bodies using force, mass, acceleration; work-energy, impulse-momentum. Not for departmental graduate credit. Prereq: 2720 or 2730, Math 2800.

3710 Intermediate Dynamics (3) Three-dimensional dynamics of particles and rigid bodies; dynamics of bodies with varying mass; central force motion; Lagrangian's equations. Prereq: 2720 or 3700, Math 2800.

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 3311, 3700, and 3110.

4020 Computer-Aided Design (3) Use of computer graphics and analysis programs for design of structural systems, structures, and components. Evaluation of design alternatives. Prereq: 4810 or consent of instructor.

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

4430 Orthopedic Biomechanics (3) Introduction to engineering principles and applications in orthopedics and rehabilitation. Topics include statics, Newton's laws of motion, stresses in simple sections, engineering materials, and biological materials. Prereq: Consent of instructor. For non-engineering majors.

4500 Applied Mechanics for Life Scientists (4) Concise and broad coverage of basic principles and concepts of mechanics. Fundamental concepts, statics, vibratory, continuum mechanics, and properties of materials. Applications in engineering and medicine. Prereq: Math 1860 or consent of instructor. Primarily for non-engineering majors.

4520 Biomedical Fluid Mechanics (3) Discuss objectives, review foundations, and present developments in biomedical fluid mechanics. Properties of human blood and blood vessels, determinants of cardiac performance, analysis and measurement of flow and pressure in arteries, non-traumatic study of circulatory system, mechanics of microcirculation. Applications to areas of hemodynamics, thrombosis, and fluid dynamics of heart assist devices. Prereq: 4500 or a course in fluid mechanics or consent of instructor.

4530 Biomechanics (3) Discusses objectives, review foundations, and present developments in areas of mechanical properties of living tissues, biomechanics of injury and prosthesis, 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 processes, 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. Prereq: 3311 and Met. Engr. 2110. (Same as Met. Engr. 4540.)

4550 Design of Artificial Internal Organs (3) Study of the design, development and evaluation of artificial internal organs including Federal regulation and ethical considerations. Review of currently available devices and new developments. Prereq: 3110, 3410, Math 2800.

4580 Principles of Non-Destructive Testing (3) (Same as Physics 4580.)

4610 Experimental Stress Analysis (3) Basic concepts: theory, techniques, and instrumentation of strain gage systems; theory and techniques of brittle coating methods; introduction to other stress analysis methods. Prereq: 3311, Elec. Engr. 2020 or M11912. 3 hrs. and a 3-hr. lab.

4620 Dynamic Data Acquisition (4) Instrumentation of measuring systems for dynamic events and responses: signal conditioning; oscillographs, oscilloscopes, makes and methods of data collection and magnetic tape recording; telemetry and data transfer; data processing. Prereq: 3311, 4710, Elec. Engr. 3129. 3 hrs. and a 3-hr. lab.

4630 Introductory Photomechanics (3) Introduction to photoelasticity, photomechanical coating method, Moiré method, interferometry, and holography. Prereq: 3311, Physics 2320. 2 hrs. and a 3-hr. lab.

4710 Fundamentals of Vibrations (3) Free and forced vibrations of damped and undamped lumped parameter systems; energy methods. Prereq: 2720 or 3700, Math 2660.


4810-20 Engineering Analysis (4,3) Integration of fundamental physical laws and mathematical methods of analysis with emphasis on application to realistic engineering problems. Prereq: 3110, 3311, and Computer Science 3150.

4860 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)

5160 Finite Element Structural Analysis (3)

5180 Theory of Linear Viscoelasticity (3)

5550 Fracture Mechanics (3)

5630-40 Photoelasticity (3,3)

5710-20 Advanced Dynamics (3,3)

5730 Advanced Vibrations (3)

5740 Vibrations of Continuous Media (3)

5750 Orbital Mechanics (3)

5860 Introduction to Continuum Mechanics (3)

5860 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 (3,3)

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 223.

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, mathematics, and physics. 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 131. Descriptions of the physics courses are found on page 224.

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. M. LaForge (Emeritus), M.S. Georgia Institute of Technology, P.E., H. L. Lovelace, M.D. North Carolina State, P.E.; W. G. Sullivan, Ph.D. Georgia Institute of Technology, P.E.

Associate Professors: E. K. Boyce, M.S. Tennessee, W. Claycombe, Ph.D. Virginia Polytechnic; E. L. DePorter, Ph.D. VPI & SU; D. H. Hutchinson, Ph.D. Georgia Institute of Technology; W. A. Lyday, M.S. Tennessee.

Assistant Professors: M. K. Goodman, M.S. Tennessee, P.E.; J. C. Hungerford, M.S. Ohio State; K. E. Kirby, Ph.D. Tennessee.

Kingport UNDERGRADUATE

The undergraduate curriculum in industrial engineering provides a strong background in both fundamental engineering principles and the analytical 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 wherever 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 meet particular needs.

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

The introductory 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, 5720, 5730) included. The total is 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.

2320 Modeling of Industrial Processes (3) Introduc- tion to the mathematical modeling technique used in the development of models of industrial processes, elementary simulation techniques, and concept of optimization. Prereq: Basic Engr. 1419.

3330 Computer Applications and Analysis Methods (4) Use of digital computer in problems solving involving matrix operations, deterministic and stochastic simulations, large scale data base manipulation, and general optimization techniques. Prereq: 2320 and Math 1860.

410 Textile Industry Systems (3) History, basic operations, products, and economics of the industry; the application of industrial engineering techniques. Prereq: Junior standing and consent of instructor.


