</td>
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**Senior**

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<th>Course</th>
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<tr>
<td>Child and Family Studies 4110, 4111</td>
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<td>Child and Family Studies 3200</td>
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<tr>
<td>Child and Family Studies 4200 or 4430</td>
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<tr>
<td>Child and Family Studies 4350</td>
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<tr>
<td>Child and Family Studies 4810</td>
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<td>Child and Family Studies 4420</td>
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<tr>
<td>Child and Family Studies 4620</td>
<td>3</td>
</tr>
<tr>
<td>Child and Family Studies 4510 or IDH</td>
<td>4</td>
</tr>
<tr>
<td>Home Economics 3510</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
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</table>

**OPTION 2. HUMAN DEVELOPMENT AND FAMILY STUDIES**

This option is for undergraduate CF's majors who want a generalist background in individual and family studies. This option does not prepare for a career in preschool education. Students interested in the Cooperative Extension Service, community agencies, family general counseling, social work, and graduate work would choose this undergraduate option.

<table>
<thead>
<tr>
<th>Course</th>
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<td>English 1010 or 1090</td>
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<td>Electives</td>
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**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Child &amp; Family Studies 3200 or 4350</td>
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<tr>
<td>Child &amp; Family Studies 4200 or 4610</td>
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<tr>
<td>Child &amp; Family Studies 4810 or 4610</td>
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<td>Child &amp; Family Studies 4810 or 4610</td>
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<tr>
<td>Educational Psychology 1300</td>
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<td>Child &amp; Family Studies 4830</td>
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<tr>
<td>Sociology elective</td>
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**Senior**

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<tbody>
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<tr>
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<td>Home Economics 3510</td>
<td>3</td>
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<tr>
<td>Electives</td>
<td>9</td>
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**TOTAL: 192 hours**

**OPTION 3. NURSERY SCHOOL-GRADING THREE**

This option is appropriate for persons interested in working with young children up to the age of eight in a variety of settings. A joint program with the Department of Curriculum and Instruction, this option provides certification for grades K-3.

<table>
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<tbody>
<tr>
<td>Home Economics 1510</td>
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<tr>
<td>Home Economics 1520</td>
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<td>Child &amp; Family Studies 1500</td>
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</tr>
<tr>
<td>English 1091 or 1092 or 1093</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL: 192 hours**
associated with the chosen option. Transfer students must apply to the Director of Admissions and be admitted to The University of Tennessee, Knoxville, and affiliate with the College of Home Economics before initiating progression procedures into the Nutrition and Food Sciences and the Tourism, Food and Lodging Administration majors, respectively.

**OPTION 1. NUTRITION AND FOOD SCIENCES**

This professional curriculum provides a broad, flexible approach to the study of nutrition and food sciences. It includes indepth study in nutrition and food sciences and application of this knowledge to individuals, families, and groups. Career opportunities of graduates includes positions in food product development and evaluation and/or consumer services in industry, government, a dietetic internship, and graduate study.

Students may elect to meet academic requirements (Plan IV - Clinical Nutrition) for membership in The American Dietetic Association by selection of appropriate electives noted below. An internship, 3 year approved work experience, or a graduate degree is required to complete the clinical requirements. Upon completion of academic and clinical requirements, students are eligible for membership in The American Dietetic Association and to apply for the registration examination to qualify as a Registered Dietitian (R.D.).

- **Freshman**
  - Hours Credit
  - Chemistry 1510-20-30... 12
  - English 1010 or 1011; 1020 6
  - Biology 1031 or 1032 or 1033 3
  - Economics 2110 4
  - Home Economics 1510 4
  - Home Economics 1520 4
  - Home Economics 2510 4
  - Mathematics 1540-50 8
  - Psychology 1510 4
  - Application and selection by a faculty committee required to enter sophomore year.

- **Sophomore**
  - Hours Credit
  - Nutrition and Food Sciences 3130-40-50 12
  - Nutrition and Food Sciences 3210 3
  - Nutrition and Food Sciences 3230 3
  - Economics 2130 3
  - English Literature Elective 4
  - Statistics 2110 or Plant Soil Science 3610 3
  - Microbiology 3910-19 4
  - Speech 2311 or 2611 4
  - Zoology 3930-30 3
  - English Elective 3
  - Junior
  - Nutrition and Food Sciences 3010 4
  - Nutrition and Food Sciences 3160 4
  - Nutrition and Food Sciences 4130 4
  - Nutrition and Food Sciences 3020 3
  - Nutrition and Food Sciences 4090 3
  - Nutrition and Food Sciences Electives 6
  - Sociology 1510 4
  - Home Economics 3510 4
  - Humanities Elective 4
  - English 1140 or 1145 or Journalism 2210 3-4
  - Sociology Communication Elective 3
  - Electives 3
  - Senior
  - Nutrition Food Sciences 4010 3
  - Nutrition and Food Sciences 4150 3
  - Nutrition and Food Sciences 4330 3
  - Nutrition and Food Sciences Electives 6
  - Humanities electives 4
  - Communication Science Electives 6
  - Natural Science Electives 6
  - Child and Family Study Electives 3
  - Electives 12

**TOTAL: 190 hours**

### Professional Curricula in the Department of Nutrition and Food Sciences

**Nutrition and Food Sciences Major**

Entering freshmen in Options 1 and 2 will be enrolled as departmental majors and a departmental advisor will be assigned to assist with program planning. Students will not register in a particular option until their third quarter in residence. They will apply for progression into a specific option by March 15 of the sophomore year. Designation of an option for each applicant will be made by a faculty committee by May 15, and each student will be assigned to an adviser associated with the chosen option. Transfer students must apply to the Director of Admissions and be admitted to The University of Tennessee, Knoxville, and affiliate with the College of Home Economics before initiating progression procedures into the Nutrition and Food Sciences and the Tourism, Food and Lodging Administration majors, respectively.

**OPTION 2. COORDINATED UNDERGRADUATE PROGRAM IN DIETETICS**

The Coordinated Undergraduate Program in Dietetics is a generalist program, training entry-level dietitians in administrative and clinical dietetics, and is accredited by the American Dietetic Association (ADA). The program incorporates the equivalent of a five-year dietetic internship into a four-year academic curriculum. The program includes a two-year pre-professional sequence that meets general education requirements and prerequisites for professional courses, and a professional phase in the junior and senior years. The junior year provides an introduction to dietetics, and advanced courses in food science, nutrition, and food systems administration. The senior or fourth year consists of academic application of the knowledge acquired in the junior year to increasingly complex administrative and clinical experiences. During the professional phase, academic courses are coordinated with planned experiences in selected hospitals and community facilities. The assignment of students to each clinical site is made by the program director.

**Progression Policies**

A student may progress into the professional phase of the program provided all requirements are completed by the students to apply for progression to that time, as well as University of Tennessee and College of Home Economics standards, have been satisfactorily met. Pre-professional courses may be taken in the semester that the student will successfully complete the nursing program. Applications should be made to the program director by March 15.

Criteria for selection include (1) evidence that the student meets general education requirements and clinical requirements, students are eligible for membership in The American Dietetic Association and to apply for the registration examination to qualify as a Registered Dietitian (R.D.).

- **Freshman**
  - Hours Credit
  - Chemistry 1150-20-30... 12
  - English 1010 or 1011; 1020 6
  - Biology 1031 or 1032 or 1033 3
  - Economics 2110 4
  - Home Economics 1510 4
  - Home Economics 1520 4
  - Home Economics 2510 4
  - Mathematics 1540-50 8
  - Psychology 1510 4
  - Application and selection by a faculty committee required to enter sophomore year.

- **Sophomore**
  - Hours Credit
  - Nutrition and Food Sciences 3130-40-50 12
  - Nutrition and Food Sciences 3210 3
  - Nutrition and Food Sciences 3230 3
  - Economics 2130 3
  - English Literature Elective 4
  - Statistics 2110 or Plant Soil Science 3610 3
  - Microbiology 3910-19 4
  - Speech 2311 or 2611 4
  - Zoology 3930-30 3
  - English Elective 3
  - Junior
  - Nutrition and Food Sciences 3010 4
  - Nutrition and Food Sciences 3160 4
  - Nutrition and Food Sciences 4130 4
  - Nutrition and Food Sciences 3020 3
  - Nutrition and Food Sciences 4090 3
  - Nutrition and Food Sciences Electives 6
  - Sociology 1510 4
  - Home Economics 3510 4
  - Humanities Elective 4
  - English 1140 or 1145 or Journalism 2210 3-4
  - Sociology Communication Elective 3
  - Electives 3
  - Senior
  - Nutrition Food Sciences 4010 3
  - Nutrition and Food Sciences 4150 3
  - Nutrition and Food Sciences 4330 3
  - Nutrition and Food Sciences Electives 6
  - Humanities electives 4
  - Communication Science Electives 6
  - Natural Science Electives 6
  - Child and Family Study Elective 3
  - Electives 12

**TOTAL: 190 hours**

**College of Home Economics**
Cooperative plan (B) with pre-planned and

ADMINISTRATION MAJOR

accounting, economics, or statistics may be

more than six upper-division hours of

20-30, Economics 2110-20-30, and Statistics

who successfully complete 21 hours of the

freshman year.

The cooperative plan will

approved facility in the tourism, food or

lodging industry. The cooperative plan will

problems in the industry.

breadth of knowledge, perspective, flexibility,

program that will assist students in gaining

management needs of the tourism, food, and

lodging industry of today. It provides a

2Program must include at least 72 hours of 3000-4000 level

'Statistics 2100 requires Math 1560 as prerequisite.

TOTAL: 190 hours

TOTAL: 190 hours

1Natural science electives (12 hr. sequence) from one of the

following areas: Biology 1210-20-30, Chemistry 1510-20-30,

or Physics 1410-20-30.

2Statistics 2100 requires Math 1560 as a prerequisite.

3Program must include at least 72 hours of 3000-4000 level

course work.

COOPERATIVE CURRICULUM IN TOURISM, FOOD,

AND LODGING ADMINISTRATION

The professional curriculum is concerned with

meeting the middle and upper level

management needs of the tourism, food, and

lodging industry of today. It provides a

program that will assist students in gaining

broadth of knowledge, perspective, flexibility,

and creativity to meet the changing

environment of complex management

problems in the industry.

This major offers two curricular plans: a

regular four-year program (A) and a

cooperative plan (B) with pre-planned and

supervised work experience in the

sophomore, junior, and senior years during

which the student is employed by an

approved facility in the tourism, food or

lodging industry. The cooperative plan will

take four years plus two terms. Selection of

Plan A or B must be made at the end of the

freshman year.

A Business Minor is available to students

who successfully complete 21 hours of the

following required courses: Accounting 2110-

20-30, Economics 2110-20-30, and Statistics

3. In addition, 15 hours of upper-division

business electives must be taken at UTK.

Not more than six upper-division hours of

accounting, economics, or statistics may be

used for this minor. Students are responsible

for meeting prerequisites listed for any upper-

division courses taken. The 12 hours of

upper-division business courses required in

Plan A or B may be applied toward satisfying

the 15 hour elective requirement.

PLAN A

Third Year

Fall

Marketing 2110

Economics 2420

Spring

Accounting 2120

Economics 2420

Electives

3

3

6

6

TOTAL: 190 hours

Total: 190 hours

1Natural science electives (12 hr. sequence) from one of the

following areas: Biology 1210-20-30, Chemistry 1510-20-30,

or Physics 1410-20-30.

2Statistics 2100 requires Math 1560 as a prerequisite.

3Program must include at least 72 hours of 3000-4000 level

course work.

COOPERATIVE CURRICULUM IN TOURISM, FOOD,

AND LODGING ADMINISTRATION

First Year

Fall

'Natural science elective

English 1010 or 1011

Math 1540

Winter

'Natural science elective

English 1020

Math 1550

Spring

'Natural science electives

English 1031 or 1032 or 1033

Economics 2110

Home Economics 1620

Nutrition and Food Sciences 2210

Second Year

Fall

Microbiology 2910-11

English Literature Elective

Home Economics 2610

Economics 2120

Winter

Economics 2130

Nutrition and Food Sciences 3210

Accounting 2110

Statistics 2100

Psychology 2500 or 2530

Spring

Sociology 1510

Nutrition and Food Sciences 3220

Accounting 2120

Speech 2311 or 2351

Electives

3

3

3

3

3

Electives

3

Electives

3

3
distribution of textile and apparel products. Students who have a strong interest in retailing should pursue this major.

A business minor is available to students who successfully complete 21 hours of the following required courses: Accounting 2110-20-30, Economics 2110-20-30, and Statistics 2100. In addition, 15 hours of upper-division hours of accounting, economics, or statistics may be used for this minor. Students are responsible for meeting prerequisites listed for any upper-division courses taken.

**Freshman**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Accounting 2110</td>
</tr>
<tr>
<td>9</td>
<td>Economics 2110-20-30</td>
</tr>
<tr>
<td>4</td>
<td>Literature elective</td>
</tr>
<tr>
<td>4</td>
<td>Home Economics 2510</td>
</tr>
<tr>
<td>4</td>
<td>Psychology 2500</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 1170</td>
</tr>
<tr>
<td>14</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Accounting 2110</td>
</tr>
<tr>
<td>9</td>
<td>Economics 2110-20-30</td>
</tr>
<tr>
<td>4</td>
<td>Literature elective</td>
</tr>
<tr>
<td>4</td>
<td>Home Economics 2510</td>
</tr>
<tr>
<td>4</td>
<td>Psychology 2500</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 1170</td>
</tr>
<tr>
<td>3</td>
<td>Sociology 1510</td>
</tr>
<tr>
<td>4</td>
<td>Humanities electives</td>
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<tr>
<td>3</td>
<td>Elective</td>
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</table>

**Junior**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Speech 2311 or 2361</td>
</tr>
<tr>
<td>4</td>
<td>Sociology 3130</td>
</tr>
<tr>
<td>4</td>
<td>Marketing 3110-20</td>
</tr>
<tr>
<td>9</td>
<td>Home Economics 3510</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 3610</td>
</tr>
<tr>
<td>3</td>
<td>Textiles &amp; Clothing 3480</td>
</tr>
<tr>
<td>3</td>
<td>Humanities electives</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4010</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4110</td>
</tr>
<tr>
<td>4</td>
<td>Textiles and Clothing 4620</td>
</tr>
<tr>
<td>4</td>
<td>Anthropology 2530</td>
</tr>
<tr>
<td>6</td>
<td>Advertising 3300 or Marketing 4150 or 4210</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Child &amp; Family Studies 3420</td>
</tr>
<tr>
<td>3</td>
<td>Child &amp; Family Studies 4830</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4120</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4620</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4630</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 3410</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4630</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**TOTAL: 192 hours**

*Twenty hours of electives must be at 3000, 4000, or 5000 level.*
*Available fall quarter only.*

---

**Option 2. Textiles Science**

This curriculum is appropriate for persons wishing to prepare for positions as research technicians and for graduate study leading to college teaching and research in textiles.

**Freshman**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Chemistry 1110-20-30 or 1110-20-30</td>
</tr>
<tr>
<td>9</td>
<td>English 1010 or 1011; 1020, 1033</td>
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<tr>
<td>9</td>
<td>Math 1540-50-60</td>
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<tr>
<td>8</td>
<td>Home Economics 1510</td>
</tr>
<tr>
<td>4</td>
<td>Psychology 2500</td>
</tr>
<tr>
<td>4</td>
<td>Home Economics 1520</td>
</tr>
<tr>
<td>3</td>
<td>Textiles &amp; Clothing 1160</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Chemistry 3211-19 or Nutrition and Food Sciences 3130</td>
</tr>
<tr>
<td>4</td>
<td>English 2510 or 2520 or 2530 or 2540 (choose two)</td>
</tr>
<tr>
<td>8</td>
<td>Mathematics 1540-50-60 or 1840-50-60</td>
</tr>
<tr>
<td>4</td>
<td>Sociology 1510</td>
</tr>
<tr>
<td>4</td>
<td>Textiles &amp; Clothing 3420, 3429</td>
</tr>
<tr>
<td>8</td>
<td>Zoology 2920-30</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
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<tr>
<td>6</td>
<td>Home Economics 2110</td>
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<td>6</td>
<td>Humanities electives</td>
</tr>
<tr>
<td>4</td>
<td>Journalism 2211-19</td>
</tr>
<tr>
<td>8</td>
<td>Physics 2210-20 or 1210-20</td>
</tr>
<tr>
<td>8</td>
<td>Statistics 2100 or 2450</td>
</tr>
<tr>
<td>3</td>
<td>Home Economics 3610</td>
</tr>
<tr>
<td>15</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Child &amp; Family Studies 4830</td>
</tr>
<tr>
<td>3</td>
<td>Interior Design &amp; Housing 2430, 3130</td>
</tr>
<tr>
<td>9</td>
<td>Textiles &amp; Clothing 2170, 3170, 4150, 4210 (choose three)</td>
</tr>
<tr>
<td>9</td>
<td>Textiles &amp; Clothing 4220</td>
</tr>
<tr>
<td>12</td>
<td>Textiles &amp; Clothing 4101, 4140, 4140, 4210</td>
</tr>
<tr>
<td>14</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**TOTAL: 191 hours**

*Or English 2560 or 2570 or 2580.*
*At least 90 hours must be upper-division courses.*
*Eight-hour sequence from foreign language or philosophy or history or art or history or music.*

---

**Option 3. Apparel and Textiles**

This curriculum is designed to prepare students who are interested in graduate study to become college teachers and researchers in the social science aspects of textiles and clothing. Continuation in the program after having completed 89.9 credit hours requires that the achievement and maintenance of an overall grade point average of 2.5 or better.

**Freshman**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>Chemistry 1510-20-30 or 1110-20-30</td>
</tr>
<tr>
<td>9</td>
<td>English 1010 or 1011; 1020, 1033</td>
</tr>
<tr>
<td>9</td>
<td>Math 1540-50-60</td>
</tr>
<tr>
<td>12</td>
<td>Home Economics 1510</td>
</tr>
<tr>
<td>4</td>
<td>Sociology 1510</td>
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<tr>
<td>4</td>
<td>Textiles &amp; Clothing 3420</td>
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<td>3</td>
<td>Textiles &amp; Clothing 4830</td>
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<td>3</td>
<td>Textiles &amp; Clothing 4010</td>
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<td>Textiles and Clothing 4110</td>
</tr>
<tr>
<td>4</td>
<td>Textiles and Clothing 4620</td>
</tr>
<tr>
<td>4</td>
<td>Anthropology 2530</td>
</tr>
<tr>
<td>6</td>
<td>Advertising 3300 or Marketing 4150 or 4210</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
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</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Child &amp; Family Studies 3420</td>
</tr>
<tr>
<td>3</td>
<td>Child &amp; Family Studies 4830</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4120</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 4620</td>
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<td>3</td>
<td>Textiles and Clothing 4630</td>
</tr>
<tr>
<td>3</td>
<td>Textiles and Clothing 3410</td>
</tr>
<tr>
<td>9</td>
<td>Textiles and Clothing 4630</td>
</tr>
<tr>
<td>6</td>
<td>Electives</td>
</tr>
</tbody>
</table>

**TOTAL: 191 hours**

*Required to Textiles and Clothing 4630, 4640.*
*Eight-hour sequence from any foreign language, philosophy, history, art, history of religions, or political science.*
*Spring quarter only.*
*A GPA of 2.80 is required prior to registration for T&C 4620. Application should be obtained from two TMD departments and submitted to coordinator by December 15 of year preceding fieldwork.*
*Advisor approved upper-division courses may be substituted.*

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**TEXTILES AND CLOTHING MAJOR**

**Option 1. Merchandising**

This major is designed to prepare students for a variety of careers associated with the design, manufacture, promotion, and personal interview and evaluation of the applicant's competencies by designated members of the interior design faculty.

Students whose competencies suggest other programs will be counseled to enter other departmental curricula or assisted in the transfer to other college or University programs.

Students must maintain an overall 2.3 grade point average by the end of 96 hours in order to maintain "full status" in the program. Academic standing of students will be put on "temporary status" during which the students must raise their overall GPA to 2.3, or have a minimum of 2.3 for each quarter's work until the overall average is raised to 2.3. If the GPA is not raised to 2.3, the student will be dropped from the interior design program. Students must earn a C or better in each required upper-division interior design courses in order to graduate from the program.
College of Home Economics

Textiles & Clothing 3460 3
Textiles & Clothing 3480 3
Electives 6
Senior
Home Economics 3510 4
Textiles & Clothing 4010 3
Textiles & Clothing 4110 3
Textiles & Clothing 4140 3
Textiles & Clothing 4220 4
Textiles & Clothing 4250 or 4410 3
Choose 6 hours from Child and Family Studies, Nutrition and Food Sciences, Home Economics Education, Interior Design and Housing. 6
Electives 9

TOTAL: 182 hours

Provisional Curriculum in Home Economics Education

Option 1. Vocational Home Economics Education

The teacher education program in home economics education, in cooperation with the College of Education, prepares prospective teachers for vocational certification at the secondary level. Preparation is for both the consumer and homemaking program and the occupational program. The four-year course of study involves general education and professional courses including home economics subject matter. State certification requirements are met plus provision for capitalizing on one's area of interest. Requirements for admission to teacher education, to student teaching, and for recommendation for certification are listed on pages 103-104.

All freshman, sophomore, and junior required courses must be completed before a student engages in student teaching. Home Economics Education 4240 should be scheduled within one of the two quarters immediately preceding the quarter in which student teaching is scheduled. Endorsement in one or more of the occupational areas is optional. Course requirements for an endorsement are in addition to those of the basic consumer and homemaking education requirements.

Freshman Hours Credit
Chemistry 1510-20-30 3
English 1010 or 1011: 1020 6
English 1031 or 1032 or 1033 3
Nutrition and Food Sciences 1010 3
Home Economics 1510 3
Mathematics elective 3
Physical Education or health elective 3
Speech elective 3
Textiles & Clothing 1160 3
Textiles & Clothing 1165 4

Sophomore
Home Economics 1520 3
Electives 6
Home Economics Education 2240 4
Humanities electives 6
Literature elective 4
Psychology 2500 3
Social science electives 4
Zoology 2920-30 8

Junior
Child & Family Studies 3210, 3510 6
Educ. Curriculum & Instruction 3020-30 4
Special Education 3333
Educational Psychology 3810 3
Electives 10
Food Science 3020 4
Home Economics Education 3240 4
Home Economics 3420 or 4210 or 4830 3
Nutrition and Food Sciences 3120 3

Interner Design & Housing 3110 3
Textiles & Clothing 3420 3
Senior
Electives 9
Home Economics Education 4240 4
Home Economics Education 4310, 4410 9
Home Economics Education 4509 4
Child & Family Studies 4320 3
Child & Family Studies 4430* or 3515 3
Child & Family Studies 4440 4
Nutrition 4050 3
Home Economics Education 4410 4
Textiles & Clothing 3440 3

TOTAL: 190 hours

18-hour electives of credits may be used for additional endorsement in one or more of the following occupational areas: food service; child care and guidance; clothing management, production, and services. If an occupational endorsement is not sought, 9 hours of electives are to be selected in addition to general home economics subject matter. (See page 109 for home economics requirements.

2Recommended courses and/or supporting courses are to be chosen from one of the following endorsements.

Occupational Endorsement Areas

1. Food Service Endorsement 14 hours

Food Science 2510 3
Home Economics Administration 3110 3
Food Science Administration 3230 2
Home Economics Education 4509 4
Child & Family Studies Endorsement

2. Child Care and Guidance 13 hours

Child & Family Studies 3126 or 3360 3
Child & Family Studies 4400 or 4410 3
Home Economics Education 4509 4

3. Clothing Management, Production, and Services Endorsement 17 hours

Textiles & Clothing 3460* or 4340 or 4240 3 or 4
Textiles & Clothing 4110 or 3515* 3
Textiles & Clothing 4010 or 4120 3
Home Economics Education 4508 8

*Recommended course.

Option 2. Extension and Community Service

This option is designed to prepare graduates to work in community based home economics education programs. Due to social forces and effects of legislation, home economists increasingly are entering the field of community service as teachers and specialists in home economics subject matter in non-traditional educational settings. This option provides the same general education components as in Option 1, a comprehensive home economics background encompassing all of the subject matter areas within the field, as well as educational principles and skills needed to participate effectively in community based programs. There is provision in the curriculum for students to select coursework in supporting areas such as communications, psychology, political science, sociology, human services, and education. Early exposure to community based programs and an extensive field experience are integral portions of the curriculum.

Freshman Hours Credit
Chemistry 1510-20-30 12
English 1010 or 1011; 1020 6
English 1031 or 1032 or 1033 3
Nutrition and Food Sciences 1010 3
Home Economics 1510 3
Mathematics elective 3
Physical Education or health elective 3
Speech elective 3
Textiles & Clothing 1160 3
Textiles & Clothing 1165 4
Nursing 3690 3-4

Junior
Child & Family Studies 3210, 3510 6
Educ. Curriculum & Instruction 3020-30 4
Special Education 3333
Educational Psychology 3810 3
Electives 10
Food Science 3020 4
Home Economics Education 3240 4
Home Economics 3420 or 4210 or 4830 3
Nutrition and Food Sciences 3120 3

Home Economics 2510 4
Economics electives 6
Home Economics Education 2240 3
Humanities electives 8
Literature electives 4
Psychology 2500 3
Social science electives 3
Zoology 2920-2930 8
Electives and/or supporting courses 4
Junior
Child & Family Studies 3515 3
Child & Family Studies 3210, 3510 6
Educational Psychology 3813 or Child & Family Studies 3520 3
Nutrition and Food Sciences 3230 3
Child & Family Studies 3420 or 4330 3
Interior Design & Housing 3110 3
Rural Soc. 3420 3
Sociology 3420 4
Textiles & Clothing 3420 3
Vocational-Technical Education 2010 1
Electives and/or supporting courses 12

Senior
Child & Family Studies 4210 3
Child & Family Studies or Sociology 3690 3-4
Child & Family Studies 4440 4
Child & Family Studies 4810 3
Home Economics 3510 4
Home Economics Education 4400 4
Home Economics Education 4509 4
Interior Design & Housing 4320 3
Nutrition and Food Sciences 4150 3
Nutrition and Food Sciences 4160 3
Textiles & Clothing 3440 4
Electives and/or supporting courses 8

TOTAL: 190 hours

*Recommended course.

A minimum of five supporting courses are to be chosen from an approved list (available in Home Economics Education Office).

Graduate Study Programs in the College of Home Economics

The College of Home Economics offers a full range of graduate studies leading to the M.S. and Ph.D. degrees. Any person interested in graduate studies should request information, application and a Graduate Catalog from: Dr. Jay Stauss, Associate Dean, Graduate Studies and Research, College of Home Economics, Thal University of Tennessee, Knoxville, TN 37996-8900.

Departments of Instruction

Child and Family Studies (245)

Professors:
C. Buehler (Emeritus), Ed.D. Columbia; N. H. Belch (Dean), Ph.D. Michigan State; M. L. Bishop (Emeritus), Ph.D. Ed. Cornell; C. E. Gilbert (Emeritus), Ed.D. Cornell; R. L. Highberger (Emerita), Ph.D. Iowa; V. M. Nordquist, Ph.D. Tennessee; E. L. Speer (Emerita), M.A. Columbia; P. N. White, Ed.D. Tennessee.