4350 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 queuing theory. Prereq: 3430 and Computer Science 3150.

4352 Introduction to Operations Research II (3) Introduction to mathematical programming includes classical optimization theory, linear programming (with emphasis on the simplex method, the transportation problem, and the assignment problem), and dynamic programming. Prereq: Computer Science 3150 or consent of instructor.

5350 Introduction to Operations Research III (3) Introduction to random processes and use of probabilistic methods to industrial analysis. Prereq: 3430 and 3510.

5360 Motion and Time Study (3) Design of work methods, including analysis, improvement, timing of work, and determining standards. Laboratory work included. For non-industrial engineering students. Prereq: junior standing.

6310 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 in design of industrial communication-control systems. Prereq: Junior standing in College of Engineering or consent of instructor.

6320 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.

6360 Work Measurement (3) Use of work measurement tools such as time study, predetermined time standards, historical data analysis. Construction of time formulas, development of standard 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: 3510-20.

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 Engineer- ing (3) Application of technological forecasting techniques to industrial problems, including moving averages and exponential smoothing, linear and polynomial regression models, autocorrelated time-series models, 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" methods of developing resource allocation, time-cost trade-off algorithms, multi-project control, and computer programs. Prereq: 3430.


4200 Production Facilities Design (4) Design of production facilities including material handling, plant layout, service areas, inventory control and the operating procedures design. Prereq: 3650, 3510- 20, 4600, 4520.

4230 Scheduling Systems (3) Performance measures for job shop scheduling. Discussion of both static and dynamic conditions, as well as techniques for generating production schedules. Deterministic and stochastic systems. Prereq: 3520.

4250 Work Measurement Applications (3) Application of learning curves, queuing theory, statistical methods, and incentive systems to the design of industrial work situations. Prereq: 3630.

4310 Seminar (1) Discussions, lectures, and trips to unify student's educational experience. Prereq: Senior standing in industrial engineering.

4520 Engineering Economy (3) Methods and problems in the selection and evaluation of equipment. Decisions among engineering alternatives involving capital recovery, economic life of equipment, and rate of return of investment.

4530 Case Studies in Engineering Economy (3) Extension of basic engineering economics principles to actual problems faced by competitive firms and regulated industries. Case studies taken from literature form a basis of classroom discussion. Out-of-class assignment involves working with local companies to evaluate make or buy options, leasing versus cash purchases, equipment replacement studies, energy source economics, etc. Prereq: 4520.

4540 Industrial Development (3) Factors other than mechanical or chemical which enter into successful establishment of manufacturing enterprise. Cost and location studies and market analysis determine the commercial feasibility of new plants or projects.

4590 Simulation (3) Generation of outcome of complex random process by computer. Models of complex systems using available simulation languages. Simulation as design tool in industrial systems. Prereq: 3430 and Computer Science 3150.

4600 Predetermined Time Systems (3) Work design and production planning of work plans in non-industrial systems such as Methods Time Measurement, Basic Motion Time-Study, or Work Factor. Theory and application. Prereq: 3630.

4610 Human Factors in Work Design II (3) Human capabilities and limitations affecting work place layout, working environments, design of tools and equipment, and work practices and sequences in man-machine systems. Prereq: 3620, 3920, or consent of instructor.

4850 Health Systems Engineering (3) Hospital management systems and means by which they may be improved through application of modern industrial engineering principles and techniques. Prereq: 3620.

4840 Industrial Plant Problems Analysis (3) Industrial problems, application of industrial engineering, field assignment in local industry, problem definition, analysis, and presentation. Prereq: 3630, 3440, 3510, 3520, 4520, 4590.


4870 Mini-Computer Applications in Industrial En- gineering (3) Introduction to computer hardware and software, and computer interfacing with small computers as an element of larger system; applications and limitations of small computers in solving industrial engineering problems. Prereq: Senior standing.

4910-20-30 Special Industrial Engineering Topics (3,3,3) May be repeated for credit. Prereq: Consent of instructor.

4950 Industrial Safety (3) Development of organization and programs for prevention and control of accidents with emphasis on OSHA Rules and Regulations. 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)

5280 Information Systems Design (3)

5280 Production and Inventory Systems (3)

5350 Applied Decision Theory (3)
BACHELOR OF SCIENCE PROGRAM

Separate, complete curricula are offered in aerospace engineering 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 of physics, mathematics, chemistry, and engineering common to these fields. The third year of both programs consists of the development of the particular engineering sciences of the aerospace and mechanical engineering fields. In the senior year an opportunity is provided for the student to apply this fundamental knowledge to mechanical aerospace engineering problems. 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, design, testing, and production of aerospace vehicles-aircraft, spacecraft, missiles; auxiliary systems-heating, cooling, guidance, control; and propulsion systems-piston engines, turbo-jets, ramjets, and rockets.

Mechanical engineering has its foundations in the basic sciences and requires an understanding of such areas of applied science as physics, 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 adviser, 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 Mech. Engr. 4470-50-60.

Environment. A study of the systems which control the environment within enclosed spaces. The program includes the design and analysis of air conditioning, refrigeration, and heat pump devices encompassing heating, cooling, ventilation, humidifying, and noise control. The central courses are Mech. Engr. 4710-20-30.

Manufacturing. A study of manufacturing methods and production processes common to mass production industries. The program includes the selection of processes, design of tools and fixtures, numerical control and analysis and design of the total manufacturing process. The central courses are Mech. Engr. 4621-22-23-24 with related courses in metallurgy.

Machine Design. The study and application of the principles of mechanics, materials, and manufacturing processes to the design and analysis of machine elements, machines, and structures. The central courses are Mech. Engr. 4680 and 4890.

Propulsion. The study of propulsion devices for ground vehicles, aircraft, and spacecraft. The program covers the analysis and design of internal combustion engines, gas turbines, jet and rocket engines using conventional and non-conventional fuels. The central courses are Mech. Engr. 4810 and Aero. Engr. 4250-60.

Aerospace. The study of aircraft and spacecraft including the mechanics of flight and related systems and devices. The program includes the analysis and design of a variety of aerospace vehicles and systems. The central courses are Aero. Engr. 4240-50-60.

ADMISSION TO UPPER DIVISION PROGRAMS

Admission to Upper Division Programs is competitive and is based on departmental capacity. Factors considered include overall grade point average, performance in selected lower division courses, and evidence of satisfactory and orderly progress through the prescribed curriculum.

Admission: A Lower Division student in the department may apply for admission to Upper Division Programs after completing 81 quarter hours of Lower Division engineering curriculum coursework with an overall GPA of at least 2.4.

Provisional Admission: Students who have completed 81 quarter hours of Lower Division engineering curriculum coursework with an overall GPA between 2.0 and 2.4 may apply for provisional admission. The granting of PROVISIONAL ADMISSION status is based on the availability of space in departmental programs after ADMISSION status students have been accommodated. Provisional Admission students are required to demonstrate their abilities to perform satisfactorily in Upper Division courses by attaining a minimum GPA of 2.0 in at least 12 hours of 3000 level required engineering courses (including 9 specified hours in the department). Further admission to upper division courses is dependent upon this minimum level of performance.

Any student with an overall GPA below 2.0 will not be admitted to mechanical or aerospace engineering courses with the exception of ME and Aero Eng. 2040. Students who have not been admitted to an Upper Division Program will be dropped from departmental class rolls.

TRANSFER STUDENTS at the Upper Division level are admitted on a Provisional Admission basis only. Any student presenting more than 42 hours of Lower Division engineering curriculum coursework with a Transfer Credit is considered a Transfer Student.

LOSS OF ADMISSION STATUS

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.
5000 Energy—An Overview (4) Introduction to available energy resources, recovery and utilization, power generation, and loss and transmission. Includes conservation schemes. Emphasis on the resources-environment-man interaction associated with energy, primarily for non-engineering students.

340-350 Seminar (1) Presentation and discussion of topics in mechanical engineering. Prereq: Junior standing. S/NC.


331-30 Engineering Thermodynamics (2,3) Properties of gases and gas mixtures; 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 2850; coreq: 3311.


3350-30-40 Thermal Sciences (3,3,3) Fundamental principles of thermodynamics and transport phenomena as applied to engineering design. For non-departmental engineering majors. Coreq: 3311.


3660 Manufacturing Processes (3) Selection of processing methods related to the design of machine parts. Casting, hot and cold forming, metal removal, and weldments. Manufacturing tolerances and surface finish. 2 hrs. and 1-2 hrs. lab. Prereq: Met. Engr. 2110.


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

4140 Energy Conversion Systems (3) Operating and designing stationary and mobile systems for direct conversion of energy to useful forms including new technology development; selected direct conversion techniques. Prereq: 3330; 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 aspects. Participation in a term project including formal presentations and design report. Prereq: 4150 and Ind. Engr. 4520.

420 Turbo-Machinery (3) Basic principles of turbomachinery, 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 conversion 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 topics. Evaluations of technical talks. Prereq: Speech 2361 and 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.

4471-91 Mechanical Engineering Experimental (3,3) Experimental methods and measurements of force, length, time, temperature, pressure, transport rates, and physical properties. Planning, conducting, analyzing data, and writing of results of experiments according to test standards and other specifications. Prereq: 3321, 3410, 3440, and Mech. & Mech. 3520 for 4471; 4470 and 4472 for 4491.

4520 System Dynamics (4) Analytical models of physical systems, linearization, Laplace transforms, dynamic characteristics and stability of systems, numerical simulations, and analog computer solutions. Not for graduate departmental credit. Prereq: 3630 or Aerospace Engr. 3620, 3611 and Elec. Engr. 3110.

4521-30-40 Thermodynamics (3,3,3) Application of thermodynamic principles to the solution of current problems with emphasis on design innovation. Prereq: Consent of instructor.

4621 Manufacturing Processes (3) Comparison of machining methods; plastic production; metrology. Prereq: 3650 and 3660 or consent of instructor.

4622 Tool Design (3) Principles underlying tool and die design, design of high-volume production fixtures, molds, holding fixtures. Prereq: 3650-60 or consent of instructor.


4625 Manufacturing Process Engineering I (3) Product specification; dimensional analysis of size and form; true position tolerance theory; tolerance analysis, and workpiece control for production to tolerance. Prereq: 3660 or Ind. Engr. 4400.

4631 Energy Methods in Mechanical Design (3) Application of strain energy principles in complex beams and structures. Prereq: 3650, 3650, and Computer Science 3150 or consent of instructor.

4660 Materials and Manufacturing Process (3) Selection of materials in design process, emphasizing relationship between material properties, environment, temperature, manufacturing technology, and cost. Prereq: 3660.


4690 Machine Design (3) Innovative design of complete machine; documentation including specifications, design calculations, working drawings, and cost analysis. Written and oral report. Prereq: 4670-80, and Ind. Engr. 4520.