Associate Professors:

Assistant Professors:
J. Allen, Ph.D. Purdue; C. Bushler (Emeritus), Ph.D. Ohio State; G. Eastwood, M.S. Cornell; J. S. Kidwell, Ph.D. Purdue; G. W. Peterson, Ph.D. Brigham Young; C. O. Schramm, Ph.D. Tennessee; K. G. Weidie, Ph.D. Tennessee.
1120 Management and Its Contribution to Family Living (3) Decision making process, relationships among decisions; principles of organization for implementing decisions; evaluation procedures; factors affecting management process; application of management principles to problems.

1500 Introduction to Early Education (3) Introduction to early childhood education: conceptions of children, teachers, and teaching. Includes field observation.

2110 Human Socialization (3) Human development with emphasis on socialization process from infancy through adolescence in family, school, and peer group settings. For non-home economics majors only.

2120 Sex Roles and Marriage (3) Examination of impact of gender roles on marital relationship. Issues such as power and decision-making, communication, combining careers and families are included. (Same as Women's Studies 2120.)

2410 Human Sexuality (3) Dimensions of human sexuality as examined through cultural, social, and psychological influences.

3125 Day Care and Children (3) Examination of different types of day care and influence of day care on infants and children. Prereq: 3210.

3200 Development in Infancy (3) Development during prenatal period and first 15 months of life. Interaction of biology and environment and his/her environment. Review of research relating to childbearing practices and prediction of later behavior. Prereq: 2110 and Zoology 2930 or equivalent.

3210 Development in Early Childhood (3) Comprehensive view of the child during the early childhood years. Analysis of interrelationships among various aspects of development: physical, cognitive, emotional, and social. Recommend 3200 be taken prior to this course. 3 hrs. 1 hr. observation per week.

3220 Development in Middle Childhood (3) Growth and development during the middle childhood years with emphasis on influence of family and community. Special attention to different social and cultural settings. Recommend 3200 and 3210 be taken prior to this course. 3 hrs. 1 hr. observation per week.

3300 Observational Methods in Child Development (3) Overview of methods of observing teacher and child behavior and development of individuals skills in observing and assessing. Prereq: 3200 or 3210 or 3220 or consent of instructor.

3350 Program Planning (3) Philosophies of preschool education. Analysis of program planning in teacher-child interaction. Prereq: 3210; 3300 recommended.

3360 Aesthetic Experiences (3) Examination of subject matter areas—quantity and logic, art, music, literature, science. Prereq: 3350 recommended.

3420 Family Economics (3) Management of family income and resources. Private and public measures to improve income position and reduce income insecurity. Prereq or coreq: Economics 2120.

3510 Intimacy: Marriage and Alternatives (3) Examination of primary relationships from perspectives of both individual development and relationship development. Emphases are on dating, marriage, and variant family forms.

3515 Family Relationships (3) Focus on emerging and changing relationships among family members across the family life cycle from various theoretical approaches. Prereq: 3510 or 3520.

3520 The Family and the Adolescent (3) Problems of individual development and relationships among peers and other adults in fostering adolescent development. Upper-division students only. Prereq: 3210 or 3300 or 3350 or 3360 or 3420 or 4110.

4110 Student Teaching in Preschool Settings (9) Increasing responsibility for planning and guiding groups of young children under supervision of head teacher, includes 2-9 hr. weekly seminar. Prereq: 1500, 3210, 3900, 3950; 3960 recommended; coreq: 4111 S/NC.

4111 Student Teaching of Preschool Children (3) Increasing responsibility for planning and guiding groups of young children under the supervision of a head teacher, includes 2 hr. weekly seminar. Prereq: 1500, 3210, 3900, 3950; 3960 recommended; coreq: 4110 S/NC.

4210 Family Finance (3) Analysis of alternative ways of meeting financial problems encountered during life cycle of family.

4220 Conserving Time and Energy in the Home (3) Application of management principles to homemaking activities; evaluation of equipment, work centers, and work procedures in terms of time and energy demands. Adaptations for the handicapped.

4260 Adult Development and Aging (3) Adult life in our society. Adjustment to internal and environmental changes through middle and aged years. Prereq: 3210 or Home Economics 1510 or equivalent background in adult development or consent of instructor.

4350 Advanced Child Development (3) Survey of selected topics relevant to child development with emphasis on research literature and research methodology. Prereq: 4 hrs. of psychology and 6 hrs. of child development or equivalent.

4420 Learning Experience with Parents (3) Dynamics of parent-teacher interaction. Emphasis on a variety of techniques for developing communication and working relationships between parents and teachers through experiences in a variety of settings. Prereq: Home Economics 1510 or 3210.

4430 Family Interaction (3) Dynamics of family interaction at different points in the life cycle. Includes dynamics of parent-child relationships and the marital dyad, both with the family and as the family interacts within the community; formal and informal support systems within the community. Prereq: 3515.


4610 Child in the Community (3) Needs of children; community agencies meeting these needs; visits to agencies contributing to welfare of children. Prereq: 2110 or Home Economics 1510 or equivalent.

4620 Administration of Programs for Young Children (3) Planning for staffing, housing, feeding, scheduling, and financing for day care of infants and young children, nursery school programs, and specialized programs for deprived preschool children. Prereq: 3110 or 3130 or 4110.

4630 Field Work in Child, Family, and Consumer Studies (3-15) Opportunity for student to work in nursery schools or community agencies; focus on children, families, and/or consumer concerns. Hours arranged. May be repeated. Maximum credit 15 hrs. S/NC.

4710 Contemporary Developments (1-3) Student or staff initiated course for study of special topic(s) pertinent to the field; topics to be determined by students and instructor with departmental approval. Elective credit only. Prereq: Consent of instructor. May be repeated with departmental approval for credit up to 9 hrs.

4810 Afro-American Families (3) Historical background, contemporary family structure and relationships; emerging needs and programs. Prereq: 4 hrs. in social sciences and upper-division standing. (Same as Black Studies 4810.)

4830 Consumers and the Market (3) Analysis of elements in marketplace which create problems for consumers. Special attention is given to consumer decision making, need for information and constraints, and opportunities associated with government protection of consumers.

4978 Honors: Child, Family, and Consumer Studies (3) Individual special problems for juniors and seniors showing special ability and interests. May be repeated. Maximum credit 9 hrs.
Nutrition and Food Sciences (725)

1010 Food Principles (3) Principles of food selection, preparation, and service. 2 hrs. and 1 lab.

1130 Elementary Nutrition (3) Principles and applications to everyday living. A student who has received credit for NFS 53120 may not receive credit for this course.

2100 Nature of Food I (4) Classification on basis of composition, type of systems, structure, and consistency, source, food components, and their interrelationships. Prereq: Chem 1020 or equivalent. 3 hrs. and 1 lab.

2210 Introduction to Tourism, Food and Lodging Administration (2) Overview of tourism including food and lodging industries; analysis of basic operating systems and problem areas in the hospitality complex.

2230 Dimensions of Tourism (3) Economic and cultural impact of tourism on society; examination of forces influencing the domestic and international tourism industry.

3010 Nature of Food II (4) Food composition in relation to response of foods to heat, microwave, enzymatic, and other physical and chemical treatments. Prereq: 2010, 3130. 3 hrs. and 1 lab.

3020 Food and the Consumer (3) Economic considerations in food management, including food legislation, quality, consumer acceptability, and convenience. Prereq: 3 hrs. of economics. 2 hrs. and 1 lab.

3120 Fundamentals of Nutrition (3) Basic human nutrition. Not open to graduate or undergraduate majors in the department. Prereq: Chem 1510-20-30 or equivalent; Zoology 2920-30 or equivalent. 3 hrs. and 1 lab. A student who has received credit for NFS 1130 may not receive credit for this course.


3140 Physiological Chemistry (4) Metabolism of carbohydrates, lipids, and proteins; role of vitamins and minerals in metabolism. Prereq: 3130 or equivalent. Not for graduate credit for departmental majors.

3150 Food and Clinical Analyses (4) Elementary quantitative analyses; methods of food and clinical analyses. Prereq: 3130 or equivalent and 3140 or equivalent. 2 hrs. and 1 lab. Not for graduate credit for departmental majors.


3161 Clinical Experience in Dietetics (2) Planned experiences for application of principles of nutrition in selected health care and community facilities. Coreq: 3160. Open only to students in the Coordinated Undergraduate Program in Dietetics.

3170 Foodservice Systems Management (3) Effective and efficient management of foodservice and related human service systems; functional management processes, concepts, and principles to improve competencies in decision-making and problem solving.

3210 Food Management (3) Planning of mealservice food and lodging facilities in selected food and lodging operations or other tourist related facilities. Prereq: 3220.

3220 Survey of Diets and Dieting (1) Overview of diets and dieting careers. Prereq: Junior standing.

3230 Survey of Diets II (1) The role of the dietitian in health delivery systems. Prereq: Junior standing.

4000 Origin of Food and Foodways (3) Origin and development of individual and group foodways. Prereq: 8 hrs. of social science or humanities.

4010 Clinical Experience in Dietetics (2) Planned experiences applying principles of nutrition to basic cultural food principles and consumer acceptability in community facilities. Coreq: 4000, 3020. Open only to students in the Coordinated Undergraduate Program in Dietetics.

4011 Introductory Experimental Food Science (1) Physical and sensory evaluation in experimentation with fats, high protein foods, and batter and dough systems. Prereq: 3010. 2 hrs. and 1 lab.

4011 Clinical Experience in Dietetics (1) Planned experiences applying food science principles to modification of diets for patients. Coreq: 4010. Open only to students in the Coordinated Undergraduate Program in Dietetics.

4210 Food and Lodging Information Systems (3) Design of information systems for decision making in the hotel-motel complex; computer application in the hospitality industry. Prereq: Acct. 2130; Comp. Science 1140; Econ. 2130.

4230 Tourism, Food, and Lodging Managerial Field Experience (5-16) Planned educational managerial experience in selected food services or food and lodging systems or tourist related facilities. To be taken in the beginning of the senior year with consent of instructor. Prereq. 3220.

4240 Food Systems Personnel Development (3) Development of training programs and personnel management policies for food systems personnel. Prereq. Econ. 3420 or Psych. 4440 or consent of instructor.

4241 Clinical Experience in Dietetics (3) Development of technical, human, and conceptual skills through planned educational experiences at increasing levels of administrative responsibility in selected food systems. Prereq. 3220. Coreq. 4240. Open only to students in the Coordinated Undergraduate Program in Dietetics.

4300 Food Systems Managerial Cost Control (3) Cost analysis for food and beverages: use of financial statements for decision making in foodservice systems. Prereq. 3220.

4317 Clinical Experience in Dietetics (3) Development of technical, human, and conceptual skills through planned educational experiences at increasing levels of administrative responsibility in selected food systems. Coreq. 4240. Open only to students in the Coordinated Undergraduate Program in Dietetics.

4320 Food and Lodging Physical Plant Planning and Maintenance (4) Fundamentals of mechanical systems and building systems of the food and lodging physical plant; organization and principles of properties management. Prereq: 4210. 3 hrs. and 1 lab.

4370 Tourism and Lodging Administration (3) Marketing management principles for the tourism and lodging industries; current problems in the marketing of hospitality services. Prereq: Marketing 3120.

4380 Clinical Experience in Dietetics (4) Planned educational experiences in selected food service, nutrition related industries or laboratories or community facilities. Prereq: Consent of instructor. Hrs. and credit arranged.

4710 Contemporary Developments (1-3) Student or staff initiated course for study of special topic(s) pertinent to the field; topics require departmental approval.
Elective credit only. Prereq: Consent of instructor. May be repeated with departmental approval for credit up to 9 hrs.

4978 Honors: Nutrition and Food Sciences (1-3) Problems for juniors and seniors with special ability and interest in nutrition and food sciences. Elective credit only. Prereq: Consent of department head. May be repeated with departmental approval for credit up to 6 hours.

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5010 Food Texture (3)

5020 Food Sensory Testing Methods (3)

5030 Advanced Experimental Food Science (3)

5040 Food Behavior of the Individual (3)

5050 Foodways in the United States (3)

5060-65 Advanced Food Science (3,3)

5070 Carbohydrates and Fats in Relation to Food Science (3)

5075 Proteins in Relation to Food Science (3)

5100-05 Advanced Physiological Chemistry (4,3)

5110-15-20 Community Nutrition (3,3,3)

5125 Field Study in Community Nutrition (1-12)

5130 Mental Retardation or Other Developmental Disorders of Childhood (3)

5135 Nutrition in Mental Retardation and Developmental Disorders (1-12)

5140 Experimental Methods in Nutrition (3)

5150-55 Human Nutrition (3,3)

5160 Physiological Bases for Diets in Disease (3)

5165 Maternal and Child Nutrition (3)

5170 Survey Methods in Human Nutrition (3)

5175 World Food Supply and Human Nutrition (3)

5180 Nutrition and Aging (3)

5210-20 Experimental Quantity Food Study (3,3)

5230 Methods of Food Systems Research (3)

5240 Experimental Design of Food Systems Facilities (3)

5250 Food Systems Evaluation (3)

5260 Financial Management of Food Systems (3)

5270 Administration of Food Service Delivery Systems (3)

5310 Clinical Training in Health Care Agencies (3)

5340 Foods and Nutrition: Physicochemical Principles (3)

5350-60 Research Techniques (3,3)

5380 Field Experience (3-9)

5700 Current Programs and Trends (1-3)

5800 Problems in Nutrition and Food Sciences (1-3)

5900 Seminar (1-3)

5910 Graduate Seminar in Public Health (1-2)

6000 Doctoral Research and Dissertation

6010 Advanced Topics in Nutrition (1-3)

6110 Proteins and Amino Acids (3)

6120 Mineral Metabolism (3)

6130 Lipid Metabolism (3)

6140 Vitamin Metabolism (3)

6210 Manpower Planning and Training for the Food Service Industry (3)

6220-30 Quantitative Methods to Control Resources in Food Service Systems (3,3)

6310 Advanced Topics (1-3)

9000 Seminar (1-3)

Home Economics (481)

1010 Home Economics as a Profession (1) Scope of the profession of home economics; educational and professional preparation; personal qualities required and satisfaction to be gained from various careers within the profession. S/NC.

1510 Family Systems: Human Development (4) Definition, description, and utilization of basic concepts as applied to development of individual and family; emphasis on professional development and contribution.

1520 Family Systems: Aesthetic Environment (4) Examination of near and far environment from an aesthetic perspective with implications for quality of life of individuals and families.

2510 Family Systems: Physiological Well-Being (4) Definition, description, and utilization of interdisciplinary concepts as related to physiological well-being of individuals and families.

3110 Methods of Community Services Development (3) Organizations, educational responsibility, objectives, methods, and evaluation of community services programs. Prereq: Psychology 2500 or equivalent.

3510 Family Systems: Consumer Resources (4) Appraisal and utilization of human and material resources with implications for role of professional in the interactions of individuals and families with society. Prereq: 3 hrs. of economics, junior standing.

4000 Senior Seminar (2-15) Personal application of advanced knowledge and professional competencies through experience in community service training to serve society in a professional capacity; gaining experience beneficial to chosen professional career; scope of current research and career opportunities in home economics; comprehension of professional ethics required of a home economist. May be repeated. Maximum credit 15 hrs. Prereq: Junior or senior standing. Consent of department head required for credit beyond 2 hrs. S/NC.

4110 Community Services Programs with Adults (3) Procedures and techniques in working with adults; individual, group, and mass methods. Taken as an off-campus course of field training with 4110. Prereq: 3110 and consent of instructor.

4120 Community Services Programs with Youth (3) Procedures and techniques in working with youth. Taken as an off-campus course of field training with 4110. Prereq: 3110 and consent of instructor.

4130 Methods and Procedures for Community Services Work (3) Individual, group, mass and indirect methods in community services work. Prereq: 3110. 2 hrs. and lab.

4710 Contemporary Developments (1-3) Recent advances in specified areas of home economics, their implications for home economics and related professions. Prereq: Consent of instructor. May be repeated with departmental approval for credit up to 9 hrs.

4910 International Study Tour (6) See page 124 for course offerings.

5110-20 Community Nutrition (3,3) Procedures and techniques in working with adults; individual, group, and mass methods. Taken as an off-campus course of field training with 4110. Prereq: 3110 and consent of instructor.

5210 History and Philosophy of Home Economics (3)

5220 Development of Community Services Programs (3)

5230 Evaluation of Community Services Programs (3)

5700 Current Programs and Trends in Human Resource Development (1-3)

5800 Problems in Community Services (1-3)

5900 Seminar in Human Resource Development (1-3)

6000 Doctoral Research and Dissertation

6110-20 Theoretical Issues in Human Resource Development (3,3)

6310 Advanced Topics (3)

6500 Methodological Issues in Home Economics (3)

6900 Seminar (1-3)

Home Economics Education (490)

Professors:
I. Brown (Emerita), Ph.D. Ohio State; N. P. Logan (Emerita), Ed.D. Tennessee.

Associate Professors:
J. H. McInnis, Ph.D. Florida State; S. W. Miller, Ph.D. Ohio State.

The Department of Home Economics Education is included as an instructional unit in the Department of Vocational-Technical Education in the College of Education (see page 154 for course offerings).

Professional subject matter courses are offered by the departments of the College of Home Economics for those preparing for secondary school teaching programs and extension and community service careers. The vocational home economics education curriculum is designed to provide the requirements for certification in vocational home economics. The curriculum is listed on page 164.

Textiles Merchandising and Design

Professors:
R. G. Blakemore, Ph.D. Florida State; J. D. De Jonge (Head), Ph.D. Iowa State; A. Delong, Ph.D. Pennsylvania State; D. Durman, Ph.D. Pennsylvania State; B. C. Goswami, Ph.D. Manchester (England).

Associate Professors:

Assistant Professor:
T. L. Vigo, Ph.D. Tulane.

Instructor:
B. B. Thompson, B. Arch. Iowa State.

Interior Design and Housing (582)

1430 Introduction to Interior Design (4) Introduction to interior design, basic creative design skills, drawing, spatial organization, color, and design awareness. Prereq: Architectural 1002. 1 hour and 3 labs.
1440 Visual Studies I (4) Introduction to classification and properties of two-dimensional visual organizations and interior design. Identification of properties of visual elements and their ability to communicate information and create legible visual systems. Basic elements of design. Introduction to color principles of design.

1450 Visual Studies II (4) Advanced classification and properties of two- and three-dimensional visual organization and design principles as applied to interior design. Relationship of properties of visual design and their ability to communicate information and create legible visual systems. Prereq: 1440.

2000 Man-Environment Systems (4) Introduction to theory and application and environmental impact upon human behavior patterns; cause-effect relationship of dynamics of developmental changes on human behavior. Prereq: 1430, 1450 or consent of instructor.

2420 Mechanical Systems for Interior Designers (4) Principles and methods of analysis required in heating, ventilation and air conditioning buildings; includes plumbing and acoustics. Prereq: Sophomore standing.

2435 Materials and Methods of Design (4) The development and application of materials and methods used in interior architectural space. Prereq: 1430. 4 hours.

2450 Fundamentals of Interior Design (4) Development of basic design skills for problem solving in spatial organization. Introduction to design methods, project budgeting, drafting, materials, environmental systems, and color on design. Prereq: Pre-1000. 4 hrs.

2451 Fundamentals of Interior Design II (4) Problem-solving in micro-environments using the design process. Communication of design solutions through presentation of drawing, model building, and experimentalization with various media types. Prereq: 2450 and full admission to interior design program or consent of instructor.

2452 Fundamentals of Interior Design III (4) Problem-solving, spatial organization in micro-environments on an increasingly larger scale. Communication of total design solutions using a variety of graphic, audio and photographic techniques as presentation methods. Prereq: 2451 or consent of instructor.

2791 History of Interior Architecture I (4) History of interior architecture, furniture, and other design forms within the cultural context. Greece, Rome, the Italian Renaissance, and France during the seventeenth, eighteenth, and early nineteenth centuries. (Same as Art 2791.)

3110 Beginning Interior Design (3) Individual and development of design form as an arrangement, and combination of furnishings to derive the greatest satisfaction from homes and places of work. Prereq: 1410 or equivalent. 1 hr. and 2 labs.

3130 Color (4) Experimentation based on an understanding of color. Color communication as related to light, perception, and cultural meaning. Application of color to enhance and define the interior environment.

3260 Professional Procedures (4) Preparation of interior design majors for practicum experience. Emphasis on interprofessional relationships and business practices related to interior design.

3450-51-52 Interior Design I, II, III (4,4,4) Studio problems of intermediate complexity that integrate and extend previous knowledge of working drawings, materials and sources, design methods, spatial organization and basic design skills for problem solving. Prereq: 2452 and junior standing for 3450. Courses should be taken in sequence or have consent of instructor.

3791 History of Interior Architecture II (4) History of interior architecture, furniture, and other design forms within the cultural context for England from the sixteenth through the nineteenth centuries. (Same as Art 3791.)

4110 Lighting for Interior Designers (4) The application of elements and principles of lighting and wiring to the design of the visual environment. Prereq: Junior standing.

4260 Interior Design Practicum (8-16) Supervised practicum in establishments engaged in practice of interior design. Prereq: senior standing in interior design majors, 3260, and consent of instructor.

4300 Field Experience (3-15) Supervised field experience; subject to departmental approval. Prereq: Senior standing and consent of faculty.

4320 Family Housing Problems (3) Housing requirements of families. Reading and judging house plans; effective use of space; maintenance problems; housing regulation and restrictions; site selection and neighborhood influences; financing procedures. Prereq: 6 hrs. from Economics 2110-20-30.

4440 Furniture Design (4) Analysis of human factors data in the design of body support, task support and storage furniture pieces and systems; production of constitutional drawings and scale models. Prereq: Senior standing.

4450-51 Advanced Interior Design I, II (6,6) Intensive interior design experiences to include complex design problems utilizing systematic design methodology. Project types to include multi-family housing, commercial and institutional environments, or complex working environments, assistance and critiques from area professionals. Prereq: 3452 for 4450. Courses should be taken in sequence or have consent of instructor.

4610 Studio Problems in Interior Design (3) Problems for seniors with special ability and interest in interior design. May be repeated to a maximum of 9 hrs. Prereq: Senior standing and consent of department.

4710 Contemporary Developments (1-4) Student or staff initiated course for study of special topic(s) pertinent to the field; topics selected to be determined by students and instructor with departmental approval. Elective credit only. May be repeated with consent of department. Maximum credit 12 hrs. Prereq: Consent of instructor.

4791 History of Contemporary Interior Architecture (4) History of interior architecture, including a study of furniture, design and design philosophies of Europe and America are discussed in relation to the forces that shaped them: movements in the visual arts, technological advances, and the culture milieu. (Same as Art 4791.)

4792 History of American Interior Architecture (4) A study of patterns in historical development as revealed in interior architectural spaces and the decorative arts of America, Colonial through Federal periods. Design forms are analyzed within the cultural context. (Same as Art 4792.)

4978 Honors: Interior Design (1-3) Problems for juniors and seniors with special ability and interest in interior design. Hours arranged. May be repeated. Maximum credit 9 hrs. Prereq: Consent of department head.

4988 Honors: Housing (1-3) Problems for juniors and seniors with special ability and interest in housing. Hrs. arranged. May be repeated. Maximum credit 9 hrs. Prereq: Consent of department head.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5049 Seminar in Design (3)

5050 Advanced Design Studio (4)

5060 Practicum (1-12)

5120 Historic Interior Design (3)

5210 Furniture Appreciation (3)

5310 Interior Design (3)

5410 Advanced Problems (3)

5510 Environmental Factors in Interior Design (3)

5520 Environmental Factors in Interior Design (3)

5530 Environmental Factors in Interior Design (3)

5610 Furniture Design (3)

5613 Housing Management (3)

5614 Housing Regulations and Controls (3)

5615 Housing Programs and Policies (3)

5620 Experimental Methods in Household Equipment (3)

5630 Environmental Requirements for Family Work Centers (3)

5815 Environmental Design Research (1-3)

5820 Interior Design (1-3)

5830 Problems in Housing (1-3)

5910-20-30 Seminar (1-4, 1-4, 1-4)

6110 Contemporary Housing Issues and Problems (3)

6120 Advanced Topics in Housing Research (3)

6210 Environmental Design Analysis (3)

6420 Perspectives in Interior Design (3)

Textiles and Clothing (971)

1160 Introduction to Design Analysis (3) Identification of the elements and principles of design, and application to contemporary apparel design and production. Analysis of the relationships of design to figure type, personality, color and fabrication.

1165 Apparel Construction (3) Fundamentals of pattern alteration, fitting, and construction with emphasis on design quality and construction compatibility. Prereq: 1160. 1 hr. and 2 labs.

1170 Design Analysis: Pattern Making (4) Apparel design analysis based on flat pattern, draping and drafting techniques. Comparison of these methods for style variability and cost of garments. Prereq: 1160, proficiency or 1165 or equivalent. 2 hrs. and 2 labs.

2110 Fashion (3) How fashion works, from designer to consumer, fashion trends and cycles.


3170 Advanced Apparel Production (3) Advanced apparel techniques and an experimental approach for contemporary fabrics and garment subdivisions in garment style. Prereq: 1170. 1 hr. and 2 labs.

3330 Textiles (3) Textile products—study of consumer selection, preference, and satisfaction with emphasis on performance. For non-majors only.

3410 Cultural and Functional Aspects of Textiles and Clothing (3) Cultural, socio-psychological, functional, and technological developments in textiles and clothing. Prereq: 3 hrs. each of the following: child development and family relationships, economics, 4 hrs. of sociology or anthropology or psychology.

3420 Textiles I (3) Consumer-oriented study of textiles, emphasizing fibers, fabric construction, and finishes in relation to use, serviceability, and care of apparel and household fabrics. Prereq: 12 hrs. of chemistry or physics or biology or botany.

3429 Textiles Laboratory (1) Laboratory examination of fabrics, yarns, fabrics, and finishes. Coreq: 3420. Required for majors, optional for non-majors.

3450 Consumer Issues: Clothing for Contemporary Families (3) Problems of clothing consumption encountered during various stages of family life cycle. Prereq: Junior standing.

3480 Historic Costume (3) Development of costume from ancient to modern times with consideration of historic, social, and economic settings.

3510 Fashion Merchandising: Planning and Control (3) Analysis of fashion merchandising practices and
4010 Textiles (3) Recent textile developments with emphasis on manmade fibers, new construction techniques and finishes. Opportunity for individual investigation. Prereq: 2110.

4010 Textiles II (3) Recent textile developments with emphasis on manmade fibers, new construction techniques and finishes. Opportunity for individual investigation. Prereq: 2110.

4110 Fashion Buying (3) Analysis of buying practices, procedures, activities, techniques and underlying concepts fundamental to fashion merchandising. Prereq: 3510.