4710 Thermal Environmental Systems (3) Vapor compression and absorption cycles, heat pump systems; moist air properties; psychrometric processes. Prereq: 3330, 3440.


4740 Solar Energy Utilization (3) Nature and availability of solar radiation; review of selected solar energy collectors and methods of storage; selected applications. Prereq: 3221, 4420, or consent of instructor.

4810 Internal Combustion Engines (3) Thermophysical phenomena of combustion and propulsion engines. Combustion, detonation; equilibrium; dissociation. Analysis of internal combustion engines using ideal and real fluids. Prereq: 3330, 3440.

4910-20 Selected Topics In Mechanical Engineering (3,3) Problems related to developments and practice in mechanical engineering. Prereq: Consent of instructor.

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5110 Conduction Heat Transfer (3)

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)

5410-60-30 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)
4320 Seminar (1) Formal oral presentations by students on engineering topics. Evaluations of technical talks. Prereq: Speech 2361 and senior standing.


4510 Aircraft Performance (3) Introduction to airfoil and wing characteristics, drag; propellers; static performance and maneuvers; theory and design of control surfaces; stability. Prereq: 3511.

4910 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 Flows (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)

5440-50 Transonic Flow (3,3)

5510-20-30 Aerospace Mechanics (3,3,3)

5560 Vertical or Short Take-Off and Landing Aircraft (3)

5570 Aircraft Vehicle Flutter and Vibration (3)

5580-90 Aerelasticity (3,3)

5610 Applied Acoustics (3)

5620 Aeroacoustics I (3)

5610 Aviation Systems: An Overview (3)

5620 Air Vehicles (3)

5900 Special Engineering Problems (3-9)

5950 Seminars (1)

6180 Special Topics in Aerospace Engineering (1-3)

6000 Doctoral Research and Dissertation

6310-20-30 Magnetohydrodynamics (3,3,3)

6410-20 Physical Gasdynamics (3,3,3)

6510-20-30 Advanced Aerodynamics (3,3,3)

6610 Advanced Boundary Layer Theory (3)

6910 Advanced Topics in Gas Dynamics (3)

Nuclear Engineering (716)

Professors:

P. F. Pasqua (Head), Ph.D. Northwestern, P.E.; G. de Sauterlaire, Ph.D. Massachusetts; H. L. Dods, Ph.D. Tennessee, P.E.; 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. Mahaleo, Ph.D. Tennessee; I. E. Mott, Ph.D. Minnesota; R. B. Perez, Ph.D. University of Madrid; J. C. Robinson, Ph.D. Tennessee; P. N. Spier, Ph.D. Northern Illinois; P. J. Wagshul, Ph.D. Hebrew University.

Associate Professors: L. F. Miller, Ph.D. Texas A & M; O. L. Smith, Ph.D. Missouri.

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 reactors and radiation as cross-section, fission process, diffusion and slowing down, steady state reactor theory, criticality condition, reflected reactors. Prereq: Physics 3720; Math 4710.

3040 Environmental Effects of Nuclear Technology (3) Study of effects on environment since advent of military and peaceful uses of nuclear energy. Prereq: One year of biological or physical science.

3150 Dynamics and Controls (3) Systems differential equations, solution by classical methods, Laplace transforms 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, refrigeration, and heat pump systems. Prereq: Math 2860 and Basic Eng. 1330.

3730 Momentum Transport (4) Development of differential and integral momentum equations; elementary theory 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 Thermouclear Systems (3) Fusion reactions; properties of plasmas; plasma containment; plasma diagnostics; thermonuclear devices. Prereq: Physics 3730; Math 4560.

4210-20-30 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 adjoint flux. Prereq: 4110 (or registration thereon), or equivalent.

4340 Probabilistic Safety of Nuclear Power Systems (3) Techniques for evaluation of nuclear power system safety and risk from a probabilistic point of view. Concepts of fault trees, event trees and block diagram; Qualitative and quantitative techniques. Prereq: Senior standing in engineering.

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: 3730.

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: 4130.

4810 Radiation Shielding (3) Types of radiation 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. Prereq: 4120.

4930 Nuclear Fuel Management (3) Discussion of problems associated with processing of nuclear materials; 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)
College of Home Economics

Nancy H. Belick, Dean
Jay Stauss, Associate Dean, Graduate Studies
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 which describes and analyzes, but 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 may 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 college of home economics in the South was founded at the University of Tennessee in 1867. 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.

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 and nursery school 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 various 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 and also provides a cooperative plan of study which 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, with academic studies during the freshman year and subsequent winter and spring quarters. Graduates of the Coordinated Undergraduate Program in Dietetics will be eligible for membership in the American Dietetics Association (ADA) and
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 the global textile industry. 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 Department 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 the Department of Home Economics Education. Transfer and graduate students who desire to qualify for vocational 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 prepares 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 educational principles. Students interested in this program should contact their adviser and 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

Food Science, Nutrition, and Food Systems Administration (PSNFS A)

Option 1—Food Science
Option 2—Nutrition Science

Option 3—Community Nutrition
Option 4—Coordinated Undergraduate Program in Dietetics (ADA)

Interior Design and Housing (IDH)

Textiles and Clothing (T & C)

Option 1—Merchandising
Option 2—Textile Science
Option 3—Clothing 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 generally plan to complete the last 45 quarter hours of work (three quarters) at The University of Tennessee, Knoxville. 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. All new freshman 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.