4120 Textile Economics (3) Economic background of textile and apparel industry with emphasis on production and distribution. Current national and international problems. Prereq: Economics 2110, 2130.

4130 Research Experiences (3-15) Individual juniors and seniors showing special abilities may be assigned to ongoing research within department or work in research and development laboratory or quality control department of fiber, chemical, or textile company. Prereq: Recommendation of department head and research advisor, 4010, 4140, and 3 hrs. of statistics. May be repeated. Maximum credit 15 hrs.

4140 Introduction to Textile Testing Methods (3) Methods and equipment used in physical testing as approved by recognized textile groups. Prereq: 3420, 3425, 1 hr. and 2 labs.

4210 Textile Fiber Chemistry (4) Chemistry of textile fibers with emphasis on structure, preparation, and reactions. Implications relating to dyeing and finishing of fabrics. Prereq: One quarter of organic chemistry. 3 hrs. and 1 lab.

4220 Textile Fiber Chemistry (4) Chemistry of textile fibers with emphasis on structure, preparation, and reactions. Implications relating to dyeing and finishing of fabrics. Prereq: One quarter of organic chemistry. 3 hrs. and 1 lab.

4230 Textile Fiber Chemistry (4) Chemistry of textile fibers with emphasis on structure, preparation, and reactions. Implications relating to dyeing and finishing of fabrics. Prereq: One quarter of organic chemistry. 3 hrs. and 1 lab.

4410 Apparel Production Management (3) A management perspective of the apparel production industry. Emphasis on production planning, process, and management of human resources. Course work supplemented by plant tours and case studies on production problems. Field trips required.

4410 Apparel Production Management (3) A management perspective of the apparel production industry. Emphasis on production planning, process, and management of human resources. Course work supplemented by plant tours and case studies on production problems. Field trips required.

4510 Teaching Materials (3) Investigation, preparation, and evaluation of teaching materials. For students planning to teach or do home demonstration work. Prereq: 3440, senior standing. 1 hr. and 2 labs.

4520 Introduction to Field Experience in Merchandising (2) Interviews with store personnel; placement and planning for field experience. Prereq: Economics 2110-30, junior standing, concentration in merchandising option, approval of program coordinator, and a minimum grade point average of 2.2. Open only to students who intend to enroll in 4630-40. May not be repeated.

4630 Field Experience in Merchandising (9) Off-campus, supervised experience in a cooperative program with business establishments which merchandise textiles and/or apparel. Prereq: 3510, 4110, 4620, 9 hrs. of marketing, senior standing, major in merchandising, and a minimum grade point average of 2.2; coreq: 4640. Offered fall quarter only.

4640 Methods in Field Experience (6) Investigation of training systems and store organization, analyses of jobs, and evaluation of field experience. Prereq: 4620, senior standing, major in merchandising, and a minimum grade point average of 2.2; coreq: 4650. Offered fall quarter only.


5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5110 Textile Testing and Methods of Research in Textiles (3)

5120 Advanced Problems in Textiles and Clothing (3)

5130 Advanced Tailoring (3)

5150 Principles of Design Analysis (3)

5160 Review of Literature (3)

5170 Social, Psychological, and Economic Aspects of Clothing (3)

5180 Advanced Textile Economics (3)

5210 Evaluation of Instructional Materials in the Field of Textiles and Clothing (3)

5220 Historic Textiles (3)

5240 Practicum (1-9)

5250-60-70 Problems in Textile Chemistry (4,4,4)

5310 Fashion Analysis (3)

5320 Problems in Historic Costume (3)

5700 Current Programs and Trends in Textiles and Clothing (1-3)

5800 Problems in Textiles and Clothing (1-3)

5900 Seminar in Textiles and Clothing (1-3)

6010 Advanced Studies in Textiles and Clothing (3)

6110 Selected Issues in Textiles and Clothing (3)

6140 Selected Behavioral Theories in Clothing (3)

6150 Social-Psychological Theories of Clothing Consumption (3)

6160 Textiles Flammability (3)

6170 Physical Performance Behavior of Textile Structures I (3)

6910 Seminar in Textiles and Clothing (1-3)
College of Law

Kenneth L. Penegar, Dean
Mary Jo Hoover, Associate Dean
Julia P. Hardin, Assistant Dean
N. Douglas Wells, Assistant Dean

The College of Law is, since 1981, conducted on the semester system.

The University of Tennessee College of Law commenced operation in 1890 and has continuously sought to provide high quality legal education in a university community. While the principal objective of the college is to prepare students for the private practice of law, its total mission is more broadly conceived. The college exposes students to the legal issues of our society enabling them to develop analytical skills in respect of decisional law and statutes, the ability to communicate effectively to others their knowledge of the law, an awareness of the historical growth of the law, a knowledgeable appreciation of the interrelationship of law and society, and the ability to use law as an implement of societal control and development. Students are thus equipped to serve their community not only as advocates and counsels, but as policy makers and active, responsible citizens.

The coordinated program of the college has three dimensions: teaching and learning, research into and appraisal of our legal systems and institutions, and service to the community. Each plays a significant role in the college as a modern law center. The teaching and learning element of legal education at the college involves a cooperative classroom interaction between faculty and students in the analytical study of a host of questions and problems found in today's legal profession. These involve decisional law, statutory interpretation, administration regulation, techniques of trial and appellate advocacy, and the roles and responsibilities of the lawyer in advising and representing clients. While proper consideration is given to the problems of Tennessee law, the course of study is conducted with a view toward providing an awareness and understanding of the regional and national perspective to prepare our students for service in any state.

The college is also directly involved in providing service to the community of which it is a part. A major element of public service is centered in the Legal Clinic where students, under the guidance of skilled and experienced licensed practitioners, provide legal services to indigent persons of Knox County. Additionally, through research, consultation, and other services to legal institutions and groups within the state, the college seeks to participate in the development and improvement of the society in which its students may eventually practice law. The Public Law Institute is a primary example of this function.

In combination, the direction and objectives of the college lead to the development not of a narrow technician, but of a student of the law with the perspective, breadth, and understanding necessary for the accomplishment of the many tasks assigned by society to the legal profession.

The College of Law Building

Since 1950 the college has occupied a building especially designed for teaching, study, and research in the law. In the spring of 1971 the college occupied the new wing begun in the fall of 1969. The new addition has doubled the available facilities. The library, the classrooms, and the offices are air-conditioned. Adequate classrooms, courtrooms, seminar rooms, a private office for each full-time faculty member, the well-equipped offices of the Legal Clinic, and a spacious, well-lighted Law Library are contained in this modern building. Stack space for more than 200,000 volumes will permit one of the largest law book collections in the South.

Legal Clinic

The University of Tennessee Legal Clinic was established in 1947. Though the Legal Clinic provides legal assistance to indigent persons, it is designed primarily as a teaching device to correlate theory and practice. It introduces the student under faculty supervision to the law in practice through personal contact with clients and their problems. The Legal Clinic functions as a large law office in which the student gains experience in interviewing clients, writing legal letters, investigating and evaluating facts, preparing memoranda of law, preparing cases for trial or adjustment, and briefing cases. Classroom work supplements the handling of actual cases. The student is thus trained in the technique of law practice and the management of a law office. The ethical responsibilities of lawyers and their function as public servants are stressed. Under present rules of the Tennessee Supreme Court, students, under the direct supervision of the Legal Clinic staff, are certified to practice before all the courts of Tennessee.

The Law Library

The Law Library contains the official state reports of all states, the complete National Reporter system which covers all states and the federal courts, the Annotated Reports, standard sets of miscellaneous reports, the reports of the Canadian cases and of English cases from the yearbooks to date. In addition to these, there are adequate encyclopedias, digests and dictionaries, standard textbooks, law reviews, and current looseleaf services, totaling together more than 133,000 cataloged volumes. The library is under the supervision of a law librarian who is trained in law and library science. Law students also have the use of the collections in the University Main Library, which is located across the street from the Law Library, the Undergraduate Library a few blocks away, and other branch libraries.

Degree of Doctor of Jurisprudence

The degree of Doctor of Jurisprudence will be conferred upon candidates who complete, with the required average, six semesters of resident law study and who have 84 semester hours of credit, including all required courses. The required average is 2.0 and that average must be maintained on the work of all six semesters and also for the combined work of the grading periods in which the last twenty-eight (28) hours of credit were earned. Averages are computed on weighted grades.
Grades are on a numerical basis from 0.0 to 4.0. A grade of 0.9 or below is a failure. Eligible law students may receive credit towards the J.D. degree for acceptable performance in up to three (3) upper-level courses taken in other departments at The University of Tennessee. Course selection and registration are subject to guidelines approved by the law faculty. The University shall show the actual grade assigned by the instructor without conversion.

Admissions. Applicants for the J.D.-M.B.A. program must meet all requirements stated in the front section of this catalog as well as the requirements for this college.

Dual J.D.-M.B.A. Degree Program

The College of Business Administration and the College of Law offer a coordinated dual degree program leading to the conferral of both the Doctor of Jurisprudence and the Master of Business Administration degrees. A student choosing the dual degree program will not be required to take fewer hours of course work than would be required if the two degrees were to be earned separately.

Record Maintenance of a Satisfactory Grade

Satisfactory/No Credit Option

(1) Course Eligibility

Required courses may not be taken on a Satisfactory/No Credit (S/NC) basis except as specifically designated.

(2) Satisfactory/No Credit

a. Election to take courses on a Satisfactory/No Credit basis must be made at the time of registration and cannot be changed thereafter. Students who register for a course Satisfactory/No Credit when they are ineligible to do so will be required to change to regular grading when the error is discovered.

b. Credit will be given for a course taken on a Satisfactory/No Credit basis only in semesters in which the student completes (receives a grade in) at least ten hours on a regular graded basis.

c. Students electing the Satisfactory/No Credit basis must meet all requirements imposed on students taking the course on a regular graded basis, e.g., attendance, term paper, recitation, etc.

d. Examinations and other work of students electing a Satisfactory/No Credit basis shall not be graded separately or differently from that of other students.

e. For purposes of Satisfactory/No Credit grading, Satisfactory shall mean a grade of at least 2.0.

f. A student electing Satisfactory/No Credit who makes 2.0 or above shall receive credit for the course, but the grade shall be recorded as S and will not be used in determining the grade average.

g. A student electing Satisfactory/No Credit who makes below 2.0 will receive an NC for the course and neither this grade nor the hours for the course will be included in the grade average or hours credit.

h. A maximum of two courses may be taken on a Satisfactory/No Credit basis.

Maintenance of a Satisfactory Record

No student will be excluded from the College of Law for academic reasons prior to the completion of two semesters of academic study. A full-time student who fails to achieve an overall average of at least 2.0 upon completion of a degree (one or two semesters of academic study shall be excluded. Such exclusion shall occur regardless of whether the student has obtained permission to vary the first-year full course load.

Maximum Course Load Per Semester

The maximum course load for a law student is eighteen (18) hours in any one semester. During the Summer term the maximum course load is seven (7) hours.

Clinical Courses

A student may take no more than a total of two clinical courses for law credit and normally no more than one clinical course per semester. Clinical courses are 8746, 8756, 8775, 8785.

Policy for Graduate Students Taking Law Courses

Law courses are not available for graduate credit; however, a graduate student may be allowed to take up to six semester hours of law courses and receive credit toward a degree upon approval of the College of Law and the major chairperson. The graduate student must register for the law courses on the first day of registration at the College of Law requesting an S/NC grade only. If a 2.0 or above is obtained in a law course, an S will be recorded on the transcript. If a student earns below a 2.0, an NC will be recorded and the course cannot be used toward meeting degree requirements. Grades for law courses will not be reflected in the cumulative average.

Different rules apply to the student enrolled in the Dual J.D.-M.B.A. Program. Grades must be earned according to the grading system of the respective college, e.g. numerical grades for law courses, letter grades for graduate courses. Refer to page xx for the grading scale acceptable toward meeting degree requirements. Cumulative GPA for law courses only will be carried until graduation, at which time both the graduate and the law cumulative will be shown on the permanent record.

Admission

Information regarding admission, financial aid, academic policies, extracurricular activities, and student services is available in the College of Law Bulletin. Students interested in the college should obtain a copy of the Bulletin from the Admissions Office, The University of Tennessee, College of Law, 1505 West Cumberland Avenue, Knoxville, Tennessee 37996. Completed application should be received before February 1 of the year of expected admission.

Faculty

Program of Instruction

The following program is designed to give the student an adequate preparation for the practice of law. From 12 to 15 hours of classroom work a week are required of all full-time students. The required courses will be taken as early in the law curriculum as possible or as scheduled by the law faculty. See statement of course availability at end of this section.

REQUIRED COURSES


8940 Civil Procedure II (3) Pleading; joinder of claims and parties; discovery, trials, verdicts, judgments and appeals; emphasis of Federal Rules of Civil Procedure.

8300 Constitutional Law I (3) Judicial review, limitations on judicial power, national legislative power, regulation of commerce, power to tax and spend; other sources of power; state power to regulate and tax, intergovernmental immunities; substantive due process; Congressional enforcement of civil rights.

8200 Contracts I (3) The basic agreement process and legal protection afforded contracts. Problems to offer and acceptance, interpretation, illegality, and the statute of limitations.

8203 Contracts II (3) Continuation of study begun in Contracts I. Concentrating on remedies, conditions, impossibility and frustration, third party beneficiaries, assignment and delegation, and discharge.

8240 Criminal Law (3) Course on substantive aspects of criminal law. General principles applicable to all criminal courts, then specific analyses of particular crimes. Substantive defenses of crimes, including insanity, intoxication, mistake, necessity, legal duty, self-defense, and duress.

8270 Legal Process (2) Judicial process, brief survey of federal and state law, and procedure, legal history, case analysis, significance of precedent, influence of the law on the policy maker, adversary system, and the role and responsibilities of the lawyer as an advocate; legislative interpretation.

8860 Legal Profession (2) Role of the lawyer in society and ethical responsibilities implied in that role. Administration of the organized profession, solicitation, advertising, unauthorized practice, conflicts of interest, decision to represent or withdraw as counsel; qualifications for admission, advocacy and its limitations, fees, and disciplinary procedures.
ing and legal concepts through the methods of episte-

8500 Future Interests (3) The law of future interests, inter-est, and final demand; possibilities of the

8510 Government Contracts (2) Principles relating to
government procurement, both federal and state, to

8520 International Business Transactions (3) Legal

8535 Jurisprudence (3) A comparative examination of

civil and criminal law, including comparative jurisdic-
tion, utilitarianism, analytical jurisprudence,
sociological jurisprudence, legal realism, and

8540 Labor Law (4) Evolution of labor relations law;

8550 Law, Language, and Ethics (3) An intermediate

8590 Land Finance Law (2) Financing devices such as

governmental bond issues, mortgages, deeds of trust

8560 Law, Language, and Ethics (3) An intermediate

8565 Law and Economics (3) Examination of the

8570 Local Government (3) Distribution of power

8580 Legislation (3) Examination of interpretation and

drafting of statutes, legislative process, and legislative

8590 Land Finance Law (2) Financing devices such as

8610 Natural Resources Law (3) Selected materials

8620 Securities Regulation (3) Advanced problems of

governmental regulation of issuance of securities.

8650 Legal Accounting (2) Designed to familiarize

8655 Legal Imagination (3) Systematic study of litera-
ture and its application to accurate, fluent, and creative

8670 Legal Writing (1) By arrangement. Academic

credit for completion of a potentially publishable

case note or comment or Perspectives for the Tennes-
see Law Review or participation as a member of a

8675 Products Liability (3) Negligence of manufac-
turer. Strict liability of manufacturer. Liability of retail

8700 Local Government (3) Distribution of power

8710 Remedies (4) Study of judicial remedies, includ-
ing damages, restitution, and equitable relief. Consid-
eration of availability, limitations and measurement of
evaders in various situations.

8785 Economic Development (4 or 5) Students

develop models and skills pertaining to the representa-
tion of corporations and businesses. Emphasis on

8785 Economic Development (4 or 5) Students

develop models and skills pertaining to the representa-
tion of corporations and businesses. Emphasis on

8790 Land Finance Law (2) Financing devices such as

governmental bond issues, mortgages, deeds of trust

8795 Criminal Law Seminar (2) An in-depth study of

8800 Sales and Secured Transactions (4) Art. 2 (Sales)

8810 Administrative Law Seminar (2) In-depth study

8820 Consumer Protection Seminar (2) Selected

8830 Social Legislation and Employee Benefits (3)

8840 Wealth Transfer Taxation (3) Transfers of

8850 Tax Theory (3) A comparative study of the methods

8855 Commercial Law Seminar (2) Content will vary.

8860 Income Tax I (2) Study of federal income tax

8865 Income Tax I (2) Study of federal income tax

8870 Business Planning Seminar (2) Selected prob-
lems in corporate and tax aspects of business plan-
ning and transactions.

8875 Commercial Law Seminar (2) Content will vary.

8900 Administrative Law Seminar (2) An in-depth study

of administrative law not covered in basic courses.

8910 Administrative Law Seminar (2) An in-depth study

of administrative law not covered in basic courses.

8920 Arbitration Seminar (2) Arbitration of labor

problems, with students required to plan and execute

a mandatory arbitration on labor matters. Prereq: 8800.

8930 Constitutional Law Seminar (2) Study and

8940 Wealth Transfer Taxation (3) Transfers of

8955 Legal Accounting (2) Designed to familiarize

students with the accounting concepts and tech-
niques, and to enable them to use and understand

accounting information.

students with the accounting concepts and tech-
niques, and to enable them to use and understand

accounting information.

8600 Income Tax I (2) Study of federal income tax

8605 Labor Law (4) Evolution of labor relations law;

8615 Natural Resources Law (3) Selected materials

8625 Remedies (4) Study of judicial remedies, includ-
ing damages, restitution, and equitable relief. Consid-
eration of availability, limitations and measurement of
evaders in various situations.

8650 Legal Accounting (2) Designed to familiarize

8670 Legal Writing (1) By arrangement. Academic

credit for completion of a potentially publishable

case note or comment or Perspectives for the Tennes-
see Law Review or participation as a member of a

8680 Legislation (3) Examination of interpretation and

drafting of statutes, legislative process, and legislative

8690 Modern Land Use Law (2) Land use planning,

8700 Local Government (3) Distribution of power

8710 Remedies (4) Study of judicial remedies, includ-
ing damages, restitution, and equitable relief. Consid-
eration of availability, limitations and measurement of
evaders in various situations.

8720 Environmental Protection Seminar (2) Through

team-teaching and input of selected experts, this course

will focus on specific problems of litigation in current

environmental law. Students are required to engage in
critical problem analysis and the public and private

efforts in the defense of the environment. Prob-
lems of proving environmental impact of selected projects, interpretation and evaluation of scientific data, use of expert witnesses. Special environmental concerns of the region, e.g., TVA operations, strip mining, forest management, wildlife preserves. Prereq: 8490.

8400 Estate Planning Seminar (2) Problems of estate planning both inter vivos and testamentary. Advantages and disadvantages of various types of ownership. The law and practice of fiduciary administration, insurance, wills, future interests, trusts, corporations, partnerships, and gifts as related to estate planning. Research on assigned topics. Drafting of estate plan for hypothetical fact situations. Prereq: 8805 and 8840.


8545 Juvenile Law Seminar (2) Examines the unique history and philosophy of juvenile justice system. Considers jurisdiction, judicial and extrajudicial functions of juvenile court, and various dispositional alternatives. Students will read judicial opinions and materials from fields of history, sociology, and psychology. Knox County Juvenile Court serves as laboratory for students; professional staff from the Court participate in seminar on regular basis.

8550 Labor Relations Law Seminar (2) Study and discussion of selected labor relations law problems.

8595 Land Acquisition & Development Seminar (2) Alternative business forms will be assigned teams of students who will then prepare and present for seminar discussion all major documents (notes, deeds, prospectus, etc.) necessary to accomplish the acquisition or development of large pieces of raw land. Prereq: 8990.

8580 Law and Current Problems Seminar (2-3) Alternative business forms will be assigned teams of students who will then prepare and present for seminar discussion all major documents (notes, deeds, prospectus, etc.) necessary to accomplish the acquisition or development of large pieces of raw land. Prereq: 8990.

8935 Law and Medicine Seminar (2) Examination of medical profession's involvement in judicial process, including: (1) medical malpractice and alternatives to fault-based liability; (2) responsibilities for disposition and care of dead bodies and legal principles governing organ transplantation; (3) expert medical proof and testimony; (4) medico-legal aspects of euthanasia; (5) other more specific matters such as legal import of medical profession's various canons of ethics.

8560 Law and Mental Health Seminar (2) Introduction to psychiatric principles, role of psychiatrist, and relationship to role of legal counsel; assigned readings; field work in mental health clinic; jointly taught by law professor and psychiatrist.

8600 Office Practice Seminar (2) Techniques of law office management, methods and practice, including techniques in the preparation of various legal instruments, office accounting, interviewing and counseling, management of personnel.

8845 Seminar in the Professional Competence of the Lawyer (2) Exploration of typical situations in which malpractice claims arise, including third party claims, conflicts of interest, breach of fiduciary duties and the like; examination of difficult problems of proof including use of expert testimony, which is hallmark of much legal malpractice litigation.

8955 Trade Regulation Seminar (2) Study and discussion of selected problems arising under antitrust laws and laws applicable to regulated industries.

Course Offerings Subject To Change

The necessity of adjustments to accommodate changing conditions may dictate modifications in the course offerings and other features of the program described above. Accordingly, the college reserves the right to make such variation in its program as circumstances may require. Prospective students who are interested in the precise course offerings at a given time or who desire other special information should make inquiry in advance.

It is necessary to offer some courses and seminars only on an every-other-year basis. Choice is based on subject matter and past patterns of student enrollment.
Coil of Liberal Arts

Robert G. Landen, Dean
Charles O. Jackson, Associate Dean
Paul Huray, Associate Dean for Research and Resource Development
Harry C. Jacobson, Associate Dean for Student Academic Affairs

The arts and sciences encompass the entire range of human knowledge, from the earliest records to the latest laboratory results. All that human beings have observed about themselves, about their societies, and about the natural world around them is of concern to one or another of the arts and sciences.

The curriculum of the College of Liberal Arts reflects this wide-ranging concern with the life of the mind. It emphasizes the breadth of human knowledge, perceived not only in terms of the traditional categories of the humanities and the natural and social sciences, but also in broader perspectives which extend across academic fields and reach beyond the boundaries of a college of liberal arts. It also stresses depth of learning, thereby seeking to acquaint the student with the rigors of the intellectual process. Through participation in an intellectual tradition which is the heart of a liberal education, students come into the college with a wide variety of specific educational and vocational objectives. Recognizing this diversity, the college offers a liberal education, students come into the college with a wide variety of specific educational and vocational objectives. Recognizing this diversity, the college offers a

Programs of Study

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

Degrees Offered

(1) BACHELOR OF ARTS

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

(a) Basic Program—The program appropriate for most B.A. students, it is developed around the broad area requirements in the Triad plus intensive study in one or more of the specified departmental or interdepartmental major fields described below.

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

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

(d) Pre-Professional Program—The Pre-Professional Program is offered for those who wish to participate in one of the cooperative 3-1 curricula in the health sciences (medicine, dentistry, pharmacy, or medical technology). The student proceeds directly to specialized training in the chosen area after the third year of liberal arts study and offers the first year of professional study in lieu of a major concentration in the college in satisfying the requirements for the B.A. degree.

(2) BACHELOR OF FINE ARTS

The Bachelor of Fine Arts degree represents intensive study preparing students for graduate study and professional positions in art. The degree is offered with a major in studio art. Recommended course combinations for those who desire to concentrate in ceramics, graphic design/illustration, drawing, painting, fiber-fabrics, inter-area, watercolor, printmaking, or sculpture are available in the art department office.

(3) BACHELOR OF MUSIC

The program leading to the Bachelor of Music degree prepares students for graduate study and for positions in which a professional degree is required. The degree is offered with a major in music which has concentrations in music theory, composition, music history and literature, piano literature, and applied music (voice; organ; strings; woodwind; brass; and percussion instruments; multiple woodwind instruments; organ and church music; piano; studio music and jazz; Suzuki string pedagogy).
Program Planning

Each student's academic program is highly individualistic, reflecting that person's special interests, goals, and aspirations. Usually it will reveal a growing intellectual sophistication and the development of particular motivations. On occasion it may be analytically, it gives indication of frustration and lack of clear direction. Viewed as a whole it may appear to be a miscellany of unrelated courses which were chosen almost capriciously; or it may be a carefully selected curriculum which the student brought together in a way which represented for that individual the most appropriate and effective way of attaining educational goals.

The importance of program planning can hardly be overstressed. A few students enter the college with firmly formed objectivity in mind and their programs develop quite readily around these predetermined goals. Many, however, do not reach that stage of certainty until their academic careers are relatively far advanced. For these persons the exploration of possible directions and programs, in consultation with faculty advisers, is an important part of the educational process. It is essential for these students to develop their programs carefully and creatively in order that maximum flexibility in their ultimate decision may be possible.

A basic decision, of course, is the degree to be sought. If it is one of the three professional degrees (Bachelor of Fine Arts, Bachelor of Music, or Bachelor of Science in Chemistry), the student's program will be somewhat circumscribed, for these degrees are necessarily more prescriptive than the general liberal arts degree. If the student chooses to work for the Bachelor of Arts degree, the three elements which make up the curricula leading to that degree will need to be kept in balance: the broad requirements in the Triad, the major area, and the elective courses which support and supplement the work in the first two categories. Most students find it desirable to lay a broad foundation by taking courses which will satisfy Triad requirements in the first two years, thus reserving most of the seven quarters of on-the-job experience while earning the degree.

Requirements for Degrees

Bachelor of Arts

As has already been stated, the general liberal arts curriculum of the Bachelor of Arts, and it is the appropriate objective for most students in the college. Requirements for this degree and the several curricular programs which lead to it will now be discussed in detail.

Note: Students are advised to consult the University's degree requirements as stated in the front section of this catalog as well as the requirements for the college or department.

GENERAL REQUIREMENTS

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

1. A minimum of 180 credit hours;
2. At least 60 credit hours in courses numbered 3000 or above;
3. Appropriate work to satisfy the broad requirements of the Triad, counting no course for more than one Triad area (Basic Program, Individualized Program, and Pre-Professional Program only);
4. A major consisting of at least 36 credit hours in courses numbered 2000 or above as specified by the department or program to which courses in this major which has been used for Triad credit. (A course which satisfies a Triad requirement may serve, however, as prerequisite or corequisite to a major); A minimum grade of C must be earned in every course counted as part of a major.

Students transferring from other institutions must complete at least 12 credits at The University of Tennessee, Knoxville, in each major awarded on this campus.

Multiple Majors: After the general requirements described above have been satisfied, additional majors may be recorded on the transcript without regard to course overlap among majors or among these additional majors and Triad requirements. Students developing multiple majors must specifically declare this intent at the time they apply for graduation. Once a student has graduated, the establishment of additional majors becomes subject to University second-degree requirements.

Optional Minors: If desired, and at the time of applying for graduation, single or multiple minors may be recorded on the academic record without regard to course overlap among minors and majors or among minors and Triad requirements. Minors require a minimum of 24 credit hours in courses numbered 2000 or above. They are available in most departments or programs in which majors are offered and are available in the following:

- Biochemistry
- Physical Sciences
- Portuguese
- Women's Studies

Minors may be developed in other colleges or schools of the University, but they must be approved by the department head in which the minor is proposed as well as by the Assistant Dean for Student Academic Affairs in Liberal Arts. At least 6 of the 24 credit hours required for a minor must be completed at The University of Tennessee, Knoxville.

A business minor is available to students who successfully complete 21 hours of the following required courses: Accounting 2110-20-30, Economics 2110-20-30, and Statistics 2180. Also, 15 hours of upper-division business electives must be taken at UT. Not more than six upper-division hours of accounting, economics, or statistics may be used for this minor. Students are responsible for meeting prerequisites listed for any upper-division courses taken in a particular concentration.

I. Basic Program

A. THE TRIAD: Language, Literature, and the Arts; History and Society; Science and Mathematics

Language, literature, and the arts play a vital role in shaping human experience and perception. They give expression to human thought and feeling and give form and order to a sense of the world. The written and spoken word, the dramatic motion and gesture of theatre, film, and dance, the sensual structures which address the eye and ear in painting and sculpture, architecture, and music—all of these help to define what is human.

It is important that every student of liberal arts become acquainted with these modes of experience within the diverse and rich cultural traditions of the world, and to gain exposure to cultures that are foreign, distant, and strange. To know what one is not is essential for knowing what one is.

Although there is no universal formula for determining which disciplines, skills, and enjoyments are of primary or of secondary importance, the written and spoken word has a wider range of reference than any other human skill. A basic competence in writing and reading is thus a minimal condition for knowing how to think about and relate all other activities.

The study of history is an integral part of a liberal education. Because human beings build on their experience, a clear understanding of the present requires a historical perspective. Such perspective may be developed by a number of courses, including the traditional surveys of western civilization, or by other surveys such as Asian history, Latin American history, history of the United States, and Afro-American history. More specialized courses in the history of particular segments of human experience, e.g., philosophy or religion, may also prove valuable.

A liberal education presupposes not only an awareness of the past but also a familiarity with contemporary social institutions, processes, and practices. From a wide variety of offerings in the social sciences the student may choose courses useful in acquiring that familiarity. Only by such knowledge can people of good will hope to maintain humane values in a world where industrialization, urbanization, and other dimensions of technological change challenge traditional patterns of individual and collective behavior.

Study of science and mathematics develops in the student an inquiring attitude toward the natural environment and confidence in the ability to understand scientific explanations of diverse phenomena. These ends may be realized through an understanding of the empirical and the rational in scientific methods of inquiry and an awareness of the limitations of science and technology in solving problems. The student should attain a...
knowledge of the way in which the development of science and technology has affected beliefs, philosophies, and the development of civilization.

**Specific Requirements in the Triad**

(1) **Language, Literature, and the Arts**

(a) **Writing Proficiency.**

Each student is required to demonstrate ability to use the English language effectively and coherently in one of the following four ways:

(i) By completing nine credits in English writing courses in one of the following series: (1) English 1010 or 1011, 1020, and three additional credits drawn from 1031, 1032, or 1033. Students who complete 1020 with the grade of A have the additional option to satisfy the remaining three credits in any 2000- or 3000-level writing course offered by the department. (2) English 1018, 1026, 1038. Students who obtain the grade of A or B in 1028 have the additional option, with special permission, by earning a score of 3 on that examination and completing one 2000-level course in English at The University of Tennessee, Knoxville, with a grade of B or better.

(ii) By passing (normally after completing one year of freshman English at UT) a proficiency examination in writing, administered by the Department of English in cooperation with the Committee on Writing Standards.

(iii) By completing three hours of freshman English followed by a minimum of six hours in courses which require substantial emphasis courses are identified by the Committee on Writing Standards; a list of those approved may be obtained in the office of the Department of English or the Liberal Arts Advising Center.

Note: Students should normally take English in the first quarter of their registration and continue to take English or a writing-emphasis course in each succeeding quarter until this requirement is met.

(b) **Literature, Foreign Language, and the Arts**

The student may select any one of the following three options to satisfy this requirement:

(i) Eight hours of literature in a foreign language in the 2000-level or above. Prerequisite to this option is intermediate-level competence in the language, demonstrated by diagnostic (noncredit proficiency/credit) examination or by completion of the 2000-level sequence in that language.

(ii) Intermediate-level competence in a foreign language demonstrated by diagnostic (noncredit proficiency/credit) examination or by completing a 2000-level sequence (or an approved equivalent) in that language, and a minimum of two courses of literature in English (originally in English or in translation) drawn from the list of courses published by the Committee of Language, Literature, and the Arts, available in the Liberal Arts Advising Center.

(iii) 24 hours in an integrated program in languages and/or the arts, focusing either on (1) a particular nation or area other than the United States, or (2) a comparative study of literary and artistic modes, genres, or movements. Suggested programs are published by the Committee on Language, Literature, and the Arts and are available in the Liberal Arts Advising Center; students may also propose individual programs to the committee for consideration.

Note: In options (i) and (ii), those who take the diagnostic examination will not receive credit toward graduation but will be exempted from the portion of the requirement satisfied by the examination. Those who take the proficiency examination may earn up to 16 hours of credit toward graduation for previous study of the language, in addition to the credit they earn for course work undertaken in the college. Normally two years of high school language study is regarded as equivalent to one year of college study. Students who have had four years of one or more foreign languages study of the same language should be able to satisfy the requirement for intermediate-level competence in either option by examination and those who have had less than four years of study may be required to take an additional portion of the requirement. In this way, thus reducing the time required to satisfy this requirement. Full credit toward graduation is given for any language study undertaken successfully in the college regardless of the amount of previous study of that language.

Students who have had less than two years of study of the same language in high school are admitted with an entrance deficiency. Satisfactory completion of the final quarter of the first year sequence of college level foreign language study, normally in the freshman year, is necessary to remove this deficiency.

(2) **History and Society**

Each student must complete 24 hours of course work in this area including:

(a) One eight-hour sequence from the following survey courses offered by the Department of History or in a comprehensive interdisciplinary sequence having a substantial emphasis on history;

(b) Eight hours in courses with emphasis on man and society which are not primarily historical in nature;

(c) The remaining hours may be taken in either area.

A list of courses which satisfy this requirement is published by the Committee on History and Society and is available in the Liberal Arts Advising Center.

(3) **Science and Mathematics**

Each student must complete 24 hours of course work in this area, including:

(a) One of the following two options:

(i) An eight-hour sequence in biological science;

(ii) An eight-hour sequence in physical science.

(b) 16 hours drawn from additional courses in the biological and/or physical sciences or from designated courses in:

(iii) the history, philosophy, or social impact of science;

(iv) mathematics and logic.

No more than 16 hours may be applied toward this requirement from any one of the above four categories.

A list of courses which satisfy this requirement is published by the Committee on Science and Mathematics and is available in the Liberal Arts Advising Center.

B. THE MAJOR

In many ways the most important part of each student's program is the major, for it is in this intensive study of one more or less limited fields of knowledge that the individual begins to find a niche in the world of intellectual endeavor. The major may be drawn from the offerings of a single department or it may bring together related concerns of two or more departments. In either case the student should work out a program of study which has a definite design and aims at some overall objective. Guidelines are published by each major department or interdepartmental committee to assist the student in ascertaining goals and to provide a framework within which to develop a particular program. Additional assistance in the form of personal counseling is available in the Liberal Arts Advising Center and from designated faculty advisers in each major department or area.

Requirements for the specific majors available to students in the Basic Program vary from a minimum of 36 to a maximum of 56 credit hours in courses numbered 2000 and above, including prerequisites and corequisites (i.e., supporting courses in other departments or areas). Insofar as is consistent with the objective of a total program balanced reasonably between broad area requirements in the Triad, the major, and supplementary courses, the student may elect as many courses as desired in any department or area.

Majors available in the Basic Program:

- Anthropology
- Art
- Art History
- Audiology
- Biology
- Botany
- Chemistry
- Computer Science
- Cultural Studies
- Economics
- English
- French
- Geography
- Geology
- German
- Greek
- History
- Human Services
- Italian
- Latin
- Mathematics
- Microbiology
- Music
- Philosophy
- Physics
- Political Science
- Psychology
- Religious Studies
- Russian
- Sociology
- Spanish
- Speech Pathology
- Speech & Theatre
- Sociology
- Statistics
- Zoology

C. SUPPLEMENTARY ELECTIVE COURSES

At least one-fourth of each student's curriculum in the Basic Program will be made up of courses selected according to the individual's interests to supplement and support the work being done in the major and in the Triad. This dimension of the student's experience in the University represents that freedom within which total education may be rounded out and enriched. Elective courses should be chosen with care so that they will truly enhance the student's total program and help in the achievement of well thought-out educational objectives.

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

- Majors in the Basic Program
- Majors available in the Basic Program
- Majors available in the Basic Program
IV. Preparation for the Health Professions

Pre-Dental

Pre-Dental Hygiene

Pre-Medical

Pre-Medical Record Administration

Pre-Medical Technology

Pre-Nursing

Pre-Physical Therapy

Other Health Professions

Pre-health professional programs are available for students who plan a career in one of the health professions. The programs preparing students for the study of medicine, dentistry, and pharmacy include the specified courses required for admission to the respective colleges of The University of Tennessee Center for the Health Sciences at Memphis (UTCCHS), as well as those required for the Bachelor of Arts degree in the College of Liberal Arts at The University of Tennessee, Knoxville.* The pre-medical technology program prepares students to undertake professional training during the third year of study at UTCCHS. Other pre-health professional programs—dental hygiene, medical technology, cytotechnology, nursing, pharmacy, and physical therapy—are offered for those students who are planning to pursue professional training in health professional areas which do not lead to an undergraduate degree from UTCCHS but not to a degree from UTK.*

Admission to any program at UTCCHS or Knoxville is at the discretion of that program's admissions committee. Admission to The University of Tennessee and completion of a pre-health professional program in the College of Liberal Arts does not assure admission to any professional training program.

Because the admission for most programs in the health professions is keen, pre-health professional students are encouraged to work towards the completion of a degree program in a major which will enable the individual to adapt to an alternative program in the event admission to the desired program is not achieved. The preparatory courses necessary for professional study can be incorporated into the chosen major program.

Students in a pre-health professional program should consult with a health professional adviser in the Liberal Arts Advising Center (218 Ayres Hall) for more information about the programs outlined below. Bulletins describing the various pre-health professional programs, including a detailed statement on requirements, may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-DENTAL PROGRAM

The college offers both three-year and four-year programs leading to the degree of Bachelor of Arts for students preparing for the study of dentistry. Both programs are based upon the curriculum outlined below. Bulletins describing the various pre-health professional programs, including a detailed statement on requirements, may be obtained from the Health Professions Office, 218 Ayres Hall.

*Students wishing to prepare for professional training at institutions other than UTCCHS should consult the catalogs of those institutions to determine the specific preparation required for admission.

The degree is granted upon completion of 180 or more credit hours while enrolled in the college, including a major of 36 or more hours in addition to the courses outlined below. The requirement for a major is waived for those completing their fourth year at UTCCHS. Students in either the three-or four-year program must complete the last 45 hours of credit in residence at The University of Tennessee, Knoxville, before entering UTCCHS.

Although the B.A. degree is not required for admission to the College of Dentistry at Memphis, most of the students accepted into the study of dentistry have the baccalaureate degree before admission. Therefore, pre-dental students are encouraged to plan to complete all requirements for the B.A. degree before enrolling in the College of Dentistry.

Freshman

1English 1010-11; 1020, 1031 or 1032 9
2Chemistry 1110-20-30 12
3Math (1540) 1550-60 or 1840-50 8
4Tried I (Language, Literature & the Arts) 8
5Triad II (History and Society) 12
6Sophomore
7Biology 1210-20-30 or Zoology 1118-28-38 12
8Chemistry 3211-21-31 and 3218-29-39 12
9Triad I 12
10Triad II 8
11Elective 4
12Junior
13Physics 2210-20-30 12
14Speech 2311 4
15Biology and/or zoology 12
16Triad I 12
17Triad II 4
18Elective 4
19Senior
20Completion of major program and B.A. requirements and completion of one year at UTCCHS 45
21Total: 135 hours

22Total: 180 hours

II. Individualized Program

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

Students in the Individualized Program satisfy the broad requirements of the Triad, just as do those in the Basic Program. The point at which the greatest degree of individualization takes place, however, is in the area of concentration. Although the quantitative aspect of the area of concentration is the same as for the major in the Basic Program (i.e., a minimum of 36 hours in courses numbered above 2000), there is no restriction in principle on the courses of which it is composed. The student may design a program, in consultation with an adviser, and submit it for consideration to the Committee on the Individualized Program. The proposed courses of study must have some clear central purpose, usually implemented through intensive work in two or three departments; an undirected scattering of courses will not be approved. For further information contact the Liberal Arts Advising Center.

III. College Scholars Program

A limited number of freshmen, entering transfer students with less than 60 credit hours, and resident students with less than 90 credit hours are invited each year to enter this distinguished program. Selection is based on previous academic record, test scores, recommendations, a written essay, and a personal interview. Admission is provisional for two quarters; continuation depends upon maintenance of a satisfactory record (normally 3.25 or above) and evidence of ongoing motivation and interest.

The College Scholars Program affords the highest degree of freedom to the student in developing a meaningful curriculum. Each program is worked out individually with a special adviser (tutor) who under ordinary circumstances continues to advise the student throughout the college career. Together they determine what kinds of course work and/or other learning experiences will best fulfill the student's objectives, while at the same time achieving the kind of liberal education the college believes is important for every student. In the final two years of the program students will be heavily involved in independent study or research.

Further information and applications may be obtained from the Liberal Arts Advising Center.

College of Liberal Arts
least 135 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of UTCHS in first year of study at UTCHS. In the four-year program the degree is granted upon completion of 180 or more credit hours while enrolled in the college, including a major of 36 or more hours in addition to the courses outlined below. The requirements for a major are waived for those taking their fourth year at UTCHS. Students in either the three-or four-year program must complete the last 45 hours of credit in residence at UTCHS before entering UTCHS. Although the B.A. degree is not required for admission to the College of Medicine, most students accepted into the study of medicine have the baccalaureate degree before admission. Therefore, pre-medical students are encouraged to plan to complete all requirements for the degree before enrolling in the College of Medicine.

### Pre-Medical Technology Programs

The college offers two programs leading to a degree of Bachelor of Science in medical technology from UTCHS.

#### Science-Medical Technology Curriculum

*Curriculum is a three-year program consisting of a minimum of 135 credit hours in college. Students who complete this curriculum satisfactorily may apply for admission to the course of study in medical technology at The University of Tennessee, Knoxville. Students will then be eligible for examination by the Board of Registry of the American Society of Clinical Pathologists in order to be certified as registered medical technologists.*

<table>
<thead>
<tr>
<th>Year</th>
<th>English 1010-11, 1020, 1031 or 1032</th>
<th>Biology 1210-20-30 or Zoology 1118-28-38</th>
<th>Chemistry 3211-21-31 &amp; 3219-29-39</th>
<th>Mathematics 1110-20-30</th>
<th>Math 1400-50-50</th>
<th>Triad I (Language, Literature, &amp; the Arts)</th>
<th>Electives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Junior</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Senior</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>12</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
</tbody>
</table>

**Total (135)**

### Pre-Medical Record Administration Program

Admission to the record administration program is planned for students who meet the requirements for admission to a Bachelor of Science in Medical Record Administration, requires completion of 135 hours of prescribed courses. Students interested in the pre-medical record administration program are encouraged to consult with a health professions adviser in the Liberal Arts Advising Center or the Coordinator of the Health Professions Office for more information. Bulletins describing the medical records administration requirements and program in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

**PRE-MEDICAL TECHNOLOGY PROGRAMS**

The college's two programs leading to a degree of Bachelor of Science in medical technology from UTCHS.

1. **Science-Medical Technology Curriculum**
   
   **Curriculum** is a three-year program consisting of a minimum of 135 credit hours in college. Students who complete this curriculum satisfactorily may apply for admission to the course of study in medical technology at The University of Tennessee, Knoxville. Students will then be eligible for examination by the Board of Registry of the American Society of Clinical Pathologists in order to be certified as registered medical technologists.

2. **Pre-Medical Technology Program**
   
   **Curriculum** leading to a degree of Bachelor of Science in medical technology from UTCHS.

**Notes:** A degree program in nursing is also available at The University of Tennessee, Knoxville. Information may be obtained from the dean of the College of Nursing. Additional courses may be required in addition to those described above. Consult the Coordinator of the Health Professions Office for more information. Bulletins describing the pre-nursing program in the Health Professions Office, 218 Ayres Hall, may be obtained from the Health Professions Office, 218 Ayres Hall.

### Pre-Pharmacy Program

The college offers three programs preparing students for the study of pharmacy at UTCHS. The Bachelor of Science in Pharmacy degree is conferred by UTCHS upon completion of three years of professional study at Memphis. Further information may be obtained from the Health Professions Office, 218 Ayres Hall.

**Pre-Pharmacy Programs**

The college offers three programs preparing students for the study of pharmacy at UTCHS. The Bachelor of Science in Pharmacy degree is conferred by UTCHS upon completion of three years of professional study at Memphis. Further information may be obtained from the Health Professions Office, 218 Ayres Hall.

**Notes:** A degree program in nursing is also available at The University of Tennessee, Knoxville. Information may be obtained from the dean of the College of Nursing. Additional courses may be required in addition to those described above. Consult the Coordinator of the Health Professions Office for more information. Bulletins describing the pre-nursing program in the Health Professions Office, 218 Ayres Hall, may be obtained from the Health Professions Office, 218 Ayres Hall.
College of Liberal Arts

180

Psychology 2500
1

Sophomore

Biology 1210-20-30 or Zoology 1118-28-32
12

Chemistry 3211-21-31 & 3219-29-39
12

Speech 2311
1

Required: "The College of Pharmacy requires a minimum of six hours of English or foreign language in addition to English 1510-20.

The College of Pharmacy requires a minimum of six hours in science, in addition to Psychology 2500. The remaining hours may include courses chosen from economics, history, political science, psychology, or sociology.

Recommended elective courses: 2110 and 2210 and courses in business administration, particularly accounting, economics, and marketing.

PRE-PHYSICAL THERAPY PROGRAM

Admission to the physical therapy program at UTCHS, leading to the degree of Bachelor of Science in physical therapy from UTCHS, requires completion of 127 hours of prescribed courses while enrolled in the College of Liberal Arts. The program in Memphis is 15 months in length.

Students interested in the pre-physical therapy program are encouraged to consult with a health professions adviser in the Liberal Arts Advising Center or the Coordinator of the Health Professions Office for more information. Bulletins describing the physical therapy program in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-VETERINARY MEDICINE PROGRAM

The following program is designed for students who wish to pursue a Liberal Arts degree while preparing for the study of Veterinary Medicine. Students in this program must complete at least 144 credit hours while enrolled in the College of Liberal Arts, must satisfy the Triad, and must complete the last 45 hours in residence at UTK before enrolling in the College of Veterinary Medicine. A departmental major is not required. Upon successful completion of the first year (three quarters) of the professional veterinary medicine curriculum, the Bachelor of Arts degree will be conferred by the College of Liberal Arts.

Note: Admission to the College of Veterinary Medicine is at the discretion of the admission committee of that College; admission to and successful completion of this program does not assure admission to the College of Veterinary Medicine.

Freshman

English 1010 or 1011; 1020, 1031 or 1032 or 1033
9

Other Health Professions

Veterinary Medicine is at the discretion of the degree will be conferred by the College of medicine curriculum, the Bachelor of Arts

Pre-Veterinary Medicine program is based on four criteria: (1) an overall grade-point average of at least 3.0, (2) a portfolio of work, (3) the proposed course of study, and (4) a personal interview. A minimum grade-point average of 3.25, at least 12 hours per quarter, and evidence of

Senior

Completion of one year at UT College of Veterinary Medicine
57

TOTAL: 201 hours

College of Veterinary Medicine is at the discretion of the degree will be conferred by the College of medicine curriculum, the Bachelor of Arts

Pre-Veterinary Medicine program is based on four criteria: (1) an overall grade-point average of at least 3.0, (2) a portfolio of work, (3) the proposed course of study, and (4) a personal interview. A minimum grade-point average of 3.25, at least 12 hours per quarter, and evidence of

Senior

Completion of one year at UT College of Veterinary Medicine
57

TOTAL: 201 hours

Animal Science 2810 is highly recommended for students with limited or no practical animal experience.

OTHER HEALTH PROFESSIONS

Cytotechnology

Optometry

Radiologic Technology

Veterinary Medicine

A library of materials about career opportunities in the health professions, including most allied health areas, has been developed and is located in the Health Professions Office, 218 Ayres Hall. Academic Advisers are available to assist students in planning their programs in order to meet the requirements for admission to other programs.

Bachelor of Fine Arts

The Bachelor of Fine Arts degree represents intensive study preparing the student for graduate programs and careers relating to art. A minimum of 189 credit hours are required for graduation. Although there are no specific concentrations within the major, guidelines for the following recommended programs are available in the departmental office: (1) ceramics, (2) graphic/design illustration, (3) drawing, (4) fibers, (5) painting, (6) printmaking, (7) sculpture, and (8) watercolor. Area concentrations are also possible. Transfer students are advised that a minimum of 24 hours in studio courses and eight upper-division hours in art history must be earned at the University of Tennessee, Knoxville. The Bachelor of Fine Arts degree and its major are recorded as follows:

Degree: Bachelor of Fine Arts

Major: Studio Art

ELECTIVES

A recommended sequence of courses from such areas as art, education, and sciences are designed to help the student combine art with other fields for possible careers in art administration, gallery and museum management, scientific illustration, non-certificated teaching, and other art related occupations. Up to 60 elective hours may be used by applying the 20 credit hour requirements of non-art electives (III.C) to a career preparation sequence. See Option II under Electives. Counseling and programs of study are available in the Art Center Student Advisees Center, Room 213.

College of Veterinary Medicine

The art core is required of all B.F.A. candidates. It is designed to give a broad art background, in both studio and art history, at the earliest possible time. This background, during the freshman and sophomore years, gives a foundation upon which the student may build, and an opportunity to become acquainted with the various artistic disciplines. This gives each student the understanding to plan a better program during the remaining two years. Unless otherwise stated the art core courses are non-sequential.

I. Art Core

A. Art 1000 (to be completed during freshman year)

B. Art History

1. Art 1815, 1825, 3750

2. Elective art history

C. Studio

1. Art Fundamentals 1115, 1125, 1126 (to be completed during the freshman year)

2. Introduction to Media (to be completed prior to junior year)

a. Art 2105, 2205 (or 2305), 2405 (or 2407 or 2408 or 2409)

b. A minimum of 12 hours selected from:

Art 2250, 2255, 2450, 2505, 2605, 2500

Subtotal: 64 hours

II. Art Concentration (A or B)

A. Recommended courses of study in ceramics, graphic/design illustration, drawing, fiber-fibers, painting, printmaking, sculpture, and watercolor are available in the Art Office.

B. Inter-Area: A combination of courses from the various formal areas (listed in I.A. above) to be approved by the department.

Subtotal: 36 hours

III. General Curriculum

A. Studio

1. English Composition

2. History-Society

3. Science-Mathematics

B. Philosophy 3910

C. Non-art electives

Subtotal: 40 hours

IV. Electives

Option I: Additional art or non-art electives

Option II: Career preparation electives

Subtotal: 49 hours

TOTAL: 189 hours

College Artists Program

A program of 180 hours is to be determined by the student and approved by the Department of Art honors committee. This program allows the gifted student greater opportunity for establishing a unique education in studio art, which may include independent study, off-campus study, or foreign study in addition to formal class work. Participation and completion in the College Artists Program will be noted on the student\'s transcript.

Students may apply for the program upon completion of 45 credit hours, but will not normally be considered after the completion of 90 hours. Admittance of the College Artists Program is based on four criteria: (1) an overall grade-point average of at least 3.0, (2) a portfolio of work, (3) the proposed course of study, and (4) a personal interview. A minimum grade-point average of 3.25, at least 12 hours per quarter, and evidence of
continued motivation and interest must be maintained to remain in the program.

Each College Artist will normally enroll in one or more College or departmental honors courses each quarter and must participate in an honors exhibition prior to graduation.

STUDENT HONORS COURSES

Courses are designed for the exceptional student. Honors courses may be taken in any of the areas of studio instruction, and admittance is based on the following criteria:

A. Grade-point average of 3.2 in studioart
B. Portfolio of class and/or outside work
C. Recommendation of the studio faculty, and/or approval of the instructor.

Continued participation is subject to periodic review by the faculty. Students qualified for honors courses will enroll in courses which most closely parallel their present level, i.e., sophomores in 2008, juniors in 3008, seniors in 4008. Each course number may be repeated for a maximum of 24 hours credit.

Bachelor of Music

The Department of Music offers the degree of Bachelor of Music with concentrations in music theory, composition, music history and literature, and applied music (voice, piano, organ, and orchestra music; strings, woodwind; brass; and percussion instruments; multiple woodwind instruments; studio music and Duduki). This study is designed to prepare students for graduate study or for positions in music for which a professional degree is required.

Students who plan to work for this degree are assigned an adviser in the Department of Music at the time they enter the program. Continuation in the program at the 3000 level requires the achievement of an average of 2.5 or better in all music courses taken. The minimum requirement for the degree is 180 credit hours, including the specified courses outlined below.

Note: In addition to the concentrations offered in the Bachelor of Music curriculum, a major in music with a concentration in either music history and literature or applied music is available in the Bachelor of Arts curriculum.