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 19 credit hours per quarter (18 hours 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 outside their 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/N/C) 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 performance may be somewhat less 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 which 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 an integral 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 student group 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 curriculum, Nutrition 3310 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>Hours</th>
<th>Credit</th>
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</tbody>
</table>

**Home Economics 1510 Family Systems:**
- Family Development (First Year, Quarter 4)
- Family Economics (Freshman Year)

**Home Economics 1620 Family Systems:**
- Aesthetic Environment (Freshman Year)

**Home Economics 2510 Family Systems:**
- Physiological Well-being (Sophomore Year)

**Home Economics 3510 Family Systems:**
- Consumer Resources (Junior Year)

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### 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 interpersonal 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 Service, 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 social work, or preparation for graduate school.

**Freshman**
- Hours Credit
  - Home Economics 1510
  - Home Economics 1520
  - Natural science 1120
  - English 1010 or 1020
  - English 1031 or 1032
  - Mathematics 1240
- Philosophy 1510 or 2510 or 2520 or 2530 or upper-division foreign language
- Music 1210 or Art 1815 or 1825
- Electives

**Sophomore**
- Literature elective
- Nutrition 1230
- Physical education electives
- Speech 1221 or 2021 or 2351
- Physical or biological science elective
- Social sciences
- History of political science elective
- Electives

**Junior**
- Child & Family Studies 3125
- Child & Family Studies 3210-20
- Child & Family Studies 3330
- Child & Family Studies 3350-60
- Child & Family Studies 3420 or 4330
- Child & Family Studies 3510 or 3515
- Home Economics 2510
- Economics 2110
- Philosophy or religious studies elective
- Special Education 3333
- Physical Education 3560 or 3570
- Public Health 3210
- Electives

**Senior**
- Child and Family Studies 4110
- Child and Family Studies 4240 or 4260 or 4430 or 4480
- Child and Family Studies 4350
- Child and Family Studies 4610
- Child and Family Studies 4420
- Child and Family Studies 4620
- Child and Family Studies 4720 or IDH 4320
- Electives

**Total:** 192 hours

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### OPTION 2. HUMAN DEVELOPMENT AND FAMILY STUDIES

This option is for undergraduate CFS 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, general family counseling, social work, and graduate work would choose this undergraduate option.

**Freshman**
- Home Economics 1510
- Home Economics 1520
- Natural science
- English 1010 or 1020
- English 1031 or 1032 or 1033
- Mathematics 1240
- Philosophy 1510 or 2510 or 2520 or 2310 or upper-division foreign language
- Music 1210 or Art 1815 or 1825
- Electives

**Sophomore**
- Child & Family Studies 2120
- Literature elective
- Nutrition 1230
- Home Economics 2510
- Physical education elective
- Speech 1221 or 2021 or 2351
- Physical or biological science elective
- Social sciences
- History or political science elective
- Electives

**Junior**
- Child & Family Studies 2410 or Sociology 3150
- Child & Family Studies 3210
- Child & Family Studies 3220
- Child & Family Studies 3510
- Child & Family Studies 3530
- Child & Family Studies 3550
- Home Economics 3510
- Economics 2110
- History or political science elective
- Electives

**Senior**
- Child & Family Studies 3200 or 4350
- Child & Family Studies 4260
- Child & Family Studies 4410
- Child & Family Studies 4430
- Child & Family Studies 4810
- Child & Family Studies 4830
- Sociology elective
- Electives

**Total:** 192 hours

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### OPTION 3. NURSERY SCHOOL-GRAGE 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.

**Freshman**
- Home Economics 1510
- Home Economics 1520
- Natural science
- Child & Family Studies 2120
- English 1010 or 1020
- English 1031 or 1032 or 1033
- Speech 1221 or 2021
- Music 1210 or 1220 or Art 1815 or 1825
- Biological science

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Twelve hours from the following: Biology 1210-20-30, Chemistry 1510-20-30, Physics 1410-20-30, Zoology 2411-11-31, Zoology 2430-30-40

Requirement may be satisfied by Mathematics 3000 or Psychology 3150 to be taken in the junior year.

Requirement may be satisfied by Nutrition 3020 to be taken in junior year.

Selected from at least two of the following areas: Psychology 2500, 2520, 2540, Sociology 1510-20, Anthropology 2510, 2520, 2530.
## General Education Requirements

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 2110-20-30</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Philosophy or religious studies</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Social Science elective</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Culture and society elective</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Physical Science</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Physical Education 3450</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Health elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Child &amp; Family Studies 2310</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Home Economics 2510</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Philosophy or religious studies</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Mandatory Academic Elective</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>English 1033</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sociology 1510</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*TOTAL: 192 hours*

## Nutrition and Food Sciences

**OPTION 1: FOOD SCIENCE**
The food science curriculum is concerned with relating the cultural and scientific aspects of food science to people and their environment. Emphasis is placed on the application of the social sciences to world feeding problems, consumer reaction to food acceptability and marketing problems; application of the physical sciences is made in the study of food composition and properties and changes associated with processing, preparation, and storage. This curriculum prepares students for positions in food product development and evaluation in industry and government, work in communications media, or for direct entrance into a master’s degree program needed for college teaching and research. Information concerning modifications necessary to meet the academic requirements of the American Dietetic Association is available from the department.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1110</td>
<td>3</td>
</tr>
<tr>
<td>Math 2110</td>
<td>3</td>
</tr>
<tr>
<td>Physics 2110</td>
<td>3</td>
</tr>
<tr>
<td>Microbiology 2919</td>
<td>2</td>
</tr>
<tr>
<td>Microbiology 2910</td>
<td>3</td>
</tr>
<tr>
<td>Speech 2311</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 2920-30</td>
<td>8</td>
</tr>
</tbody>
</table>

**Electives**

*TOTAL: 188 hours*

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

Entering freshmen interested in Options 1, 2, 3, or 4 of the Food Science, Nutrition, and Food Systems Administration major will be enrolled as departmental majors and a departmental adviser will be assigned to assist with planning freshman courses. Students will not register in a particular option until their third quarter in residence. They will apply for admission to a specific option by April 1.