MUSIC THEORY

Bachelor of Music

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours Credit</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>180 hours</td>
<td>-</td>
</tr>
<tr>
<td>Sophomore</td>
<td>180 hours</td>
<td>-</td>
</tr>
<tr>
<td>Junior</td>
<td>180 hours</td>
<td>-</td>
</tr>
<tr>
<td>Senior</td>
<td>180 hours</td>
<td>-</td>
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</tbody>
</table>

MUSIC HISTORY AND LITERATURE

Bachelor of Music

<table>
<thead>
<tr>
<th>Year</th>
<th>Hours Credit</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>180 hours</td>
<td>-</td>
</tr>
<tr>
<td>Sophomore</td>
<td>180 hours</td>
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<tr>
<td>Junior</td>
<td>180 hours</td>
<td>-</td>
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<tr>
<td>Senior</td>
<td>180 hours</td>
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<tr>
<td>Course</td>
<td>Hours Credit</td>
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<tr>
<td>English 1010-20; 21-31</td>
<td>3</td>
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<tr>
<td>Applied Music</td>
<td>3</td>
<td></td>
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<tr>
<td>Computer Science 1610</td>
<td>4</td>
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</tr>
<tr>
<td>L. A. Electives (not in music)</td>
<td>9</td>
<td></td>
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<tr>
<td>Bachelor of Science in Chemistry</td>
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<td>Students who desire to major in chemistry</td>
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<td>may select either the curriculum leading to</td>
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<tr>
<td>the degree of Bachelor of Arts or that</td>
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<td>leading to the degree of Bachelor of</td>
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<tr>
<td>Science in Chemistry</td>
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<td>This latter program is approved by the</td>
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<tr>
<td>American Chemical Society and is</td>
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<td>designed to track students to go directly</td>
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<td>into positions in the chemical industry or</td>
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<td>to enter graduate study leading to</td>
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<td>positions in research and college teaching</td>
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<td>A minimum average of C must be made on</td>
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<td>all chemistry courses applied toward the</td>
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<tr>
<td>Bachelor of Science in Chemistry degree.</td>
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<td>COOPERATIVE PROGRAM IN CHEMISTRY</td>
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<td>A cooperative program is available to</td>
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<td>students in the B.S. in Chemistry</td>
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<td>curriculum. After the freshman year the</td>
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<td>student alternates a quarter in school</td>
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<td>with a quarter in a job in a chemical</td>
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<td>industry. The program normally requires</td>
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<td>five years and involves a total of</td>
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<td>seven work quarters and twelve school</td>
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<td>quarters. Students are required to have</td>
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<td>at least a 2.5 average to enter and</td>
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<td>remain in the program. Some opportunity</td>
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<td>exists for students to enter the</td>
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<td>program later than the end of the</td>
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<td>freshman year. Students interested should</td>
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<td>make application to the head of the</td>
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<td>department at least one quarter in</td>
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<td>advance of the beginning of the next</td>
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<td>work period. Further information will be</td>
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<td>supplied on request.</td>
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<td>CURRICULUM REQUIREMENTS</td>
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<td>Bachelor of Science in Social Work</td>
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<td>The degree of Bachelor of Science in Social Work is in harmony with the goal of general and liberal learning of the College of Liberal Arts, Social work majors are required to meet the same general education requirements as Bachelor of Arts majors (English Composition; Language, Literature and Arts; History and Society; Science and Mathematics). This aggregation of foundation Liberal Arts knowledge is considered essential to an adequate appreciation of the professional, career oriented thrust of the Social Work major. Students interested in pursuing the Bachelor of Science in Social Work should confer with the Director of the Social Work Program during the first academic year. Those completing this course of study will be prepared to engage in beginning professional social work practice and enter many graduate schools of social work with advanced standings. This degree is designed in accordance with standards set by the Council on Social Work Education.</td>
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### Preparation for Other Professions

#### Law

Students who plan to study law should consult the statement regarding admission to the College of Law (page 171) and discuss their programs with advisers in the Liberal Arts Advising Center.

#### Library Science

Certain courses in the Graduate School of Library and Information Science are open to students in the College of Liberal Arts interested in beginning positions in a library or in preparation for future graduate study in professional librarianship. For further information, see page 55 or consult the Director of the Graduate School of Library and Information Science.

#### Planning

Students who wish to consider a career in city and regional planning or a related field will find a brief description of the program of the Graduate School of Planning on page 56. Students are accepted into planning from a broad variety of undergraduate backgrounds. Detailed information on the planning profession, admission requirements, and the program of study may be obtained from the Graduate School of Planning.

#### Public Administration

Students majoring in political science who wish to prepare for an administrative career in the public service may select courses to fit that objective. The concentration appearing below is suggested for students with public service career interests. The degree to be awarded is a Bachelor of Arts with a major in political science, augmented by supportive courses in which the student does well and, if available, courses from Sociology or Black Studies.

#### Social Work

Students who wish to prepare for graduate professional training in social work will find a brief description of the program of the School of Social Work on page 56. Detailed information about courses and curricula, as well as requirements for admission, will be found in the catalog of the School of Social Work.

#### Teaching

Students in the College of Liberal Arts who wish to be certified for secondary school teaching must satisfy state certification requirements as well as all degree requirements of the College of Liberal Arts and must be recommended for certification by the College of Education. The College of Education is approved by the National Council for Accreditation of Teacher Education (NCATE); recommendation for certification by the college, therefore, in effect certifies the student in 30 states.

Application for admission to the Teacher Education Program should be made during the second or third quarter of the sophomore year in the office of the dean of the College of Education, 212 Claxton Education Building. Criteria for admission are: (1) a 2.2 cumulative grade point average; (2) satisfactory ratings in a speech and hearing exam as determined by tests administered by the Speech and Hearing Center; (3) a personality inventory; (4) satisfactory student conduct records; (5) a successful field experience.

One quarter during the senior year must be reserved for student teaching (Education C & I 4710-20). Application for student teaching must be filed not later than January 1 of the year preceding the academic year in which the student teaching will be undertaken. Those planning to student teach during the 1981-82 academic year must apply by January 1, 1981.

For additional information contact Teacher Certification Office, Room 212 Claxton Education Building.

#### Social Work

For information regarding admission to the Teacher Education Program, see page 28.

#### Theology

Students planning to study theology should follow one of the Bachelor of Arts curricula. Any liberal arts major is acceptable for admission to most theological schools; strong preparation in literature, philosophy, history, religious studies, and social science is desirable. Students may wish to consult with faculty members in the Department of Religious Studies in planning their programs.

#### General Information

#### Admission to the College

For information regarding admission to the College of Liberal Arts, see page 26.

#### Course Load

The average course load in the college for any quarter is 14-16 credit hours. The University defines full-time undergraduate students as those who register for a minimum of 12 hours. The maximum number of hours which may be taken by liberal arts students is 17, exclusive of elective work in ensemble music and physical education. Exceptions to this rule will require approval by the Associate Dean for Student Academic Affairs (218 Ayres Hall).

#### Lower Division—Upper Division

Courses numbered at the 1000 and 2000 levels are considered lower division and are normally taken by students in the freshman and sophomore years. Courses numbered 3000 and above are upper division and are designed for students at the junior and senior levels.

#### Satisfactory/No Credit Courses

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

1. S/NC courses, except those offered only on this basis, may not count for Triad requirements or major and minor requirements unless specifically permitted by petition. This restriction applies also to major or minor prerequisites or corequisites.

2. The maximum number of S/NC elective hours which may be counted toward graduation is 30, exclusive of courses offered only S/NC, physical education courses, and/or satisfactory hours earned by examination, military service, etc.

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

4. A transfer student who has more than 30 S/NC or equivalent credit earned prior to admission to The University of Tennessee, Knoxville, may count all of these hours toward graduation but may not elect additional S/NC hours.

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

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

#### Note

Students planning to seek admission to graduate or professional schools (especially in the health sciences) should discuss with their advisers possible limitations on exercise of equivalent honors courses. May also be counted toward Triad requirements.
of the S/NC option before registering for courses on this basis.

**Off-Campus Study**

Recognizing that learning is not restricted to formal classroom situations, the college provides for earning credit toward graduation for approved off-campus study. Such study may be undertaken only with prior approval of the faculty member and the department. It may include certain kinds of work experiences, community involvements, working in political campaigns, etc. Credit per quarter will vary from 1-16 hours. Up to 24 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

**Independent Study**

Certain educational goals may best be met through independent study done by an individual under the direction of a faculty member. Students who wish to do such independent work should obtain the approval of the faculty members and the departments concerned prior to embarking upon their study. Credit per quarter will vary from 1-16 hours. Up to 24 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

**Study Abroad and Foreign Study Courses**

Several opportunities for study abroad are available to students in the college. One avenue is through group programs arranged and supervised by departments of the college on a full-quarter or summer term basis. A second is through group programs conducted abroad by other academic institutions to which UK students with approval may enroll for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University's Division of International Education. A third opportunity is through individualized programs under the foreign study number 4101. The nature of this work as well as credit for it should be negotiated by students prior to departure with the appropriate liberal arts departments. Credit will be awarded only after completion of all agreed upon requirements, and may vary from 1-16 hours in any one department. Up to 24 hours of such credit, exclusive of that earned in group programs offered by departments, could apply toward a degree in the college. Departments may in any of the above forms, however, limit the hours of credit which can be applied toward a given major.

**Liberal Arts Advising Center**

Academic advising for students of the college is offered through the Liberal Arts Advising Center, 220 Ayres Hall, as well as through the several major departments. The Advising Center is staffed on a regularly scheduled basis by members of the college faculty, each of whom has been trained for this specialized work. Students in their first quarter of residence are assigned to the Advising Center where they may relate themselves to a particular adviser of their choice or consult the person on duty at the time they need assistance. Most students continue in this relationship to the Advising Center until they have determined their major, normally by the beginning of the junior year, at which time they may be transferred for advising to a faculty member in the major department.

**Student Academic Affairs Office**

Academic assistance for students is also provided through the Student Academic Affairs Office, 218 Ayres Hall. This office serves primarily those students not assigned to the Liberal Arts Advising Center, helping them meet a variety of academic needs relating to the development of their academic programs, satisfying graduation requirements, etc. For those who are planning careers in the health sciences it provides a liaison with the Center for the Health Sciences.

**Office of African and Afro-American Studies**

The Office of African and Afro-American Studies, 802 Volunteer Blvd., Suite 416, cooperates with the various departments and colleges of the University with respect to the development of curricular changes and innovations which incorporate the Black experience into academic and extracurricular programs of the institutions, supplies information on financial assistance for Black students, and serves as the focal point for the coordination and development of an improved and expanded African and Afro-American Studies Program at the University.

**Bureau of Public Administration**

The University has established in the college a Bureau of Public Administration for the purpose of promoting sound governmental administration through research, publication, and consultation. Offices and staff are maintained in both Knoxville and Nashville. The head of the Department of Political Science serves as director of the Bureau of Public Administration.

**Psychological Clinic**

The Psychological Clinic is an outpatient psychodiagnostic and treatment center established by the University within the Department of Psychology.

**University Theatres**

The Department of Speech and Theatre offers a full schedule of dramatic presentations in three different theatres. The Clarence Brown Theatre has outstanding facilities for proscenium and open staging and for film productions, and, in a separate Studio Theatre, for laboratory productions. Carousel Theatre is designed for arena staging and can be converted for open-air performances in the summer.

**Departments of Instruction**

American Studies

See Cultural Studies.

Ancient Mediterranean Civilizations

See Cultural Studies.

 Anthropology (122)

Professors:

W. M. Bass (Head), Ph.D. Pennsylvania; C. H. Faulkner, Ph.D. Indiana; A. K. Guthrie, Ph.D. Michigan; R. L. Jantz, Ph.D. Kansas; W. P. Parmelee, Ph.D. Texas A & M.

Associate Professors:

I. Harrison, Ph.D. Syracuse; M. H. Logan, Ph.D. Pennsylvania State; G. F. Schroedl, Ph.D.


Assistant Professors:

W. E. Klippe, Ph.D. Missouri; B. J. Howell, Ph.D. Kentucky.

Research Assistant Professor:

J. Chapman, Ph.D. North Carolina

Instructor:

M. A. Bass, Ph.D. Kansas State (part-time).

1 Alumni Distinguished Service Professor.

**Undergraduate**

A major in anthropology shall consist of 42 hours, 12 of which are to be in the introductory 2000-level courses. Of the remaining 30 hours, 3393, 4460 and six hours of 3000 level or above courses are required in each of these subfields: (a) Cultural; (b) Physical; and (c) Archaeology.

(a) Cultural: 3410, 3440, 3450, 3530, 3540, 3700, 3800, 4111, 4200, 4240, 4242, 4240, 4250,
prereq: 2530.
3610 Archaeology of United States and Canada I (3) Survey of prehistoric peoples north of Mexico from initial occupation to European contact. 2520 recommended.
3611 Archaeology of United States and Canada II (3) Historic archaeology of Euro-American, Afro-American, and Asian American cultures in the United States and Canada, prehistorically to 20th century. 2520, 3620 recommended.
3620 European Prehistory I (3) Cultural developments during Paleolithic, Mesolithic, and Neolithic periods. 2520 recommended.
3630 European Prehistory II (3) Cultural developments during Metal Ages. From close of Neolithic through Iron Age. 2520 recommended. 3620 should be taken in sequence.
3660 Prehistory of Tennessee (3) History of archaeological research in Tennessee and survey of prehistoric American Indian cultures identified through research.
3670 Principles of Archaeology (3) Research strategies in archaeological excavation, interpretation, and explanation. Prereq: 2520 or consent of instructor.
3701 Forms of Folklore (4) Introduction to anthropological study of folklore.
3800 Language and Culture (3) Relationship between linguistic categories and patterns of culture. Prereq: 2540 or consent of instructor. Recommended: 2530.
3811 Introduction to Museology (3) (Same as Art 3811.)
3900 Human Osteology (4) Intensive examination of the human skeleton. Prereq: 2510 or consent of instructor. 3 hrs and 1 lab.
3920 Principles of Physical Anthropology (3) Survey of materials and methods in physical anthropological study. 2510 recommended.
3930 The Biology of Races of Man (3) Processes of racial differentiation; criteria of significant differences among existing stocks; influence of biology and culture in race formation; analysis of studies concerning blood groups, race mixture, constitution, growth, and nutrition. 2510 recommended.
3950 Human Identification (3) Introduction to techniques in identification of human skeletal material in forensic medicine.
4101 Foreign Study (1-16) See page 185.
4102 Off-Campus Study (1-16) See page 185.
4103 Independent Study (1-16) See page 185.
4111 Non-Western Education: Anthropological Approaches (3) Analysis of traditional educational practices among non-Western peoples and problems encountered from application of Western models of education among those peoples. Particular attention is given to American Indian, African tribal groups, and Asian cultures. (Same as Education C & I 4111.)
4200 Contemporary North American Indians (3) Survey of Indian cultures from initial Euro-American contact to present; emphasis on culture change, U.S. government Indian policy, reservation life. Prereq: 2530 or consent of instructor.
4210 Ethnographic Research Techniques (3) Methods of collecting, ordering, and utilizing data. Prereq: Consent of instructor.
4240 Applied Cultural Anthropology (3) Applications of anthropological theory, methods, and findings in programs of community and national development, public health, international aid, and military assistance. Examination of roles of anthropologists, values and ethics in intervention schemes, and organization of planned change in applied programs. Intensive analysis of selected case studies. Prereq: 2530.
4250 Medical Anthropology: Lecture (3) Survey of health, disease, treatment, prevention, and theory in archaeology; prehistory of western European and Africa; archaeology in Americas. 2520 recommended.
4300 Readings in Anthropology (1-9) Intensive reading, problem oriented. For anthropology majors with senior standing. Other consent of instructor. May be repeated to a maximum of 9 credit hours.
4340 Field Work in Archaeology (3-9) Practicum work surveying, excavating, processing, and analyzing data; intensive reading. Prereq: 2510-20-30 and consent of instructor. May be repeated to a maximum of 9 credit hours.
4360 Field Work in Physical Anthropology (3-9) Practicum in the collection and analysis of human biological data. May be repeated for a maximum of 9 credit hours.
4400 Cultural Ecology (3) Survey of concepts and methods in studying dynamic interaction between cultures and their environments. Topics include ecological theory, methods of analysis, and application from selected case studies. Prereq: Anthropology 2520 or 2530, or 3410, or consent of instructor.
4420 Dynamics of Culture (3) Culture change: innovation, diffusion, and acculturation; cultural continuity and stability. Prereq: 2530 or consent of instructor.
4430 Personality and Culture (3) Analysis of relation between individual, social, and culture. Application of psychological techniques in crosscultural studies. Cultural differences and their influence on group behavior. Prereq: 2530 or consent of instructor.
4440 Urban Anthropology (3) Survey of theoretical and methodological issues anthropologists encounter researching cross-cultural urban settlements. Focus is on anthropological perspective and urban problems and planning. Prereq: 3490 or consent of instructor. (Same as Urban Studies 4440.)
4550 Indians of the southeastern United States (3) Survey of Southeastern Indian cultures; emphasis on aboriginal adjustment to environment; lifeways of Southeastern American Indian groups prior to Euro-American contact. Prereq: 2530, 3540, or consent of instructor.
4560 Cherokee Ethnology (3) Intensive survey of ideology and material aspects of Cherokee culture existing at time of first European contact.
4600 Method and Theory in American Archaeology (3) Historical development of New World archaeology with emphasis on theory and field techniques. Prereq: 2520 or consent of instructor.
4610 African Prehistory (3) Survey of cultural history in Africa; archaeological data; emphasis on human activity to time of European contact. Prereq: 2520 or consent of instructor.
4640 Zooarchaeology (3) Basic osteological studies of vertebrate classes; emphasis on aboriginal man's utilization of native animals in his subsistence and culture. Identification, analysis, and interpretation of archaeologically derived moluscan and vertebrate remains.
4650 Archaeology of Southeastern United States (3) Intensive study of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 2530 or consent of instructor.
4700 American Folklore (3) Anthropological perspectives on folklore of geographical regions and ethnic groups of the United States. Prereq: 3700 or consent of instructor.
4740 Southern Appalachian Folk Culture (3) A survey of the settlement history and economic develop-
ment of southern Appalachia in relation to its tradition-
al culture: technology and economics, social organiza-
tion, beliefs and values, oral traditions, and customs.
Consent of instructor.
4741 Research in Southern Appalachian Folk Cul-
ture (3) Research-oriented course dealing with a wide
range of traditional culture in southern Appalachia:
settlement patterns, folk housing, economy, clothing,
beliefs, speech, art, song, dance, and oral traditions
and customs. Prereq: 4740. May be repeated. Maxi-
mum 6 hrs.
4760 Italian Folklore (3) Same as Romance Lan-
guage 4760.
4870 Cherokee Language (3) Linguistic survey of
structure of the Cherokee language.
4930 Physical Growth and Constitution (3) Compari-
sive growth patterns throughout the life cycle of man;
skeletal and dental maturation; sex differences in
growth; human constitutional types. Prereq: 2510 or
consent of instructor. Biology 2110 strongly recom-
manded.
4940 Biology of Native Americans (3) American
Indian origins and evolution from standpoint of skeletal
remains and morphology and genetics of living popula-
tions. Emphasis on North American Indians. Prereq:
2510 or consent of instructor.
4950 Primate Studies (3) Survey of field and laborato-
ry investigations of comparative anatomy and non-
human primate behavior. Prereq: 2510 or consent of
instructor.
4960 Primate Paleontology (3) Survey of fossil pri-
mate forms; origin and evolution of major primate
lineages, emphasizing the earliest Hominid and related
4970 Human Paleontology (4) Survey of the human
fossil record from Australopithecines to appearance of
anatomically modern man. Emphasis on functional
morphology and phylogenetic relationships of fossil
remains. Prereq: 2510. Recommended: 4580 and Zo-
ology 4380.
4975 Human Paleontology Laboratory (1) Detailed
examination of casts and other materials pertinent to
study of human paleontology. Prereq or coreq: 4970.
GRADUATE
The general requirements for the master's and
doctoral degrees are given in the
Graduate Catalog.
5000 Thesis
5100 Graduate Research (1-9)
5100 Seminar in Cultural Anthropology (3,3,3)
5101 Foreign Study (1-12)
5102 Off-Campus Study (1-12)
5103 Independent Study (1-12)
5140 Seminar in Zoarchaeology (3)
5149 Laboratory Studies of the Vertebrae Skele-
ton (4)
5159 Laboratory Study of the Mollusca (4)
5160 Seminar in Archaeology (3-9)
5200 Special Topics in Anthropology (3)
5210 Community Anthropology: The Local Com-
munity (3)
5340 Fieldwork in Archaeology (3-9)
5400 History of Anthropological Theory (3)
5440 Peasant Societies (3)
5450 Comparative Social Organization (3)
5460 Quantitative Methods in Anthropology (3)
5470 The Healer in Cross-Cultural Perspective (3)
5511 Non-Western Education: Anthropological Ap-
proaches (3)
5600 Theory in Archaeology (3)
5610 Problems in North American Archaeology (3)
5620 Problems in Old World Archaeology (3)
5630 The Maya (3)
5640 Archaeological Resource Management (3)
5660 Seminar in Prehistoric Lithic Technology (3)
5670 Seminar on Aboriginal Lithic Resources (3)
5700 Theory in Folk Culture Studies (3)
5710 Problems in Folk Culture Studies (3)
5900 Dental Anthropology (3)
5910 Measurement of Man (3)
5920 Advanced Physical Anthropology (3)
5930 The Human Skeleton of Forensic Medicine (3)
5940 Skeletal Biology of Early Human Population (3)
5945 Comparative Primate Anatomy (4)
5950 Paleopathology (4)
5960 Dermatoglyphics (3)
5970 Emergence and Early Evolution of Man (3)
5980 Neanderthal Man and Human Evolution (3)
5990 Human Variation (3)
6000 Doctoral Research and Dissertation
6410-20-30 Seminar In Cultural Anthropology
(S,3,3)
6610 Selected Topics in Archaeology (3)
6910 Selected Topics in Physical Anthropology (3)
6970 Seminar in Human Paleontology (3)
Arabic
See Cultural Studies.
Art (140)
Professors:
Dr. Kunke (Heed), Ph.D. New York; R. A. Clarke, M.S.
Wisconsin; D. G. Dillingham, Ph.D. Chicago; J. S.
Feltwell, M.S. Ohio State; W. C. Kennedy, M.F.A.
Wisconsin; P. R. Livingston, M.F.A. Wisconsin; F. R.
Martinson, Ph.D. Chicago; B. G. McKeeby, M.F.A.
Tulane; P. G. Nichols, M.F.A. Michigan; F. C.
Stewart, M.F.A. Clarment.
Associate Professors:
S. J. Bliss, M.F.A. Wisconsin; P. M. Brakk, M.F.A.
Yale; R. H. Dashmert, M.F.A. Wisconsin; J. Darrow,
Ed.D. Illinois; M. B. Goldstein, M.F.A. Nebraska; R.
LeFevre, M.F.A. Rochester Institute of Technology;
W. E. Leland, M.F.A. Tennessee; F. C. Moffat, Ph.D.
Chicago; D. Peacock, M.F.A. Iowa; T. J. Riesing,
M.F.A. Nebraska; S. A. Yates, M.F.A. North Carolina
(Greensboro).
Assistant Professors:
L. J. Kwiczanski, M.F.A. California (Davis); T. C.
Sawpe, M.F.A. Wisconsin.
PI BETA PHI ARROWMONT SCHOOL OF
CRAFTS
Instructors:
L. J. Koscianski, M.F.A. Wisconsin; D. G. Cleaver, Ph.D.
Chicago; J. S. J. Blain, M.F.A. Wisconsin; P. M. Brakke, M.F.A.
Yale; R. H. Dashmert, M.F.A. Wisconsin; J. Darrow,
Ed.D. Illinois; M. B. Goldstein, M.F.A. Nebraska; R.
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Chicago; D. Peacock, M.F.A. Iowa; T. J. Riesing,
M.F.A. Nebraska; S. A. Yates, M.F.A. North Carolina
(Greensboro).
Assistant Professors:
O. B. Fancher, M.F.A. Tennessee (Knoxville); D. M.
Habel, Ph.D. Michigan; B. Lee, M.F.A. Yale; A. L.
Neff, Ph.D. Pennsylvania; B. R. Wells, B.F.A.
Memphis State.
Instructors:
L. J. Koscianski, M.F.A. California (Davis); T. C.
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CRAFTS
Instructors:
L. J. Koscianski, M.F.A. California (Davis); T. C.
Sawpe, M.F.A. Wisconsin.
College of Liberal Arts

1150 Introduction to Crafts (4) Presence of art in immediate environment; design used in daily living by cultures different from our own; emphasis on awareness of design. 2 hrs. and 2 labs.

1705 Experiencing Art (4) Form and meaning in visual arts. Lecture discussion. Especially for non-majors.

1815 World Art I (4) Art from ancient, classic and imperial civilizations; art in service of Buddhism, Christianity, and Islam; art as observation of natural world. Course content is drawn from art of Europe, Asia, and America in periods from prehistory to 1400.

1825 World Art II (4) Study through slides and lectures of works of great artists from Leonardo da Vinci and Michelangelo to Matisse and Picasso.

2004 Special Topics (1-4) Student or instructor initiated course offered at convenience of Department. May be repeated.

2006 Special Topics (2-4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2008 Honors: Art (4) Intensified study for the exceptional student. May be repeated for a maximum of 24 credit hours.

2105 Survey of Drawing (4) Further exploration and refinement of skills in drawing with more emphasis on composition and technique. Prereq: 1115.

2106 Special Topics in Drawing (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2115 Life Drawing (4) Further development of drawing and observational skills with special emphasis on structure and dynamics of human figure and of the figure in environment. Prereq: 2105. May be repeated. Maximum credit 8 hours.

2215 Painting II (4) Techniques of expression in oil media on canvas. May be repeated. Maximum credit 8 hours.

2250 Introduction to Printing (4) Capacities of oil and acrylic. Prereq: 1115, 1125, 1135 for art majors; consent of instructor for non-art majors. Will not substitute for 2265.

2255 Film Design (4) Introductory theory and practice of film making. Emphasis on graphic elements through use of motion picture camera. May be repeated. Maximum credit 12 hours.

2275 Metal Design II: Enameling (4) Exploration of vitreous enamel as individual art form and in combination with other materials. Prereq: 2255. May be repeated. Maximum credit 8 hours.

2306 Introduction to Watercolor (4) Capacities of transparent watercolor. Prereq: 1115, 1125, 1135 for art majors, none for non-art majors.

24011 Special Topics in Sculpture (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2405 Introduction to Wood Sculpture (4) Exploration of wood as a sculptural media. Introduction to power tools and basic skills in laminating, finishing, carving, and use of joints. Prereq: 1115-25-35 for art majors, none for non-art majors.

2465 Metal Design II: Enameling (4) Exploration of jewelry made from metal and vitreous enamel as individual art form and in combination with other materials. May be repeated. Maximum credit 8 hours.

2605 Introduction to Printmaking (4) Relief, lithography, intaglio, and screen printing. Prereq: 2250, 2260 also recommended.

2617 Screen Printing II (4) Creative explorations of a variety of screen printing techniques. May be repeated. Maximum credit 8 hours.

2655 Introduction to Metal Design (4) Basic techniques of jewelry and metalworking. Prereq: 1115, 1125, 1135 for art majors, none for non-art majors.

2665 Metal Design II: Jewelry (4) Additional jewelry metalworking techniques including casting, stone-setting, and forming. Prereq: 2655. May be repeated. Maximum credit 8 hours.

2725 Black Art (4) Black art history in America. 15th century to contemporary trends.

2905 Introduction to Photography (4) Introduction to the art of black and white photography. Field and studio shooting, history of photography, basic developing and enlarging techniques.

2925 Film Design (4) Introductory theory and practice of film making. Emphasis on graphic elements and in combination with other materials. Prereq: 2215 and 2935.

2935 Film Design (4) Introductory theory and practice of film making. Emphasis on graphic elements and in combination with other materials. Prereq: 2215 and 2935.

2965 Special Topics in Ceramics (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2970 Ceramics II: Wheel Techniques (4) Prereq: 2950.

3008 Honors: Intermediate Art (4) Intensified study for the exceptional student. May be repeated for a maximum of 24 credit hours.

3115 Drawing III (4) Development of personal drawing techniques and concepts through class problems. May be repeated. Maximum credit 12 hours.

3215 Intaglio II (4) Metal plate intaglio printing in traditional and contemporary techniques of etching, drypoint, mezzotint, and photopolymer. May be repeated. Maximum credit 8 hours.

3218 Lithography II (4) Exploration of stone and aluminum plate lithography applying traditional and contemporary printing techniques. May be repeated. Maximum credit 8 hours.

3255 Introduction to Metal Design (4) Basic techniques of jewelry and metalworking. Prereq: 1115, 1125, 1135 for art majors, none for non-art majors.


3265 Fiber Design III: Spinning and Dyeing (4) Application of spinning in development of yarns from natural fibers. Dyeing yarns chemically. Prereq: 2265 or 2275.

3270 Fabric Design III: Individual Class Projects (4) Prereq: 3260 or consent of instructor. May be repeated. Maximum credit 8 hours.

3275 Fiber Design III: Individual Class Projects (4) Prereq: 3265 or consent of instructor. May be repeated. Maximum credit 8 hours.
3315 Watercolor III (4) Individual expression with varied water-based media on paper. May be repeated. Maximum credit 12 hours. Prereq: 8 hours in 3315 for art majors, 3275 for non-art majors.
3415 Advanced Sculpture III (4) Individual projects through discussion with instructor, designed to widen previous experience. Prereq: Permission of instructor. May be repeated. Maximum 12 hours.
3416 Sculpture: Advanced Life Modeling (4) Advanced modeling in clay and wax, working from figure. Prereq: 2416 or consent of instructor. May be repeated. Maximum 8 hours.
3516 Typographic Design (4) Theories and techniques of typesetting and printing as fine art medium. Creative problems are solved using type and printing presses. May be repeated. Maximum credit 12 hours.
3518 Airbrush (4) Technique of airbrush. Emphasis on skill and creative applications. May be repeated once for credit. For art majors only.
3525 Visual Communications Concepts I (4) Advanced pictorial perception; a broad range of concepts, principles and techniques for designer/illustrator. Prereq: 2525.
3535 Package Design I (4) Study of contemporary concepts and techniques applied to all types of package design and production. Prereq: 3515, 3525.
3615 Intaglio III (4) Color intaglio printing from zinc or cardboard plates. Extra techniques—mezzotint, sandpaper, etc. May be repeated. Maximum credit 12 hours.
3616 Lithography II (4) Color lithography from stone or plates. Extra techniques—stone engraving, acid biting, reverses. May be repeated. Maximum credit 12 hours.
3617 Screen Printing (4) Stencils; making of hand-made negatives on transparent film. May be repeated. Maximum credit 12 hours.
3665 Metal Design III: Individual Class Projects (4) Prereq: 3275 or consent of instructor. May be repeated. Maximum credit 12 hours.
3704 Medieval Art (4) Byzantine and western art of Middle Ages: manuscript illumination, mosaic, Romanesque pilgrimage church, Gothic cathedral.
3705 Northern European Painting: 1500-1600 (4) From Van Eyck to Rembrandt. Early Renaissance. Jan van Eyck. Roger van der Wyden, Bosch, and Durer; early printmakers.
3725 Art of Southern Europe and New World, 1550-1830 (4) Titirorto, El Greco, Caravaggio, Zurbaran, Velasquez, Veronese, and Goya. Artistic relations between Iberia and Latin America.
3726 The Art of Northern Europe, 1550-1675 (4) Concentrated study of Bruegel, Rubens, Rembrandt, Rem, Georges de La Tour, Vermeer, Poussin, and Hals.
3727 The Art of Northern Europe, 1550-1875 (4) Concentrated study of Bruegel, Rubens, Rembrandt, Rem, Georges de La Tour, Vermeer, Poussin, and Hals.
3728 History of Nineteenth-Century Painting in Europe and America (4) Emphasis on French: Neo-Impressionism, Realism, Impressionism, Post-Impressionism, Symbolism, Art Nouveau, and the cubists. Prereq: 12 hours in 3315 for art majors; consent of instructor for non-art majors.
3729 History of Twentieth-Century Painting in Europe and America (4) Fauvism, Die Brucke, Cubism, Ker Blaue Reiter, Futurism, Dada and Surrealism, geometric abstraction, social commentary painting, Abstract Expressionism in the U.S.A. and parallels in Europe; Pop, Op, Minimal, and Concept art.
3746 History of Modern Sculpture in Europe and America (4) From 1900 to 2000: Neoclassicism to Rodin. From 1900 to 1950: The Cubist and Constructivist. Prereq: 12 hours in 3315 or consent of instructor.
3755 Studies in Afro-American Art (4) Study of the social, historic, and literary forces behind the development of Black Art trends in the U.S., with emphasis on the 20th century. Prereq: 8 hours from 1915, 1925, or 2725.
3763 Crafts in America (4) Craft movements; factors that contribute to growth and development. Educational, social, economic, and aesthetic values of crafts. Role of designer in society as producer and teacher.
3765 History of North American Art (4) Survey of landmarks in painting, architecture, sculpture, and design from prehistory to 1900.
3766 History of Twentieth-Century American Art (4) Analysis of developments in architecture, painting, sculpture, and design from 1900.
3777 Nineteenth-Century American Painting (4) From West and Copley to emergence of "The Eight." Prereq: 12 hours in 3315 for art majors, consent of instructor for non-art majors.
3778 Art of Indian Asia (4) History of Indian art with consideration of art of Central Asia and Southeast Asia.
3779 Chinese Art (4)
3777 Japanese Art (4)
3811 Introduction to Museology (3) Concepts, practices, and historical development of museums of art, archaeology, anthropology, and science. (Same as Anthropology 3611.)
3905 Intermediate Photography (4) Individual expression in the photographic medium. May be repeated. Maximum credit 12 hours. Prereq: 2935 or consent of instructor.
3905 Film Design (4) Theory and practice of film making. Prereq: 2935.
3950 Glass (4) Prereq: 2970.
3960 Ceramics III: Individual Class Projects (4) Prereq: 3950 or consent of instructor. May be repeated. Maximum credit 8 hours.
4004 Special Topics (1-4) Student or instructor initiated course offered at convenience of Department. May be repeated.
4005 Special Topics (2-4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 12 hours.
4006 Honors: Advanced Art (4) Intensified study for the exceptional student. May be repeated for a maximum of 24 credit hours.
4015 Drawing IV (4) Individualized pursuit of personal drawing techniques and concepts, supplemented by individual and group critiques as well as weekly life drawing critiques. Repeated. Maximum credit 12 hours. Prereq: 12 hours of 3115.
4016 Special Design Studio (4) Studio experience planned to explore strengths, structural variability, and form problems using inexpensive materials and tools. For non-art majors only.
4025 Special Topics in Painting (4) Student or instructor initiated course offered at convenience of Department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.
4026 Special Topics in Printmaking (4) Student or instructor initiated course offered at convenience of Department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.
4035 Watercolor IV (4) Individual concepts in personal expression with varied water-based media on paper. May be repeated. Maximum credit 12 hours. Prereq: 12 hours in 3275 for art majors, consent of instructor for non-art majors.
4046 Special Topics in Sculpture (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.
4045 Advanced Sculpture IV (4) Individual development of sculptural problems and techniques. May be repeated. Maximum credit 12 hours. Prereq: Permission of instructor.
4070 Advanced Wood Sculpture (4) Application of laminations, carving, and jointing techniques in designing and constructing free-standing objects. Prereq: 2450 or consent of instructor. May be repeated. Maximum credit 12 hours.
4074 Special Topics in Graphic Design/Illustration (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.
4075 Corporate Design (4) Concepts of corporate graphics. Problems include all areas of graphic design. Prereq: 3535. May be repeated. Maximum credit 12 hours.
4076 Portfolio and Exhibition Techniques (4) Professional problems using inexpensive materials and tools. For non-art majors only.
4076 Special Topics in Design (4) Concept of design presented in the form of a portfolio. Prereq: 3535. May be repeated. Maximum credit 12 hours.
4616 Lithography IV (4) Extensive use of aluminum plates, color combine printing, photographic techniques. May be repeated. Maximum credit 12 hours.

4617 Screen Printing (4) Traditional hand cut and photosteric stencils; combine printing on paper and other surfaces. May be repeated. Maximum credit 12 hours.

4656 Special Topics in Metal Design (4) Student or instructor initiated course to be offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

4655 Studies in Art History (2) Concentration in selected areas. Prereq: 16 hours of art history and consent of instructor. May be repeated. Maximum credit 6 hours.

4956 Special Topics in Ceramics (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

4960 Ceramics IV: Advanced Projects (4) Prereq: 3960. May be repeated. Maximum credit 12 hours.

4970 Glaze Calculation (4) Prereq: Senior or graduate standing and consent of instructor.

4971 Klin Construction (4) Prereq: Senior or graduate standing and consent of instructor.

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

2104 Drawing (1-4) Beginning to intermediate. May be repeated.

2204 Painting (1-4) Beginning to intermediate. May be repeated.

2254 Fiber Processes (1-4) Beginning to intermediate. May be repeated.

2264 Fiber Constructions (1-4) Beginning to intermediate. May be repeated.

2274 Fabric Surface Design (1-4) Beginning to intermediate. May be repeated.

2284 Fabric Construction (1-4) Beginning to intermediate. May be repeated.

2304 Watercolor (1-4) Beginning to intermediate. May be repeated.

2404 Sculpture (1-4) Beginning to intermediate. May be repeated.

2504 Graphic Design/illustration (1-4) Beginning to intermediate. May be repeated.

2604 Printmaking (1-4) Beginning to intermediate. May be repeated.

2654 Metal Design (1-4) Beginning to intermediate. May be repeated.

2664 Fiber Construction (1-4) Intermediate to advanced. May be repeated.

2674 Fabric Surface Design (1-4) Intermediate to advanced. May be repeated.

2684 Fabric Construction (1-4) Intermediate to advanced. May be repeated.

4304 Watercolor (1-4) Intermediate to advanced. May be repeated.

4404 Sculpture (1-4) Intermediate to advanced. May be repeated.

4504 Communication Design (1-4) Intermediate to advanced. May be repeated.

4604 Printmaking (1-4) Intermediate to advanced. May be repeated.

4654 Metal Design (1-4) Intermediate to advanced. May be repeated.

4684 Enameling (1-4) Intermediate to advanced. May be repeated.

4904 Photography (1-4) Intermediate to advanced. May be repeated.

4954 Ceramics (1-4) Intermediate to advanced. May be repeated.

GRADUATE

There are two advanced degrees available in this department: Master of Arts and Master of Fine Arts. In addition to meeting requirements of the Graduate School, applicant must have an undergraduate major in art or outstanding proficiency. Examples of work will be requested. For additional information regarding these programs, write to the head of the department.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5011-21-31 Exhibition in Lieu of Thesis (3,3,3)

5161 Foreign Study (1-12)

5121 Off-Campus Study (1-12)

5103 Independent Study (1-12)

5115 Graduate Drawing I (2-6)

5125 Graduate Drawing II (2-6)

5215 Graduate Painting I (2-6)

5225 Graduate Painting II (2-6)

5255 Graduate Fiber and Fabrics I (2-6)

5275 Graduate Fiber and Fabrics II (2-6)

5315 Graduate Watercolor I (2-6)

5325 Graduate Watercolor II (2-6)

5415 Graduate Sculpture I (2-6)

5425 Graduate Sculpture II (2-6)

5515 Graduate Graphic Design/Illustration I (2-6)

5525 Graduate Graphic Design/Illustration II (2-6)

5615 Graduate Printmaking—Lithography I (2-6)

5616 Graduate Printmaking—Intaglio I (2-6)

5617 Graduate Printmaking—Screen Printing I (2-6)

5625 Graduate Printmaking—Intaglio II (2-6)

5626 Graduate Printmaking—Lithography II (2-6)

5627 Graduate Printmaking—Screen Printing II (2-6)

5755 Reading and Research in Art History (2)

5770 Seminar in Art History (4)

5955 Graduate Ceramics I (2-6)

5975 Graduate Ceramics II (2-6)

5990 Seminar in Art Criticism (4)

5999 Projects in Lieu of Thesis (10)

Asian Studies

See Cultural Studies.

Astronomy

See Physics and Astronomy.

Audiology and Speech Pathology (160)

Professors:

H. L. Luper (Head), Ph.D, Ohio State; S. Adler, Ph.D, Ohio State; C. W. Asp, Ph.D, Ohio State; P. J. Carmey, Ph.D, Iowa; D. M. Lipscomb, Ph.D, Washington; J. V. Nabelek, Ph.D, Czech Technical (Prague); H. A. Peterson, Ph.D, Illinois; B. Silverstein, Ph.D, Purdue.

Associate Professors:

S. B. Burchfield, Ph.D, Michigan State; C. G. Maisel, M.Ed, Texas.

Assistant Professors:


Instructors:


UNDERGRADUATE

General Information. One of society's most significant developments has been the acquisition of organized systems of communication. Basic to most human language systems has been dyadic oral-aural communication. The Department of Audiology and Speech Pathology offers course work in the scientific study of oral-aural communication with special attention to variations considered abnormal or different. Many of the courses offered in the department cover information that should be valuable to students planning to enter any social service discipline. Suggested electives for non-departmental majors include 3010, 3040, 3050, 3710, 4070, and 4720.

Majors. The two majors (audiology and speech pathology) within the department are pre-professional; that is, they are preparatory to graduate work and to professional certification in some aspect of communicative disorders. The master's degree is required for most professional certificates and employment positions. Within the broad coverage of audiology, it is possible for a student to specialize to a limited extent by choosing elective courses which emphasize traditional diagnostic audiology or aural habilitation-rehabilitation. Students in speech pathology may specialize to a limited extent by choosing elective courses which emphasize speech disorders, language disorders, or cultural language differences. Students desiring school certification in speech and hearing or education of the deaf should consult the Department of Special Education and Rehabilitation for specific requirements. A major in speech pathology consists of Audiology and Speech Pathology 3010, 3040, 3050, 3065, 3200, 3310, 3710, 4040, 4320, 4330, 4650, 4720, plus not less than 9 nor more than 15 hours from the following: 3070, 4310, 4340, 4400, 4610, 4930, 4940.
Additional recommended courses for speech pathology majors are: Audiology and Speech Pathology 4520, 4460, 4470, 4750, Anthropology 2530 or 3410, Psychology 2600, 2620, 2630, 2540, 3150, Special Education 4030, 4342, 4110, 4120, 4130, 4610, and Child and Family Studies 4810.

A major in audiology consists of Audiology and Speech Pathology 3010, 3040, 3050, 3200, 3310, 3710, 4040, 4450, 4720, 4930 plus not less than 10 nor more than 22 credit hours from the following: 3065, 4320, 4460, 4470, and 4920.

Additional recommended courses for audiology majors are Psychology 2500, 2520, 2540, and 3150.

1261 English Pronunciation for Foreign Students (3) (Same as English 1261.)

3010 Basic Acoustics in Speech and Hearing (3) Fundamental aspects of acoustics in speech and hearing including physics of sound. Prereq: Consent of instructor.

3040 Introduction to Speech Pathology and Audiology (3) Nature, etiology, and incidence of speech, hearing, and language disorders.

3050 Speech Science I: Phonetics (3) Basic phonetics including recognition and production of spoken English sounds with analysis of their formation; acoustic characteristics of speech and speech perception.

3065 Speech Science II (4) Anatomy and physiology of speech. Prereq. 3050.

3200 Speech and Language Development (4) Speech and language development in the normal child including development of distinctive features and implications of this process for diagnosis of speech and language development. Prereq: Psychology 3560 or Educational Psychology 2430 recommended.

3310 Articulation Disorders (4) Etiology, diagnosis, and treatment of articulatory defects. Prereq: 3040, 3050, or consent of instructor. (Same as Special Education 3130.)

3710 Audiology I (3) Fundamental aspects of auditory anatomy and physiology. Introduction to disorders of hearing and their remediation. (Same as Special Education 3710.)

4040 Appraisal of Speech and Language Disorders (4) Diagnostic procedures for children and adults with speech and language problems including observation and practice with diagnostic tests. Prereq. 3040, 3050, or consent of instructor. (Same as Special Education 4040.)

4070 Free Association (4) Oral and written free association as process for diagnosing and treating speech and language problems including development of distinctive features and implications of this process for diagnosis of speech and language development. Prereq: Psychology 3560 or Educational Psychology 2430 recommended.

4103 Independent Study (1-16) See page 185.

4190 Speech Development of the Hearing Impaired (3) Prereq: 3050. (Same as Special Education 4190.)

4200 Practicum in Speech Development of the Hearing Impaired (3) (Same as Special Education 4200.)

4210 Language Development of the Hearing Impaired I (3) (Same as Special Education 4210.)

4220 Language Development of the Hearing Impaired II (3) (Same as Special Education 4220.)

Introduction to the Psychology and Education of the Hearing Impaired (3) (Same as Special Education 4250.)

4310 Stuttering (3) Nature and treatment. Review and integration of various theories. Prereq: 3040 or consent of instructor. (Same as Special Education 4310.)

*4320 Introduction to Clinical Practice in Speech Pathology (3) Prereq: 3040, 3050, 3210, 4440, and consent of instructor. S/NC. (Same as Special Education 4320.)

4330 Clinical Practice in Speech Pathology (1-6) Prereq: 4320 and consent of instructor. S/NC. (Same as Special Education 4330.)

4340 Clinical Practice in Speech Pathology (1-6) Prereq: 4320 consent of instructor may be repeated for credit. S/NC. (Same as Special Education 4340.)

`*ADMINISTRATION TO CLINICAL TRAINING IN SPEECH PATHOLOGY AND AUDIOLOGY` Students who wish to enroll in clinical practice courses in audiology and speech pathology must apply for admission at the Hearing and Speech Center prior to the initial practicum enrollment. Clinical placements may be limited to available supervisory staff, clinical facilities and caseloads. A grade of "C" or better in each prerequisite course is required for clinical practice enrollment. Once admitted to clinical training, students will be continued in the program so long as they are clinically and academically successful. Academic success is defined as a grade of "C" or better in each course taken in the Department of Audiology and Speech Pathology. Clinical success is defined as performance judged as "adequate" on at least 75 percent of the clinical contact hours assigned during each quarter's enrollment. Failure to meet either the clinical or academic success criteria for two successive quarters automatically removes the student from clinical practice enrollments.

4400 Voice Disorders (4) Etiology, diagnosis, and treatment of voice disorder. Prereq: 3040, 3050, or consent of instructor. (Same as Special Education 4400.)

*4450 Clinical Practice in Audiology (1-6) Prereq: 4720 and 4930. (Same as Special Education 4450.)

4460 Clinical Practice in Audiology (1-6) Prereq: 4450, 4720, and 4930. (Same as Special Education 4460.)

4470 Clinical Practice in Audiology (1-6) Prereq: 4450, 4720, and 4930. May be repeated. Maximum credit 9 hours. (Same as Special Education 4470.)

4520 Speech Pathology (3) Independent study of special problems in speech pathology. Prereq: Consent of instructor.

4550 Problems in Speech Pathology (3) Prereq: Consent of instructor.


4620 Birth Defect Syndromes and Language Retardation (3) Examination of research literature relevant to birth defects and language retardation including clinical, educational, and socio-emotional implications of such disorders. Prereq: 4610 or consent of instructor.

4630 Practical Applications of Language Habilitation Techniques (3) Discussion and demonstration of various methods and procedures used in treating language retarded children. Prereq: 4610 or consent of instructor.

4640 Parent Participation in Language Habilitation Programs (3) Nature of counseling and educational relationships with parents of exceptional children including emotional support for families, behavior management strategies, home training methods. Prereq: 4610 or consent of instructor.

4650 Speech and Language of the Culturally Different Child (3) Discussion of speech and language differences of children of various minority groups, of different geographic regions; their causes and their effects upon educational programs.

4660 Topics in Language Retardation and its Habilitation (3) Lectures on selected topics by representatives of such fields as special education, early childhood education, educational psychology, genetics, and psychology. Prereq. 4610 or consent of instructor.

4720 Audiology II (4) Basic principles of clinical audiology; pure-tone, speech, masking, and overview of special auditory tests. Prereq: 3710. (Same as Special Education 4720.)


4930 Aural Rehabilitation: Speechreading and Auditory Training (3) Discussion of rehabilitation of acoustically impaired by maximizing use of residual hearing and utilization of speechreading as a receptive communicative process. Prereq: 4720. (Same as Special Education 4940.)

4940 Introduction to the Verbo-Tonal System (4) Prereq: 3710; 4930 and 3500 recommended. (Same as Special Education 4940.)

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5040 Advanced Clinical Practice in Audiology (1-6)

5045 Practicum in Hearing Aid Orientation and Communication Counseling (1-6)

5050 Practicum in Verbo-Tonal Habilitation (1-6)

5061 Practicum in Aural Rehabilitation (1-6)

5060 Neural Bases of Speech and Language (3)

5070 Anatomy and Physiology of Hearing (3)

5071 Electrophysiological Assessment of Auditory Function (2)

5100 Comparative Anatomy of Peripheral Auditory Structures (3)

5110 Introduction to Research in Speech and Hearing (3)

5117 Instrumentation in Audiology and Speech Pathology (3)

5119 Laboratory in Instrumentation in Audiology and Speech Pathology (1)

5200 Seminar on Stuttering (3)

5210 Aphasia (3)

5220 Seminar: Articulation Disorders (3)

5230 Seminar: Voice Disorders (3)

5320-30-40 Advanced Clinical Practice in Speech and Language Disorders (1-6,1-6,1-6)

5350-55-70 Advanced Clinical Practice in Speech Diagnoses (1-6,1-6,1-6)

5380 Cerebral Palsy (3)

5381 Adult Dysarthria (3)

5390 Cleft Palate (3)

5440 Amplification for the Hearing Impaired (4)

5450 Sound Measurement and Audiometer Calibration (3)

5451 Noise and Audiology (3)

5460 Advanced Audiology (3)

5470 Impedance Measurement in Audiology (2)

5490 Practicum in Hearing Conservation (1-6)

5500 Seminar in Audiology (3)

5503 Special Auditory Tests (3)

5505 Special Problems in Audiology (1-6)

5520 Seminar in Speech Pathology (3)

5540 Seminar in Language Pathology (3)

5550 Special Problems in Speech Pathology (1-3)

5560 Independent Study in Speech Pathology (1-3)
Bacteriology

See Microbiology.

Biochemistry (188)

Professors: W. D. Wicks, Ph.D. Harvard (Head); J. E. Churchich, Ph.D. Sheffield (England); G. L. Goff, Ph.D. Poona (India); K. J. Morry, Ph.D. Rochester.

Associate Professors: L. Huang, Ph.D. Michigan State.

Assistant Professors: R. H. Faenberg, Ph.D. California (Berkeley); E. Freire, Ph.D. Virginia; J. Koontz, Ph.D. Kentucky; J. Richner, Ph.D. Arizona State.

UNDERGRADUATE

No major is offered, although course work in biochemistry is applicable to majors in biology and chemistry.

For the Bachelor of Arts degree with a minor in biochemistry, the following courses are required: Chemistry 2140-49, 3211-21-31, 3219-29-39, and Biochemistry 4110-20 and 4119. Additional credits from Biochemistry 4210-20-30 and/or 4500 and/or 5010 are desirable.

3110 Introduction to Biochemistry (4) Biochemical principles underlying physiological events in animal tissue. Metabolism of carbohydrate, lipid, protein, and nucleic acids. Biochemistry of body fluids. Action of drugs and hormones. Prereq: Chemistry 1110-20-30 or 1516-20-30 and at least 2 quarters of introductory biological sciences. Not available for credit if credit has been previously received for 4110 or 4120.

4110-20 Cellular and Comparative Biochemistry (4,4) Electromyelobehavior; chemistry and structure of proteins; enzyme behavior and biological function; catalysis and energy capture; synthetic metabolism; nucleic acid function, protein synthesis, and biochemi-

cal genetics; regulation of biological processes. Must be taken in sequence. Prereq: Chemistry 3211-21-31, 3219-29-39, and one course from Biology 1210-20-30 or Entomology 1110-20. Three lectures and discussion.

4110 Cellular and Comparative Biochemistry Laboratory (2) Basic biochemical procedures of general application in biochemistry and molecular biology. Prereq or coreq: 4110.

4210-20 Introduction to Physical Biochemistry (3,3) 4210—Introduction to thermodynamics; phase stabi-

lity and phase change; chemical potential; osmot-
ic pressure; activity and the Debye-Huckel model; electrochemistry; membrane permeability. 4220—Ele-
ments of statistical mechanics, diffusion, collapse the-
ory; chemical kinetics; and transition state theory; higher order kinetics; specialized kinetics of enzymatic processes; some biopolymer considerations. Prereq: Mathematics 1840-50-60, Chemistry 2112-21-31 and 3219-29-39, and an introductory course in biology.

4230 Introduction to Physical Biochemistry (3) Physical characterization of macromolecules; polar-
ized light, absorption and fluorescence, sedimentation and transport hydrodynamics, electrophoretic mobili-
ty, light scattering, and structural X-ray crystallography of proteins and nucleic acids. Prereq 4220 or Chem-
istry 3430, or equivalent.

4500 Independent Research in Biochemistry (1-6) Special experimental problems under direction of staff member. Limited to undergraduates and by consent only. May be repeated for credit. Prereq or coreq: 4110-20, 4119.

GRADUATE

Master’s and doctoral degree requirements are found in the Graduate Catalog. Master’s degree candidates usually should offer an undergraduate major in biochemistry, biology or chemistry. Doctoral degree candidates must present an undergraduate major in biochemistry, biology or chemistry.

5000 Thesis

5010 Biochemical Techniques (2)

5110 The Metabolism of Nitrogen Containing Compounds (3)

5120 Biochemistry of Mitochondria and Selected Organelles (3)

5130 Protein Structure and Enzyme Function (3)

5210 Structure and Function of Biological Membranes (1)

5220 Structure and Functions of the Nucleic Acids (3)

5230 Protein Synthesis and Its Role in Metabolic Regulation (3)

5300 Graduate Research Participation (3-9)

5310-20-30 Experimental Techniques (2,2,3)

5450 Special Topics (1-3)

5510 Properties of Biomolecules Related to Function (3)

5520 Molecular Basis of Metabolism and Its Regulation (3)

5530 Biosynthesis and Regulatory Functions of Informational Molecules (3)

5610 Environmental Toxicology (3)

5640 Techniques in Environmental Toxicology (3)

6000 Doctoral Research and Dissertation

6410 Current Topics in Biochemistry (1)

6420 Current Topics in Biological Membrane Research (1)

6431 Current Topics in Environmental Toxicology (1)

6450 Advanced Special Topics (1-3)

Biology (190)

Coordinator: K. J. Morry

A major in biology may be obtained by completing one of the following concentrations:

A. Concentration in Cell Biology. Consists of Biology 3110-20-30, Chemistry 3211-21-31, 3219-29-39, Biochemistry 4110-20, and 12 hours of upper-division courses from: Biochemistry 4119, 4500; Botany, any 3000 or 4000-level courses (except 3050, 3070, 3090); Microbiology 3200, 3700, 3519, 4119-19, 4140-49, 4270-79, 4420, 4909; Zoology 3050, 3060, 3080, 3150, 3320, 4010, 4050, 4120-20, 4250, 4280, 4380, 4389, 4450. In meeting the upper-division minimum requirement, not more than 8 hours may be credited from any one biological science department, and not more than 4 hours of research courses may be credited. Prerequisites to this concentration are Biology 1210-20-30 or Botany 1110-20, or 1118-28 and Zoology 1118-28 and Chemistry 1110-20-30. Corequisites are Math 1841-51; a year sequence in physics (except 1410-20-30); and Chemistry 2140-49.