**Designation of an option for each applicant will be made by a faculty committee by May 15, and a student will be assigned to an adviser associated with the chosen option. A second choice of option will be required if Option 4 is the first choice. If a student is listed as an alternate for first choice of option, admission may be reconsidered at a later date.**

**Applications may be considered periodically as openings occur. Entering freshmen in Plan A or Plan B of the Tourism, Food and Lodging Administration major will be assigned an adviser for that major immediately upon entering the program.**

Transfer students must apply to the Director of Admissions and be admitted to The University of Tennessee, Knoxville, before initiating the application procedure for admission to Options 1 through 4, and the Tourism, Food and Lodging Administration Plan A or B.

## NUTRITION AND FOOD SCIENCES

### OPTION 1. FOOD SCIENCE

The food science curriculum is concerned with relating the cultural and scientific aspects of food science to people and their environment. Emphasis is placed on the application of the social sciences to world feeding problems, consumer reaction to food acceptability and marketing problems; application of the physical sciences is made in the study of food composition and properties and changes associated with processing, preparation, and storage. This curriculum prepares students for positions in food product development and evaluation in industry and government, work in communications media, or for direct entrance into a master’s degree program needed for college teaching and research. Information concerning modifications necessary to meet the academic requirements of the American Dietetic Association is available from the department.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Chemistry 1110-20-30 or 1510-20-30</td>
<td>12</td>
</tr>
<tr>
<td>English 1010 or 1020</td>
<td>6</td>
</tr>
<tr>
<td>English 1033</td>
<td>3</td>
</tr>
<tr>
<td>Food Science 1010</td>
<td>3</td>
</tr>
<tr>
<td>Home Economics 1510</td>
<td>4</td>
</tr>
<tr>
<td>Home Economics 1520</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 1540-50 or 1840-50</td>
<td>8</td>
</tr>
<tr>
<td>Psychology 2500</td>
<td>4</td>
</tr>
</tbody>
</table>

**Electives**

Application and selection by a faculty committee required to enter sophomore year.

### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>English 2110 or 2130</td>
<td>6</td>
</tr>
<tr>
<td>English 1033</td>
<td>3</td>
</tr>
<tr>
<td>Food Science 1010</td>
<td>3</td>
</tr>
<tr>
<td>Home Economics 1510</td>
<td>4</td>
</tr>
<tr>
<td>Home Economics 1520</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics 1540</td>
<td>4</td>
</tr>
<tr>
<td>Nutrition 3310-20-30-39</td>
<td>12</td>
</tr>
<tr>
<td>Physical education activity elective</td>
<td>2</td>
</tr>
<tr>
<td>Speech 2311</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 2920-30</td>
<td>8</td>
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<tr>
<td>Electives</td>
<td>23</td>
</tr>
</tbody>
</table>

*TOTAL: 188 hours*

### Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>English 2110</td>
<td>4</td>
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<tr>
<td>English 1033</td>
<td>3</td>
</tr>
<tr>
<td>Food Science 3020</td>
<td>3</td>
</tr>
<tr>
<td>Food Science 3510</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition 4030</td>
<td>3</td>
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<tr>
<td>Nutrition 4110</td>
<td>3</td>
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<tr>
<td>Nutrition 4230</td>
<td>3</td>
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<tr>
<td>Nutrition 4330</td>
<td>3</td>
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<tr>
<td>Nutrition 4430</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>23</td>
</tr>
</tbody>
</table>

*TOTAL: 188 hours*

### Senior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 2110</td>
<td>4</td>
</tr>
<tr>
<td>English 1033</td>
<td>3</td>
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<tr>
<td>Food Science 3020</td>
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<tr>
<td>Food Science 3510</td>
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<tr>
<td>Nutrition 4030</td>
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<tr>
<td>Nutrition 4430</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>23</td>
</tr>
</tbody>
</table>

*TOTAL: 188 hours*

## OPTION 3. COMMUNITY NUTRITION

This curriculum is designed for those students interested in community services or graduate work in public health nutrition.

### Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1110-20-30 or 1510-20-30</td>
<td>12</td>
</tr>
<tr>
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<td>English 1033</td>
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</table>

*TOTAL: 188 hours*

### Sophomore

<table>
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<tbody>
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<tr>
<td>Food Science 3020</td>
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</tr>
<tr>
<td>Food Science 3510</td>
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<td>Nutrition 4030</td>
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<tr>
<td>Nutrition 4110</td>
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<td>Nutrition 4230</td>
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<td>Electives</td>
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*TOTAL: 188 hours*

### Junior

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<tbody>
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<tr>
<td>Food Science 3020</td>
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<td>Food Science 3510</td>
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<td>Nutrition 4430</td>
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*TOTAL: 188 hours*

### Senior

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<td>English 1033</td>
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<tr>
<td>Food Science 3020</td>
<td>3</td>
</tr>
<tr>
<td>Food Science 3510</td>
<td>3</td>
</tr>
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<td>Nutrition 4110</td>
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<tr>
<td>Nutrition 4430</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>23</td>
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</tbody>
</table>

*TOTAL: 188 hours*
participation in voluntary professional activities.