B. Concentration in Organismal and Systems Biology. Consists of Biology 3110, 3120, 3130, Chemistry 3211-21-31, 3219-29-39, and 12 hours of upper-division courses from: Biochemistry 3110, 4110-20, 4119, 4500; Botany, any 3000 or 4000-level courses including not more than one from 3050, 3070, 3090, Microbiology, any 3000- or 4000-level courses; Zoology, any 3000 or 4000-level courses except 3010-20-30 and 3090. In meeting the upper-division minimum requirement, not more than 12 hours may be credited from any one biological science department, and not more than 4 hours of research courses may be credited. Prerequisites to this emphasis are Biology 1210-20-30 or Botany 1110-20 or 1118-28 or Zoology 1118-28 and Chemistry 1110-20-30. Corequisites are Math 1841-51 or 1550-60 (Math 1841-51 is recommended choice); a year sequence in physics (except 1410-20-30) or Geology 1410-20-30.

C. Concentration in Ecology Consists of Biology 3110-20-30, Chemistry 3211-21-31, and 3219-29-39, Environmental Engineering 4000, either Geography 3520 or Geography 3530, and 17 hours of upper-division courses from: Botany 3030, 3210, 4030, 4310; Forestry 3020, 3550, 3730, 4020; Geography 3520-30; Microbiology 4110, 4150; Wildlife 3200, 4450, 4460, 4510; Zoology 3080, 4240, 4680, 4720-29. In meeting the upper division
Botany (198)


3101-20 Plants in Evolution (4,4) Monera to angiosperms; emphasis on evolutionary relationships, morphology, and development. Not for botany graduate credit. Prereq: 6 hours in biological sciences.

3020 Field Botany (4) Study of plants in natural environments including plant identification, collection, preservation, and basic ecological concepts. Prereq: 6 hours in biological sciences. Not for botany graduate credit.

3031-32 Field Botany (4,4) Emphasis on fall and winter flora, respectively. Prereq: 3030. Need not be taken in sequence.

3050 Socio-Economic Impact of Plants (3) Significance of plants in our culture and environment; human and plant cultures, evolution of cultivated plants, and role of plants in present civilizations. Occasional field trips. Not for botany graduate credit.

3070 Genetics and Society (3) An introduction to genetics, anthropology, and evolution with emphasis on their implications for human society. Not for botany graduate credit. (Same as Anthropology 3070).

3090 Biology and Human Affairs (3) Basic biological principles involved in deterioration and preservation of an environment.Major environmental changes and present interspecies relationships may survive. Not for botany graduate credit. (Same as Zoology 3090).

3130 Introductory Plant Pathology (4) (Same as Entomology and Plant Pathology 3130).

3210 Introductory Plant Physiology (4) Organizational principles of plants, with emphasis on enzymology, morphology, elements of metabolic processes, effects of age, light, natural rhythms, temperature, and other environmental factors. Lecture and lab. Not for botany graduate credit. Prereq: One year general chemistry and one year biological science.

3300 Biological Oceanography (3) Distribution of abiotic factors in the sea and their effect on plankton growth; composition of zoo- and phytoplankton and processes affecting each; food webs in the sea; role of hypopycnal processes and related environments. Prereq: Chemistry 3120-30 and either Biology 1210-20 or Botany 1110-20 or Geology 2710.

4000 Tutorial in Botany (1-3) Individual, independent study under guidance of selected staff. By application only. May be repeated with consent of department. Maximum credit 6 hours.

4017 Field Mycology (3) Field experience on identification of higher fungi. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq: 6 hours of botany. Recommended: Botany 3010-20.

4021 Field Bryology (3) Field experience on identification of mosses and liverworts. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq: 6 hours of botany. Recommended: Botany 3010-20.

4022 Field Lichenology (3) Field experience on identification of lichens. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq: 6 hours of botany. Recommended: Botany 3010-20.

4033 Field Agrostology (3) Field experience on identification of grasses. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq: 6 hours of botany. Recommended: Botany 3010-20.

4036 Mechanisms of Plant Speciation (3) Processes of plant speciation-emergence from clones, isolation, drift, hybridization, variation in populations, establishment of population barriers, and other aspects of plant speciation. Prereq: 3010-20 and Botany 1110-20.

4045 Aquatic Vascular Plants (3) Field experience on identification of aquatic vascular plants. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice.
5061 Phycology (4)
5065 Phytoplankton Ecology (4)
5070 Principles of Biological Illustration (3)
5080 Pteridology (4)
5090: Morphology and Evolution of Basidio-
cystes (4)
5120 Agrostology (4)
5155 Advanced Morphology of Flowering Plants (4)
5160 BIOSYSTEMATICS (4)
5210 Advanced Plant Physiology I (3)
5220 Advanced Plant Physiology II (3)
5235 Advanced Plant Physiology III (3)
5290 Quaternary Problems (4)
5310-20-30 Special Problems in Botany (1,4,1, 1,1,1)
5420 Plant Geography (4)
5500 Analysis of Plant Communities (4)
5360 Marine Ecology (3)
5410-20-30 Seminar in Teaching of College Botany (1,1,1,1)
5440 Seminar in Botany (1)
1510-20-30 Systems Ecology (3,3,3)
5780 Plant Cytology (4)
5810 CYTOGENETICS (4)
5820-21-22-23-24 Methods and Instrumentation in Laboratory Investigations (1,1,1,1,1)
5830 The Field Research Problem (4)
5850-51-52-53-54 Methods and Instrumentation in Field Investigations (1,1,1,1,1)
5870 Experimental Plant Genetics (4)
5910-20 Developmental Plant Morphology (3,1)
6000 Doctoral Research and Dissertation
6010 Advanced Topics in Morphology of Vascular Plants (2-4)
6060 Advanced Topics in Cryptogamic Botany (2-4)
6210 Photobiology (3)
6310 Advanced Topics in Cytology and Cell Biology (2-3)
6320 Ecosystems of the World (3)
6420 Advanced Topics in Genetics (2-4)
6620 Seminar in History of Botany (2)
6820 Advanced Topics in Plant Physiology (2-4)
6830 Advanced Topics in Ecology (2-4)
6930 Advanced Topics in Systematic Botany (2-4)

Chemistry (235)

Professors: G. Marnarorte (Head), Ph.D. Louisiana State; J. E. Bior, Ph.D. Manchester (England); N. S. Bowman, Ph.D. Princeton; C. A. Buehler (Emeritus), Ph.D. Ohio State; W. E. Bull, Ph.D. Illinois; J. O. Chambers, Ph.D. Kansas; J. A. Dean (Emeritus), Ph.D. Michigan; J. F. Eastham, Ph.D. California (Berkley); W. H. Fitchett, Ph.D. Minnesota; G. W. Kabaak, Ph.D. Purdue; C. W. Keenan, Ph.D. Texas; D. C. Kleinleiter, Ph.D. Princeton; J. W. Larsen, Ph.D. Purdue; M. H. Lietzke, Ph.D. Wisconsin; R. M. Magid, Ph.D. Yale; R. M. Pagni, Ph.D. Wisconsin; J. R. Peterson, Ph.D. California (Berkley); G. K. Schweitzer, Ph. D. Illinois; D. A. Shivey (Emeritus), Ph.D. Iowa State; H. A. Smith (Emeritus), Ph.D. Harvard; W. T. Smith (Emeritus), Ph.D. Ohio State; W. A. Van Hock, Ph.D. John Hopkins; E. W. L. Vastine, Ph.D. Purdue; T. E. Williams', Ph.D. London (England); J. H. Wood (Emeritus), Ph.D. North Carolina.

Associate Professors: F. A. Grimm, Ph.D. Gotswit, J. F. Kistel, Ph.D. Avren, C. A. Lane, Ph.D. California (Berkley); L. J. Magid, Ph.D. Tennessee; F. M. Schell, Ph.D. Indiana.

Assistant Professors: J. L. Adcock, Ph.D. Texas; S. D. Alexandratos, Ph.D. California (Berkley); J. D. Kovac, Ph.D. Yale; M. J. Sepaniak, Ph.D. Iowa State; C. Woods, III, Ph.D. North Carolina State.

*Alumni Distinguished Service Professor.

UNDERGRADUATE

For information regarding the Bachelor of Science in Chemistry degree and the cooperative program in chemistry, see page 183.

There are two alternative routes for the student to take in designing a program for a B.A. degree with a major in chemistry.

Concentration A is designed to prepare the student for a career as a professional chemist or for entrance into graduate school in such fields as chemistry, biochemistry, geochemistry, etc. This program has similarities to that leading to the degree of Bachelor of Science in Chemistry (page 183), but with more opportunity for selection of electives outside the department and outside of science. Unlike the Bachelor of Science in Chemistry degree, the B.A. degree using Concentration A is not approved by the Committee on Professional Training of the American Chemical Society.

Concentration B is designed for students who have career objectives in fields other than chemistry, but in fields where chemistry has direct applications, such as medicine, dentistry, pharmacy, law, business, and ecology. This concentration, supplemented by appropriate courses from other areas, is suitable for students planning careers in these areas. Concentration B is specifically designed to provide more elective hours which may be employed in fields which are related to chemistry. Concentration B is not appropriate for students intending to become professional chemists.

The prerequisites consist of Chemistry 1110-20-30, Mathematics 1840-50-60, 2840-50, Physics 2510, 2310-20. The concentration consists of Chemistry 2140, 2149, 3211-21-31, 3219-29-39, 3410-20-30, 3429 plus at least 10 hours of additional upper-division work in chemistry, including one of the following courses: Chemistry 4110, 4210, 4220, 4310, 4420, 4510, 4550. (Up to six hours of biochemistry 4000 level and above or geology 4610 may be applied to the above requirement. While not required, Math 2860 is highly recommended as an elective for majors in this concentration.

Concentration B is designed for students who have career objectives in fields other than chemistry, but in fields where chemistry has direct applications, such as medicine, dentistry, pharmacy, law, business, and ecology. This concentration, supplemented by appropriate courses from other areas, is suitable for students planning careers in these areas. Concentration B is specifically designed to provide more elective hours which may be employed in fields which are related to chemistry. Concentration B is not appropriate for students intending to become professional chemists.

The prerequisites consist of Chemistry 1110-20-30, Mathematics 1840-50-60 or 1840-50-60, and any one of the following natural science options: (a) Physics 2210-20-30 or 2510, 2310-20; (b) Geology 1510-20; (c) Biology 1210-20-30; (d) Biology 3110-20 and Microbiology 3570, 5910; (e) Botany 1110-20. The concentration consists of Chemistry 2140, 2149, 3211-21-31, 3219-29-39, 4910-20-30, 4923, plus at least 10 hours of additional upper-division work in chemistry, including at
least one of the following courses: Chemistry 4110, 4210, 4220, 4310, 4420, 4510, 4550 (Up to six hours of biochemistry 4000 level and above or Geology 4610 may be applied to the 10 hour biology requirement.)

A minor in chemistry shall consist of the successful completion of 24 hours of chemistry courses numbered 2000 and above including at least one of the following sequences: Chemistry 3211-21-31, 3219-29-39 (12 hours) or Chemistry 3410-20-30 (9 hours) or Chemistry 4910-20-30 (9 hours).

Placement in Freshman Sequences: The sequence which meets all requirements of a year of general chemistry and is a prerequisite for upper-division courses is 1110-20-30. The 1500 and 1600 series have more limited applications. The 1500 series emphasizes organic and biochemistry and may be used as a prerequisite only for 2230 and 3610. The 1600 series is for non-science majors and does not provide an adequate background for any additional courses in chemistry.

It is possible to move from one sequence to another if permission for substitution is obtained in advance. For example, a student who finds a need to complete the 1110 series after having completed 1510 may substitute 1510 for 1110 with approval of the chemistry department. Students must take 1120 followed by 1130. However, no single quarter of the 1500 or 1600 sequences may be substituted for 1120 or 1130. Credit may be received for only one of the courses 1110, 1510, or 1610.

In any chemistry course above the freshman level which has Chemistry 1110-20-30 as a prerequisite, 1510-20-30 may be used as a prerequisite with approval of the chemistry department.

Chemistry 1118-28-38 is an honors course designed for the student who has already made considerable progress in science. Class size may be limited to promote faculty-student interaction. Selection is based on ACT scores, high school chemistry grade, and if necessary, performance on a placement examination to be given during the first class meeting. A student receiving a passing grade below B in 1118 will complete the year's work by taking 1120-30. A student receiving a grade of C or D in 1128 will not be eligible for 1138 and must take 1150 to get the full 12 hours of credit.

Beginning students who have had high school chemistry and who have had additional experience (e.g. summer institute study, special needs program, community college) are invited to apply during the summer to the special research projects, home laboratory (e.g. summer institute study, beginning students who have had high school chemistry).

1140 Chemistry for Nurses (4) Aromatic compounds and biological chemistry. Prereq: 1410. 3 hours and 1 lab.

1510-20-30 General Chemistry (4,4,4) Introductory course with emphasis on topics relating to living systems. 1510—Bonding and molecular structure, gas laws, liquid and solid state, solutions, colloids. 1520—Acids and bases, industrial applications of organic chemistry, and equilibria. Introduction to organic chemistry, alkalanes, unsaturated and aromatic hydrocarbons. 1530—Structure and reactions of various organic functional groups. Introductory biochemistry—amino acids and proteins, carbohydrates, and nucleic acids. Must be taken in sequence. 3 hours and 1 lab.

1610-20 Chemistry and Society (4,4) Chemistry for non-science majors emphasizing role of chemistry in dealing with current social concerns. 1610—Basic principles including particle nature of substances, their structure, and chemical changes. 1520—Impact and utilization of chemical principles in modern society with selected topics in agriculture, biology, medicine, nutrition, etc. Credit may be given only once for credit by chemistry or physics majors or minors. Prereq: Math 1550 or equivalent, 1 year of general chemistry.

1110 Physical Chemistry (3,3,3) Theoretical aspects of chemical kinetics, chemical equilibria, thermodynamics, phase equilibria, and solutions. Prereq: 1110-20-30. Credit may not be received for both Chemistry 1110-20 and 3211, toward graduation or otherwise.

3219-29-39 Organic Chemistry Laboratory (1,1,1) Experiments on topics discussed in 3211-21-31. Corresponding laboratory (3219-29-39) is coreq for students not having credit for the laboratory.

3211-21-31 Organic Chemistry (3,3,3) Compounds of carbon and their reactions, reaction mechanisms, spectroscopic and other physical properties. Must be taken in sequence. Prereq: 1110-20-30. Corresponding laboratory (3219-29-39) is coreq for students not having credit for the laboratory.


2230 Elements of Organic Chemistry (4) Introduction to organic chemistry with emphasis on compounds of biological interest. Prereq: One year of general chemistry and chemistry majors or minors. Credit may not be received for both Chemistry 2230 and 3211, toward graduation or otherwise.

1140 Analytical Chemistry (3) Experiments on topics discussed in 1140. Prereq or coreq: 2140. 1 lab.

2230 Elements of Organic Chemistry (4) Brief treatment of organic chemistry with emphasis on compounds of biological interest. Prereq: One year of general chemistry and chemistry majors or minors. Credit may not be received for both Chemistry 2230 and 3211, toward graduation or otherwise.

3219-29-39 Organic Chemistry Laboratory (1,1,1) Experiments on topics discussed in 3211-21-31. Corresponding lecture (3211-21-31) is coreq for students not having credit for the lecture.

3310 Molecular Basis of Polymers (3) Molecular behavior of polymers as opposed to small molecules, polymerization reactions, polymer structures, and molecular characterization of polymers. Not for credit by chemistry majors or minors. Prereq: 3221-29.

3410 Analytical Chemistry (3,3,3) 3410—Behavior of acids and bases, solutions of electrolytes and non-electrolytes, introduction to inorganic elements, coordination compounds, and consumer products. Prereq or coreq: 3420 or 4920 recommended.

3420 Physical Inorganic Chemistry (3) Theoretical principles underlying chemical behavior of the elements and their compounds. Prereq: 3410-20-30. Corresponding laboratory (3420-29-39) is coreq for students not having credit for the laboratory.

3421-21-31 Organic Chemistry Laboratory (1,1,1) Experiments on topics discussed in 3421-29-39. Corresponding lecture (3421-29-31) is coreq for students not having credit for the lecture.

3429 Physical Chemistry Laboratory (1,1) Gases, liquids, chemical equilibria, solutions, phase equilibria, reaction kinetics, and electrochemistry. Prereq or coreq. Corresponding courses (3420 and 3430) 1 lab.

3511-21-31 Principles of Organic Chemistry (3,3,3) Structure and reactivity of aliphatic and aromatic compounds emphasizing reactions of synthetic utility. Use of spectroscopic and physical techniques to elucidate reaction mechanisms. Recommended for chemistry majors and students planning careers in physical or biological sciences. Must be taken in sequence. Prereq: 1110-20-30. Corresponding laboratory 3511-29-39 or 3529-39 is a coreq; latter is recommended.

3529-39 Organic Chemistry Laboratory (1,1) Experiments on topics discussed in 3529-39. Similar to 3529-39 except designed for students who need for operating knowledge of various spectroscopic and chromatographic techniques. Corresponding lecture 3529-39 or 3531-39 or 3522-31-39 is coreq for students not having credit for the lecture.

3810 Radioactivity and its Applications (3) Radioactive and selected in tracer and therapeutic applications. Prereq: 3430; 3510 recommended. 4 hours.

119 Physical Chemistry Laboratory (1) Solutions, phase equilibria, reaction kinetics and spectroscopy. Prereq: 4110.

419 Advanced Analytical Chemistry Laboratory (1) Experiments on topics discussed in 4220. Coreq: 4220.

4220 Analytical Chemistry Laboratory (3) Electroanalytical methods of analyses (including potentialometry, coulometry, polarography, and voltammetry). Magnetic resonance methods; mass spectrometry; x-ray absorption and emission techniques. Prereq: 4140-49, 3420 or 4920 recommended.

4229 Advanced Analytical Chemistry Laboratory (1) Experiments on topics discussed in 4230. Coreq: 4230.

4310 Introductory Polymer Chemistry (3) Fundamental principles, stressing the role of chemistry in the interdisciplinary field of polymer science; relations of molecular structure to bulk properties of polymers. Prereq: 3231; Prereq or Coreq: 4230 or 3420.

4420 Physical Inorganic Chemistry (3) Theoretical principles underlying the behavior and reactions of inorganic systems. Prereq: 3410-20-30. Coreq: 3419.

4430 Inorganic Chemistry Laboratory (3) Applications of inorganic systems to chemical and biochemical problems of their chemical states, and their reactions. Prereq: 4420.

4510 Organic Qualitative Analysis (3) Identification of organic compounds and mixtures. Prereq: 3211-21-31, 3219-29-39 or 3219, 3259-39, 3 labs. (Not open to students who have completed 4610.)


4610-20 Advanced Chemical Experimentation (2,2) Laboratory courses in application of modern experimental techniques to solution of chemical problems. Synthesis and characterization of organic and inorganic compounds with emphasis on independent student study using advanced techniques. Prereq: 3231-39 or 3231-3539, 3430-39, 4220. Students who receive credit for 4610 may not also receive credit for 4516.

4640 Chemical Instrumentation (4) Principles of chemical instrumentation; practice in the design and construction of chemical instruments. 2 hrs and 2 labs. Prereq: 2140-49.

4710 Research in Chemistry (2) Open to senior majors with consent of department head. Written report must be submitted to research director at termination of project. May be repeated. Maximum credit 6 hours.

4910-20-30 Biophysical Chemistry (3,3,3) Physical chemical principles with applications to biolog-
GRADUATE

Students majoring in chemistry for the M.S. or Ph.D. degree are required to present as a prerequisite one year each of general, analytical, organic, and physical chemistry with a satisfactory record. Students lacking any of these prerequisites may be admitted with appropriate deficiencies which must be removed without graduate credit.

For students minorin in chemistry, the prerequisite is two years of chemistry including quantitative analysis.

The master's and doctoral degree requirements are found in the Graduate Catalog. The department offers specialization in nine areas for the Ph.D.: analytical, energy, environmental, inorganic, organic, physical, theoretical, chemical physics, and polymer science.

5000 Thesis

5110-20-30-35 Advanced Organic Chemistry (3,3,3,3)

5129 Advanced Organic Chemistry Laboratory (3)

5139 Spectroscopic Characterization of Organic Compounds (2)

5140 Introductory Polymer Chemistry (3)

5150 Kinetics of Polymerization (3)

5160 Organic Chemistry of Polymers (3)

5170 Physical Chemistry of Polymers (3)

5320 Analytical Chemistry of Environmental Pollutants (3)

5240 Chemical Instrumentation (4)

5250-60-70 Advanced Analytical Chemistry (3,3,3)

5340-50 Quantum Chemistry (3,3)

5410-20-30 Advanced Physical Chemistry (3,3,3)

5450 Statistical Thermodynamics (3)

5511 Survey of Inorganic Chemistry (3)

5521 Survey of Analytical Chemistry (3)

5531 Survey of Organic Chemistry (3)

5550 Industrial Chemical Research (3)

5610-20-30 Chemical Basis of Energy Conversion (1,1,1)

5710-20-30 Theoretical Inorganic Chemistry (3,3,3)

5810 Nuclear Chemistry (3)

5911-21-31 Chemistry Seminar (1,1,1)

6000 Doctoral Research and Dissertation

6111 Selected Topics in Organic Chemistry (3)

6130 Natural Product Chemistry (3)

6150 Theoretical Organic Chemistry (3)

6160 Physical Organic Chemistry (3)

6165 Orbital Symmetry Control (3)

6175 Organic Photochemistry (3)

6190 Organometallic Chemistry (3)

6210 Advanced Analytical Spectroscopy (3)

6211 Selected Topics in Analytical Chemistry (3)

6311 Selected Topics in Polymer Chemistry (3)

6320 Natural Polymers (3)

6411 Selected Topics in Physical and Theoretical Chemistry (3)

6420 Nuclear Magnetic Resonance (3)

6430 Photochemistry and Radiation Chemistry (3)

6450 Electrochemistry (3)

6475 Electronic Structure of Radicals (3)

6480 Statistical Thermodynamics (3)

6495 Advanced Chemical Kinetics (3)

6510 Thermodynamics of Solutions (3)

6520 Magnetic Resonance (3)

6711 Selected Topics in Inorganic Chemistry (3)

6730 Topics in Quantum Chemistry (3)

6750 Molten Salt Chemistry (3)

6810 Vibrational Problems in Molecular Spectra (3)

6820 Molecular Vibration-Rotation Theory (3)

6811 Selected Topics in Nuclear Chemistry (3)

Chinese

See Cultural Studies (Asian Studies).

Classics (257)

Professors:
H. C. Rutledge (Head), Ph.D. Ohio State; A. Rapp (Emeritus), Ph.D. Illinois.

Associate Professors:
G. G. Geisel, Ph.D. North Carolina (Chapel Hill); J. E. Shelton, Ph.D. Vanderbilt.

Assistant Professors:
C. P. Craig, Ph.D. North Carolina (Chapel Hill); S. D. Martin, Ph.D. Michigan; D. W. Tandy, Ph.D. Yale.

Greek

UNDERGRADUATE

A major in Greek consists of 39 hours of language courses numbered above 2000 but including Classics 4220. Nine hours from the following general courses may be substituted for language courses at the discretion of the department: Classics 3210-20, 3310, 3320, 3330, 4101 may be taken for a maximum of 6 hours. Greek language courses numbered above 2000 may be substituted for a maximum of 9 hours of Latin courses with consent of department.

The Latin minor consists of 24 hours in language courses numbered above 2000 including Classics 4220. Six hours from the following general courses may be substituted: Classics 3210-20-30, 3310, 3320, 3330.

Placement Examination: Students who transfer to UTK from other colleges and students who enter with high school units in Latin should register for the courses in which they would normally be placed on the basis of such credits. During the first week of the quarter a placement test will be given, and students will be advised if a change in registration is indicated by the results.

Proficiency Examinations: Students who have acquired a knowledge of Latin through private study or tutoring should request a proficiency test. A student who earns a grade of B or better in this examination is eligible for credit toward graduation. A student who omits any course in a sequence may receive credit for it by passing the appropriate proficiency examination.

Certification for Teaching Latin in Tennessee. Consult Certification Clerk, Room 212, Claxton Education Building.

1110-20-30 Beginning Latin (3,3,3) Must be taken in sequence.

2511-21 Intermediate Latin (4,4) 2511—Readings from the age of Cicero. 2521—Vergil's Aeneid. Open to those who have had at least two years of high school Latin, or equivalent.

3140 Ovid (3) Prereq: 3 or 4 years of high school Latin or 2521.

3150 Plautus and Terence (3) Prereq: 3 or 4 years of high school Latin or 2521.

3160 Catullus (3) Prereq: 3 or 4 years of high school Latin or 2521.

3440 Livy (3)

3450 Pliny and Martial (3)

3460 Elegaic Poets (3)

4120 Horace, Satires and Epistles (3)

4140 Cicero and Techniques of Latin Prose Composition (4) Recommended for Latin majors and minors, especially those intending to teach or pursue graduate work. Works of Cicero studied as models for prose composition.

4310 Selected Readings from Latin Literature (3)

4320-30 Selected Readings from Latin Literature (3,3) May be repeated for credit.
4340 Horace, Odes (3)
4350 Tacitus (3)
4360 Lucretius (3)
4370 Readings in Medieval Latin (3)

GRADUATE

5410-20-30 The Latin Epic. Lucretius, Virgil, Lucretius (3,3,3)
5510-20-30 Roman Comedy. Plautus, Terence (3,3,3)

GENERAL COURSES

2710 Scientific and General Vocabulary from Greek (3) Study of word roots and words in English language derived from Greek. Designed to build general vocabulary with special emphasis on scientific and technical terminology.
2720 Scientific and General Vocabulary from Latin (3) Study of word roots and words in English language derived from Latin. Designed to build general vocabulary with special emphasis on scientific and technical terminology.
2730 Medical Terminology (3) Prepares the student to make sense of, and so more easily remember, the thousands of complex medical words through a knowledge of the simple classical roots which combine to form most medical vocabulary.
2740 Word Power: Basic Vocabulary from Greek and Latin (3) Vocabulary building from Greek and Latin basic, classical, non-technical vocabulary. Exercises in English etymology.
2810 Greek Life (4) Manners and customs, social and economic aspects of classical civilization; family, politics, laws, finance, commerce.
2820 Roman Life (4) Description same as for Greek Life 2420.
3210 Early Greek Mythology (3) Comprehensive study of Greek myths through readings, lectures, and discussion with emphasis on significance for Greek thought and religion. Slides and tapes illustrate influence of Greek myths on art, music, and literature of ancient Greek and later cultures. (Same as Religious Studies 3210.)
3220 Greek Mythology in the Classical Period (3) Use of myth in literature, history, religion, philosophy, and art of Classical Age of Greece, and change of attitude toward myth from earlier periods. Familiarity with basic Greek myths is assumed. Readings, lectures, slides, and discussion. (Same as Religious Studies 3220.)
3230 Roman Mythology (3) Myths created by Romans, as well as those the Romans borrowed from Greeks, with reference to Roman attitude toward history, religion, and society. Readings, lectures, slides, and discussion. (Same as Religious Studies 3320.)
3310 Art and Archaeology of the Aegean Bronze Age and Early Greece (3) Troy, the Cyclades Islands, Greek mainland, and Crete. Emphasis on palaces of Crete and Mycenae, Tiryns, and Pylos, their fall, the following Dark Age, and rebirth of Greek civilization. Illustrated lectures.
3320 Art and Archaeology of Archaic and Classical Greece (3) Survey of development of Greek architecture, sculpture, and painting from 650 B.C. to death of Alexander. Illustrated lectures.
3330 Art and Archaeology of Hellenistic Greece and Rome (3) Hellenistic Greek, Etruscan, and Roman sculpture, painting, and architecture with attention to city planning. Illustrated lectures.
3340 Cities of the Greek and Roman World (3) Archaeological survey of Greek and Roman cities from 3000 B.C. to 500 A.D. with emphasis on development of city planning and quality of life. Such cities as Mycenae, Athens, Priene, Alexandria, Rome, and Lepcis Magna will be studied.
3350 Shrines and Sanctuaries of the Greek and Roman World (3) Survey of major shrines and sanctuaries of Greek and Roman world with emphasis on archaeological remains. Such sites as Olympia, Epidaurus, Paestum, Cumae, Prasnae, and Baalbek will be considered. Readings in selected classical authors add to understanding of place of great shrines and sanctuaries in Greek and Roman life.
3510 Early Greek Literature in English Translation (3) Epic and lyric poetry, including Homer and Sappho, and Herodotus’ history of Persian Wars.
3520 Classical Greek Literature in English Translation (3) History, philosophy, and drama of Golden Age from its brilliant rise to its tragic decline in Peloponnesian War.
3530 Roman Literature in English Translation (3) Poetry and prose of major Latin authors, with attention to Greek background. Selections made from early comedy through literature of Augustus Age and of later Empire.
4010 Greek Drama in English Translation (3) Survey of dramatic masterpieces of Greek literature.
4101 Foreign Study (1-16) See page 185.
4210 Teaching of Latin (3) Carries no language credit. (Same as Educ. C 8 & I 0551.)
4220 Seminar in Classical Studies (3) Special problems in literature and other arts of Greece and Rome. For graduate students and advanced undergraduates. May be repeated for credit with consent of department.
4230 Classical Mythology and its Uses (3) Intensive review and survey of Greek and Roman mythology for graduate students and advanced undergraduates. Emphasis on uses of classical mythology in literature, music, and plastic arts, especially of modern times.
4510 Selected Readings in Latin Literature in Translation (3) Content varies; may be repeated for credit with consent of department.
4610 Studies in Classical Archaeology (3) Variable content course offering subject matter not taught in an existing course, or concentrating on one aspect of the existing survey. May be repeated for credit to a maximum of 9 hours. Prerequisites according to topic.
GRADUATE
5620 Problems in Old World Archaeology (3)

Comparative Literature

See Cultural Studies.

Computer Science (266)

Professors:
F. W. Donaldson, Ph.D. Texas (UT); T. Feagin (Head); Ph.D. Texas; R. T. Gregory, Ph.D. Illinois; G. R. Sherman, Ph.D. Purdue; M. G. Thomas, Ph.D. Duke.
Associate Professors:
Assistant Professors:
J. R. B. Cockett, Ph.D. Leeds; UK; R. W. Heller, Ph.D. Southern Methodist; D. L. Matuszek, Ph.D. Texas; M. R. O'Kennon, Ph.D. Clarkson; D. L. Perry, Ph.D. Ohio State; D. W. Straight, Ph.D. Texas.
Instructors:
J. W. Mayo, M.S. Tennessee; K. Y. Bowder, M.S. Tennessee.

Space Institute.

UNDERGRADUATE
Computer science offers an undergraduate major and minor as well as a Master of Science degree (for details, see Graduate Catalog). Information about computer science programs may be obtained from the departmental office, 8 Ayres Hall, or from the Liberal Arts Advising Center, 220 Ayres Hall.

Major: Computer Science 1610 and 1620 are prerequisites to a major in computer science which consists of 2215, 2610, 2710, 3155, 3525, 4520, 4550, and an additional 15 hours selected from advanced computer science courses at the intermediate and advanced courses. Also required are Math 2840-50-60 and Statistics 3450.
Minor: A minor in computer science consists of 2610, 2710, and an additional 18 hours of lower division computer science courses. Acceptance and Progression: Acceptance to the major or minor in computer science is competitive and is based on the resources available in the department. Factors considered in the decision are both subjective and objective. Included is consideration of overall grade point average, grades earned in computer science courses required in the lower division curriculum of the major or minor, the seriousness of purpose and interest in departmental programs as exemplified by regular and orderly progress through the prescribed curriculum without abuse of withdrawal and course repeat privileges. The standards applied may be adjusted from time to time to balance overall demand with available departmental resources.
A student enrolled in lower-division courses in the department may progress to the major or minor program only after completing the lower-division courses in the major program. Students who have completed the required lower-division computer science courses with a minimum GPA of 3.0 and wish to progress to the major or minor program must apply to the departmental office. This must be done as soon as the stated requirements are met so that a decision can be reached prior to the Advanced Registration date for the next quarter. Those who are not accepted into the C.S. Degree program will be counseled and advised of educational alternatives.
For computer science majors who have taken at least three computer science courses at UTK, grades in all computer science courses from UTK will be averaged. If a course is repeated, all grades received for the course will be counted. If a course in which a student has received an A or B is later retained, only the first A or B is counted; no subsequent grades will be counted.
If a student’s computer science average as described above falls below 2.5, the student will be given a warning. If after one more quarter’s grades have been received the student’s computer science average has not risen to 2.5, the student will not be allowed to graduate with a major in computer science. A student who desires to be readmitted to the major after being withdrawn as described above must attain an average in computer science courses (computed as described above) of at least 2.7.
The policy applies to all computer science courses taken during or after Winter Quarter, 1982. This policy will be enforced by the Department of Computer Science. This policy will not change the present method of recording grades and grade point averages on the student's permanent academic record maintained in the records office.

Introductory and Service Courses

1410 Introduction to Business Oriented Programming (3) Current and potential uses of computers as tools in the business environment with emphasis on learning FORTRAN programming. Not for com-
puter science majors. Students may not receive credit for both 1410 and 1510. Intended primarily for students in College of Business Administration.

1510 Introduction to Programming—FORTRAN (4) Computer and computer systems; capabilities of a computer; applications in artificial intelligence, humanities, social sciences, sciences and engineering; computing in foreign languages. Prereq: 1610. Problem solving and algorithm development, including brief introduction to data structures. Emphasis on developing good programming style. Prereq: 1510.

2215 Discrete Structures (3) Introduction to discrete structures useful in computer science. Sets, set logic. Relations, functions. Proof techniques, induction, logic. Graphical representations and algorithms. Prereq: 1620 and Math 1580. (Same as Math 2215.)

2610 Programming Techniques in FORTRAN (3) Problem formulation and solution. External devices and direct access input and output. Students who have not been exposed to high-level language. Prereq: 1510 or 1610 or 3150 or consent of instructor.

2710 Machine Organization (3) Elementary computer structure; instruction set; assembly language programming, representation of data, microprogramming. Prereq: one course in computer programming.

3010 Computers and Society (3) History of computing and impact of computers on modern world; applications in artificial intelligence, humanities, social sciences, sciences and engineering; computing in foreign languages. Prereq: 1510 or equivalent and Computer Science 4310 or consent of instructor.

3150 Introduction to Numerical Algorithms and Programming (4) Roots of equations, systems of linear equations, least-squares data fitting, numerical integration, numerical methods for ordinary differential equations. Introduction to programming in FORTRAN. 3150 and 3155 may not both be taken for credit; students with a knowledge of FORTRAN should take 3155. Prereq or coreq: Math 2860. (Same as Math 3155.)

3155 Introduction to Numerical Algorithms (3) Root-finding algorithms for non-linear equations; data manipulation, output, flowcharting, and error control. Prereq: 3410 and Accounting 3210. 3 hrs including laboratory. (Same as Elec. Engr. 3180.)

3410 Computer Programming—COBOL (3) Computer programming in business-oriented language COBOL. Prereq: one course in computer science programming.

3910 Introduction to Artificial Intelligence (3) Intelligent processes and their performance by a computer. Computer representation of knowledge, problem solving and search, game playing, automated deduction, machine vision and learning. Computer implementation of AI problems. Prereq: 4510. (Same as Electrical Engineering 4310.)

4050 Number Systems for Digital Computers (3) Floating-point number representation, mixed-radix representation, multiple-modulus residue representation, integer and fractional numbers, number representation, errors in floating-point computation, finite fields, and exact computation using digital computers. Prereq: 3155.

4210 Introduction to Artificial Intelligence (3) Intelligence processes and their performance by a computer. Computer representation of knowledge, problem solving and search, game playing, automated deduction, machine vision and learning. Computer implementation of AI problems. Prereq: 4510. (Same as Electrical Engineering 4310.)

4225 Numerical Solution to Equations and Numerical Approximations (3) (Same as Math 4235.)

4235 Numerical Methods for Ordinary Differential Equations (3) (Same as Math 4225.)

4245 Numerical Linear Algebra (3) (Same as Math 4245.)

4470 Programming Languages (4) Comparison and detailed discussion and programming experience in LISP and other functional languages. Implementation, programs and learning. Computer implementation of AI problems. Prereq: 4510. (Same as Electrical Engineering 4310.)

4510 Data Structures and Non-numerical Programming (3) Data structures and algorithms for their manipulation. Array and relational tables; stacks, queues, rings, doubly-linked lists, trees, dynamic storage allocation; organization of files; programming languages for information structures. Prereq: 1620 and 2610.


4570 Introduction to Database Management Systems (3) Hierarchical, network, and relational models of data. Logical and physical views of data. Data definition and data manipulation languages. Data independence, implementation and operational considerations such as performance, integrity, security, and availability. Prereq: 4510 or equivalent.

4610 Operating Systems—Concepts and Facilities (3) Detailed examination of a major operating system. Memory, processor, device, and data management. Interrupts, machine-level I/O, loaders and relocation device characteristics, data set organizations, SPOOLING.

4800 Principles of Compiler Design (3) Techniques of compiler design, scanning and parsing of languages described by regular and context-free grammars. Prereq: 4510.


4750 Interactive Computer Graphics (3) Point plotting, vector generation, interactive graphical techniques, two- and three-dimensional transformation, perspective, hidden line elimination, shading, software and hardware system design. Discussion of use of these techniques in design, problem solving, mapping, architecture, and many other areas. Prereq: Senior standing in computer science, electrical engineering, or geography and a knowledge of computer programming, or consent of instructor. (Same as Elec. Engr. 4750 and Geography 4750.)

4780 Introduction to Pattern Recognition (3) (Same as Elec. Engr. 4820.)

4830 Digital Image Processing (3) (Same as Elec. Engr. 4830.)

4850 Small Computer Systems (3) (Same as Elec. Engr. 4850.)

4910 Analysis and Management of Computer Installations (3) Analysis and design of computer systems; implementation, justification, personnel in systems; perspective on systems. Prereq: 3520 or equivalent.

4980 Special Topics in Computer Science (1-4) Maximum credit 9 hrs. with consent of department. Prereq: recommendation of Comp. Sci. staff.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5010 Computer Assisted Instruction (3)

5050 Computer Modeling and Simulation of Physical Systems (3)

5100 Immigration to Computer Science (5)

5105 Immigration to Computer Science Practicum (2)

5175 Introduction to Logic Design (3)

5210 Artificial Intelligence (3)

5250 Medical Computing (3)

5430 Advanced Compiler Design (3)

5455 Finite Difference Methods for Partial Differential Equations (3)

5456 Finite Element Methods (3)

5475 Advanced Topics in Numerical Partial Differential Equations (3)

5570 Database Management Systems (3)

5565-66-75 Numerical Mathematics (3,3,3)
4103 combined can be applied to a minor. In
4102 and 4103 combined can be applied to a
program director. A maximum of 8 hours of
nature of which should be negotiated with the
must include some individualized work under
upper-division credit. Every student's program
curriculum. A minimum of 24 hours must be in
prerequisites to the concentration which
learning. Black Studies 2010-20 are
academic approach as well as experiential
studies. Medieval studies, urban studies, and women's
literature, Latin American studies, linguistics,
Asian studies, Black studies, comparative
and urban studies. Minors are provided in
studies, Russian and East European studies,
Black studies, comparative literature, Latin
Mediterranean Civilizations, Asian studies,
concentrations in American studies, Ancient
history. Historical and contemporary socio-eco-political
institutions.

Cultural Studies
Director: Dr. Charles O. Jackson
Basic Faculty:
B. K. Dumas, Ph.D. English; Donald M. Fiere, Ph.D. 
Russian; C. Fleming, Ph.D. Special Programs; E. J. 
Gangloff, Ph.D. Special Programs; R. W. Gymne, 
Ph.D. Special Programs; T. J. A. Heffeman, Ph.D. 
English; Ferdinand A. Hilieri, Ph.D. Special 
Programs; J. O. Hodges, Ph.D. Special Programs; W. 
L. Humphreys, Ph.D. Religious Studies; C. O. 
Jackson, Ph.D. History; I. Lei, Ph.D. Special 
Programs; D. M. Morrow, M.A. Special Programs; M. 
L. Osborne, Ph.D. Philosophy; M. E. Piek, M.A. 
Special Programs; H. C. Rutledge, Ph.D. Classics; S. 
E. Wallace, Ph.D. Sociology.

The ideal curriculum encourages not only proficiency in a given field of knowledge but
also the comprehension of similarity and complementarity between areas of intellectual
endeavor. One answer to the need for fusion and integration of knowledge is the
interdisciplinary program. The college has joined the resources of several departments
to offer a cultural studies major with concentrations in American studies, Ancient
Medieval Civilizations, Asian studies, Black studies, comparative literature, Latin
American studies, linguistics, Medieval studies, Russian and East European studies,
and urban studies. Minors are provided in Asian studies, Black studies, comparative
literature, Latin American studies, linguistics, Medieval studies, urban studies, and women's
studies.

Afro-American Studies (022)
The concentration and minor in Afro-
American studies offers in-class, independent,
and off-campus study to foster knowledge of the
Black experience through a traditional
academic approach as well as experiential
learning. Black Studies 2010-20 are
prerequisites to the concentration which
consists of 36 hours from the Black studies
curriculum. A minimum of 24 hours must be in
upper-division credit. Every student's program
must include some individualized work under
Black Studies 4102, 4103, and 4310, the
nature of which should be negotiated with the
program director. A maximum of 8 hours of
4102 and 4103 combined can be applied to a
major and a maximum of 4 hours in 4102 and
4103 combined can be applied to a minor. In
addition, courses from at least two other
departments must be selected.

For further information consult the
chairperson of the Afro-American Studies
Committee, Mr. Marvin Poek.

Afro-American Studies (022)
1510-20 Elementary Swahili (4,4) Taped language
program. Must be taken in sequence.
2010-20 Introduction to Afro-American Studies
(4,4)
3140-50-60 Directed Readings in Afro-American
Studies (1,1,1) Designed for students who are in-
terested in doing intensive reading in some area of
Black studies which is defined by the student and the
instructor. Prereq: 2010 (or 2020) and consent of
instructor.
3330 Prejudice and Racism in the United States (4)
(Same as Sociology 3330.)
3340 Sociology of Poverty and Inequality (4) (Same
as Sociology 3340.)
3490 African Religions (4) (Same as Religious Stu-
dies and Anthropology 3490.)
3550 Religion and Racism in America (4) (Same as
Religious Studies 3550.)
3560 Black Religion in America (4) (Same as Reli-
gious Studies 3560.)
3630 History and Philosophy of Afro-American
Education (4) From Slavery to 1964.
3640 Contemporary Issues in Afro-American Edu-
cation (4) Issues in Afro-American Education from
1954 to the present.
4101 Foreign Study (1-16) See page 185.
4102 Off-Campus Study (1-16) See page 185.
4103 Independent Study (1-16) See page 185.
4200 Senior Seminar on Pan-Africanism (4) Ex-
plores concepts and philosophers of Pan-Africanism
and implication of the ideology for various societal
institutions.
4310 Research in Afro-American Studies (4) Deals
with Black experience and research process.
4500 Current Issues and Topics in Afro-American
Studies (3-4) Problems, topics, and issues in area of
Black Studies. Consent and credit determined by in-
structor. May be repeated. Maximum credit 12 hours.
4810 Afro-American Families (3) (Same as Child
and Family Studies 4810.)
4830 Afro-American Women in American Society
(4) Historical and contemporary socio-economic-political
factors in American society as they relate to the Black
woman. History 1950-60 recommended. Prereq: Con-
sent of instructor.
4880 Afro-American Psychology (3) (Same as Psy-
chology 4880.)

Approved Area Courses
Anthropology 3530 Peoples and Cultures of Africa
(3)
Anthropology 3930 Biology of the Races of Man (3)
Art 2725 Black Art (4)
CFS 4310 The Afro-American Family (3)

English 2540 The Literature of Black America (4)
English 4510-20-30 Black Literature (3,3,3)
Geography 3830 Geography of Africa (3)
History 1950-60 Afro-American History: An Intro-
duction (4,4)
History 2950 Introduction to Afro-American Histor-
ry (3)
History 4950-60 The Negro in American History
(3,3)
Music 3350 Introduction to Afro-American Music
(4)
Music 4270 Evolution of Jazz (3)
Political Science 3615-16 Black Africa: The Politics of
Change and Stability (4,4)
Political Science 3555 Minority Group Politics in
the U.S. (4)
Psychology 4880 Afro-American Psychology (4)
Religious Studies 3550 Religion and Racism in
America (4)
Religious Studies 3560 Black Religion in America
(4)
Sociology 3330 Race, Class, and Power (4)
Sociology 3340 Sociology of Poverty and Inequal-
ity (4)
Sociology 4820 American Minority Ethnic Groups
(4)

Recommendations for the concentration and
and the minor:
(a) Those with a concentration in Afro-
American Studies are encouraged to take
a second major, with which an
individually designed program in Afro-
American Studies can be correlated.
(b) Students should seek academic advising
from the Chairperson of Afro-American
Studies program for courses for the
concentration or the minor which relate
to career plans, preparation for graduate
study, and relationship to the second
major.
(c) Those with a concentration and a minor
are strongly encouraged to combine
classroom and experiential learning
through a careful selection of courses,
e.g. Afro-American Families 4810 and/or
Afro-American Studies 4102.

American Studies (099)
History 2510-20 (or equivalent honors
courses) are prerequisite to a concentration in
American studies which consists of 36 quarter
courses: English 2010-20-30, American Studies
3010 and 4010, and 21 hours of upper-
division electives dealing with the American
experience. Nine hours of the elective group
must be from one of the following disciplines: anthropology, economics, political science, or
sociology. A list of acceptable elective
courses is published annually by the American
Studies Committee.

For further information consult the chairman
of the American Studies Committee, Dr.
Charles Jackson.
Asian Studies (145)

The Asian Studies concentration consists of 36 quarter hours: Asian Studies 2510-20 plus 28 additional credits from Asian Studies or approved departmental courses. The latter should constitute a coherent program, including a minimum of one course (3 or 4 hours) from each of the following three areas:

(a) art, Asian culture, literature, and music; (b) economics, geography, history, and political science; (c) anthropology, philosophy, religious studies, and sociology. Students who prefer to use Asian Studies 2510-20 for Triad or elective credit may, with permission of the program chairperson, substitute 8 additional upper-division hours in acceptable courses for the required sequence in the concentration.

The Asian Studies minor consists of 24 quarter hours: Asian Studies 2510-20 plus 16 additional credits from Asian Studies or approved departmental courses. The latter should include a minimum of one course (3 or 4 hours) from each of the following areas:

(a) art, Asian culture, literature, and music; (b) economics, geography, history, and political science; (c) anthropology, philosophy, religious studies, and sociology. Students who prefer to use Asian Studies 2510-20 for Triad or elective credit may, with permission of the program chairperson, substitute 8 additional upper-division hours in acceptable courses for that required sequence in the minor.

It is strongly recommended that students planning to attend graduate school take an appropriate Asian language through the intermediate level. Further information may be obtained from the chairperson of the Asian Studies Committee, Dr. Walter Neale.

1431-32 Spoken Arabic I, II (4,4) Must be taken in sequence. (Placement will vary depending on instructor. Class meetings and two laboratory periods. May be repeated once on credit.

2431-32-33 Elementary Modern Standard Arabic I, II, III (4,4,4) Must be taken in sequence. Three class meetings and two laboratory periods.

2510-20 Asian Civilization (4,4) Introduction to Asian civilization by comparative study of development of religion, social institutions, and high culture in India, China, Japan, and the Islamic world. 2510—Rise of classical civilizations. 2520—Tradition cultures and their modern developments.

2531-32-33 Elementary Chinese (4,4,4) Taped language program. Must be taken in sequence.

2631-32-33 Elementary Japanese (4,4,4) Must be taken in sequence.

2731-32-33 Elementary Persian (4,4,4) Taped language program. Must be taken in sequence.

2831-32-33 Elementary Modern Hebrew (4,4,4) Taped language program. Must be taken in sequence.

3310 Indian Culture (4)

3320 Chinese Culture (4)

3330 Japanese Culture (4)

3340 Islamic Culture (4)

3431-32-33 Intermediate Modern Standard Arabic I, II, III (4,4,4)

3531-32-33 Intermediate Chinese (4,4,4) Taped language program. Prereq: 2531-32-33 or equivalent or consent of instructor. Must be taken in sequence.

3610 The Literatures of India in English Translation (4) A survey of some of the major genres and masterpieces of Indian literature—epic poetry, drama, court poetry, modern novel. Major concentration is on the ancient and classical periods of Indian literary history.

3631-32-33 Intermediate Japanese (4,4,4) Prereq: 2531-32-33 or equivalent or consent of instructor. Must be taken in sequence.


3670 Islamic Literature in English Translation (4) Survey, from origins to modern period of major Islamic literatures, especially Arabic, Persian, and Turkish. Readings include The Arabian Nights, The Rubaiyat of Omar Khayyam, and Gibran’s The Prophet. Available for graduate credit.

3731-32-33 Intermediate Persian (4,4,4) Taped language program. Prereq: 2731-32-33 or equivalent or consent of instructor. Must be taken in sequence.

3831-32-33 Intermediate Modern Hebrew (4,4,4) Taped language program. Prereq: 2831-32-33 or equivalent or consent of instructor. Must be taken in sequence.

4010-30-30 Readings in Asian Literature (4,4,4) Prereq: Mastery of intermediate level of Japanese, Chinese, Arabic, or Sanskrit and consent of instructor.

4012 Selected Topics in Asian Studies (4) Content varies. May be repeated. Maximum credit 12 hours.

4531-32-33-34 Advanced Chinese I, II, III, IV (4,4,4,4) Taped language program. Prereq: 2531-32-33 or equivalent or consent of instructor. Must be taken in sequence.

4631-32-33 Advanced Japanese (4,4,4) Class will include conversation, drill, and composition practice with native speaker. Must be taken in sequence. Prereq: Asian Studies 3531-32-33 or equivalent.

4740-60 Elementary Sanskrit (4,4,4) (Same as Religious Studies 4740-60-60.)

4770-90 Intermediate Sanskrit (4,4,4) (Same as Religious Studies 4770-90-90.)

Asian Language and Literature

ARABIC (127)

1431-32 Spoken Arabic I, II (4,4)

2431-32-33 Elementary Modern Standard Arabic (4,4,4)

2531-32-33 Intermediate Modern Standard Arabic (4,4,4)

3610 Islamic Literature in English Translation (4)

4101 Foreign Study (1-16)

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

CHINESE (249)

Asian Studies 2531-32-33 Elementary Chinese I, II, III (4,4,4) Taped language program. Must be taken in sequence.

Asian Studies 3531-32-33 Intermediate Chinese I, II, III (4,4,4) Taped language program. Prereq: 2531-32-33 or equivalent or consent of instructor. Must be taken in sequence.

Asian Studies 4531-32-33-34 Advanced Chinese I, II, III, IV (4,4,4,4) Taped language program. Prereq: 3531-32-33 or equivalent or consent of instructor. Must be taken in sequence.

HEBREW (458)

Asian Studies 2831-32-33 Elementary Modern Hebrew I, II, III (4,4,4) Taped language program. Must be taken in sequence.

Asian Studies 3531-32-33 Intermediate Modern Hebrew I, II, III (4,4,4) Taped language program. Prereq: 2831-32-33 or equivalent or consent of instructor. Must be taken in sequence.

JAPANESE (589)

Asian Studies 2631-32-33 Elementary Japanese I, II, III (4,4,4) Must be taken in sequence.

Asian Studies 3531-32-33 Intermediate Japanese I, II, III (4,4,4) Prereq: 2631-32-33 or equivalent or consent of instructor. Must be taken in sequence.

Asian Studies 4531-32-33 Advanced Japanese I, II, III (4,4,4) Class will include conversation, drill, and composition practice with native speaker. Must be taken in sequence. Prereq: Asian Studies 3531-32-33 or equivalent.

PERSIAN (744)

Asian Studies 2731-32-33 Elementary Persian I, II, III (4,4,4) Taped language program. Must be taken in sequence.

Asian Studies 3531-32-33 Intermediate Persian I, II, III (4,4,4) Taped language program. Prereq: 2731-32-33 or equivalent or consent of instructor. Must be taken in sequence.

SANSKRIT (895)

4740-50-60 Elementary Sanskrit (4,4,4) (Same as Religious Studies 4940-50-60.)

4770-80-90 Intermediate Sanskrit (4,4,4) (Same as Religious Studies 4770-80-90.)

Approved Area Courses

(a) Art, Asian Culture, Literature, and Music

Art 3775 Art of Indian Asia (4)

Art 3776 Chinese Art (4)

Art 3777 Japanese Art (4)

Asian Studies 3310 Indian Culture (4)

Asian Studies 3320 Chinese Culture (4)

Asian Studies 3330 Japanese Culture (4)

Asian Studies 3340 Islamic Culture (4)

Asian Studies 3610 The Literature of India in English Translation (4)

Asian Studies 3850-50 Japanese Literature in English Translation (4)

Asian Studies 3870 Islamic Literature in English Translation (4)