Academics

Electives

CPS 4260 or 4210
3
CPS 4260 or 4810
3
Food Science 3020
3
Food Systems Administration 4130
3
Education and Human Development 4750
3
Nutrition 4010
3
Nutrition 4030
3
Nutrition 4031 or 4450
3
Nutrition 4200
3
Nutrition 4300
3
Electives
15

TOTAL: 188 hours

1. "or English 2550 or 2570 or 2580.

OPTION 4. 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 sufficient course equivalents of a five year dietetic internship into a four-year academic curriculum. The curriculum includes a two-year pre-professional sequence that meets general education requirements for dietetics, prerequisites for professional courses, and a professional phase in the junior year.

Admission and Progression Policies

A student may be admitted to the program provided all requirements or equivalents of the program up 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 at The University of Tennessee, Knoxville, or any accredited junior, senior or community college. The program has been planned to permit transfer students to apply prior to the beginning of the junior year. Coordinated professional courses must be taken at The University of Tennessee, Knoxville.

Applications should be made to the program director no later than April 1. Criteria for selection include (1) evidence that the student will successfully complete the two-year pre-professional phase, (2) an overall GPA of 2.2 or higher, (3) personal interview, and (4) recommendations from faculty of selected pre-professional courses. The number of qualified students accepted into the Coordinated Undergraduate Program in Dietetics is contingent on the number of clinical sites available. Criteria for admission must be maintained throughout the pre-professional phase. Exception to criteria may be made by petition to the program director. Criteria for progression in the professional phase junior and senior years will include (1) satisfactory completion of each required professional course as scheduled with a minimum grade of C, (2) periodic evaluation of competency by academic requirements and coordinated professional faculty, and (3) participation in voluntary professional activities. The maximum credit hours carried per quarter should not exceed 18 hours without special permission from the program director.

Exceptions to the above may be made by petition to the program director.

Upon satisfactory completion of the program, students receive the Bachelor of Science Degree in Home Economics and are eligible for membership in the American Dietetic Association and to apply for the registration examination to qualify as a Registered Dietitian (R.D.).

A student may select Food Science (Option 1), Nutrition Science (Option 2), or Community Nutrition (Option 3) to fulfill the academic requirements for a dietetic internship. Upon completion of the academic requirements and the dietetic internship, students would be eligible for membership in the American Dietetic Association and may 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
English 1030
3
Food Science 1010
3
Home Economics 1510-20
8
Mathematics 1510-20
4
Sociology 1510
4
Psychology 2500
4
Speech 2110 or 2120
4 or 3

Application and selection by a faculty committee required to enter sophomore year.

Sophomore

Hours Credit
Home Economics 2510
4
Nutrition 3000, 3330-40
8
English 2510 or 2520 or 2530 or 2540...
4
Food Science 2510
3
Microbiology 2910
3
Microbiology 2919
2
Zoology 2920-30
3
Economics 2110, 2130
6
Accounting 2110 or Computer Science 1410 or Plant and Soil Science 3610 or Statistics 2100
3
Electives
6-7

Application and selection by a faculty committee required to enter junior year.

Junior

Hours Credit
Food Science 3020-21, 3510, 4010...
10
Nutrition 3410-11, 3920, 4220-31
12
Food Systems Administration 3110, 3620, 4010
12
Home Economics 3510
4
Psychology 4460 or Economics 3420...
3
Electives
12

Senior

Hours Credit
Anthropology 4250
3
Food Systems Administration 4130...
9
Food Systems Administration 4410, 4420...
9
Food Systems Administration 4421...
6
Nutrition 4240-41, 4030-31
11
Nutrition 4440
4
Food Science 4000
3

TOTAL: 190 hours

Tourism, Food, and Lodging Administration Major Plan A

TOURISM, FOOD, AND LODGING ADMINISTRATION MAJOR PLAN A
AND PLAN B

This professional curriculum is concerned with meeting the middle and upper level management needs of the tourist, food, and lodging industry of today. It provides a program for both men and women who will assist students in gaining breadth 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 tourist, food, and lodging industries. The cooperative plan will take five years or 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 2100. In addition, 15 hours of upper division business electives must be taken at UTK.

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

Hours Credit
Freshman

Natural science electives...
9
Home Economics 1510-20...
6
Math 1540-50
8
Food Science 1010...
6
Food Systems Administration 2910...
6
Economics 2110
3
Nutrition 1230
3
Sophomore

Statistics 2100
3
English 2510...
4
English 2510 or 2520 or 2530 or...
6
Economics 2130...
3
Microbiology 2910-11
4
Accounting 2110...
6
Food Systems Administration 3220...
6
Sociology 1510...
4
Psychology 2500 or 2530...
4
Food Systems Administration 3110...
6
Speech 2111 or 2131...
4
Junior

Food Science 4000 or 4040 or...
2
Food Systems Administration 4130...
6
4150...
4
Home Interior & Design 3110...
6
Economics 3420...
3
Textiles & Clothing 3330...
3
Accounting 2110...
3
Computer Science 1410...
3
Electives...
14

Senior

Home Economics 3510...
4
Food Systems Administration 4260...
4
Business Law 3410...
4
Food Systems Administration 4410...
6
Food Systems Administration 4270...
3
Food Systems Administration 4310...
6
Food Systems Administration 4310...
6
Electives...
14

TOTAL: 190 hours

Plan B

Cooperative Curriculum in Tourism, Food, and Lodging Administration

Plan B

Hours Credit
Freshman

Natural science electives...
9
English 1010 or 1011; 1020 and ...
6
Math 1540...
4
Home Economics 1510-20...
6
Math 1540-50
8
Food Science 1010...
6
Food Systems Administration 2910...
6
Economics 2110
3
Nutrition 1230
3
Sophomore

Statistics 2100
3
English 2510...
4
English 2510 or 2520 or 2530 or...
6
Economics 2130...
3
Microbiology 2910-11
4
Accounting 2110...
6
Food Systems Administration 3220...
6
Sociology 1510...
4
Psychology 2500 or 2530...
4
Food Systems Administration 3110...
6
Speech 2111 or 2131...
4
Junior

Food Science 4000 or 4040 or...
2
Food Systems Administration 4130...
6
4150...
4
Home Interior & Design 3110...
6
Economics 3420...
3
Textiles & Clothing 3330...
3
Marketing 3110...
6
Accounting 2110...
3
Computer Science 1410...
3
Electives...
14

Senior

Home Economics 3510...
4
Food Systems Administration 4260...
4
Business Law 3410...
4
Food Systems Administration 4410...
6
Food Systems Administration 4270...
3
Food Systems Administration 4310...
6
Food Systems Administration 4310...
6
Electives...
14

TOTAL: 190 hours

The following required courses: Accounting 1210-20-30, Chemistry 1510-20-30, or Physics 1410-20-30.

Tourism, Food, or Lodging Administration Program for both men and women which will assist students in gaining breadth 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 tourist, food, and lodging industries. The cooperative plan will take five years or 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 2100. In addition, 15 hours of upper division business electives must be taken at UTK. 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.
than March 1 for admission to the summer and fall quarters. Selection will be made by April 1.

November 1 is the deadline for applications for the spring quarter; enrollment is closed for the winter quarter. An applicant who is not accepted may be reconsidered if an application is made for a future class.

Admission to junior level interior design studio requires (1) satisfactory completion of the sophomore level interior design series (2115-16) with a cumulative grade point average of at least 2.3, exceptions by petition only, (2) application to the Department of Textiles, Merchandising and Design no later than the eighth week of the quarter in which the student is enrolled in IDH 2116, and (3) a portfolio interview and evaluation of the applicant's portfolio 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. Academically delinquent 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 their 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 upperdivision interior design courses in order to graduate from the program.

**Professional Curricula in Interior Design**

**Freshman**

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<tr>
<th>Course</th>
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<td>Art 105-20</td>
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<td>189</td>
<td>260</td>
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**Professional Interior design curriculum includes electives to be selected from the following options lists available in the department. These electives may be chosen to provide the base for in-depth concentrations according to student interest and aptitude. Concentrations include: History/Preservation/Restoration; Art/Crafts; Human Environment Interaction; Business/Merchandising; Other. Other concentrations may be formulated with the approval of an advisor.**

**INTERIOR DESIGN AND HOUSING MAJOR**

This general curriculum is designed for students preparing for positions in business, education, and public service programs and provides background for advanced study in interior design and housing.

**Freshman**

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<td>Textiles &amp; Clothing 3430</td>
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<td>Child &amp; Family Studies 3510 or 3520</td>
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<tr>
<td><strong>TOTAL</strong>: 189 hours</td>
<td>158</td>
<td>204</td>
</tr>
</tbody>
</table>

*Select from anthropology, art history, sociology, psychology, history.

*Select from anthropology, political science, history.

**TEXTILES AND CLOTHING MAJOR**

**Option 1. Merchandising**

This curriculum is appropriate for students wishing to prepare for positions in merchandising of apparel and/or fabrics, fashion writing, and in public relations with pattern companies and manufacturers of textile products. Application for field work (Textiles and Clothing 4630-40) must be submitted to the Department Coordinator by December 15. of the year preceding field work.

**Freshman**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Chemistry 110-20-30, or 1101-20-30</td>
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<tr>
<td>English 1010 or 1011; 1023</td>
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<tr>
<td>Home Economics 1510</td>
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<td>6</td>
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<tr>
<td>Psychology 2500</td>
<td>4</td>
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<td>Home Economics 1520</td>
<td>4</td>
<td>6</td>
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<tr>
<td>Textiles &amp; Clothing 1160</td>
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</tr>
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<td>Textiles &amp; Clothing 1170</td>
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<td>Textiles &amp; Clothing 1180</td>
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<td>4</td>
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<tr>
<td>Sociology 1510</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting 2110</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Economics 2110-20-30, 2330</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Literature elective</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Home Economics 2510</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Anthropology 2250</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Textiles and Clothing 3420 or 3429</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Zoology 2920-30 or biology elective</td>
<td>8</td>
<td>12</td>
</tr>
</tbody>
</table>

*The professional interior design curriculum includes electives to be selected from the concentration electives list available in the department. These electives may be chosen to provide the base for in-depth concentrations according to student interest and aptitude. Concentrations include: History/Preservation/Restoration; Art/Crafts; Human Environment Interaction; Business/Merchandising; Other. Other concentrations may be formulated with the approval of an advisor.**
the achievement and maintenance of an overall grade point average of 2.5 or better. Flanagan
Chemistry 1510-20-30 or 1110-20-30... 12
English 1010 or 1011; 1020; 1033... 9
Math 1540-50-60... 12
Home Economics 1510... 4
Textiles & Clothing 1160... 3
Textiles & Clothing 2110... 3
Sociology 1510... 4
Home Economics 1550... 4
Textiles & Clothing 3420-29... 4

Senior
Home Economics 3510... 4
Textiles & Clothing 4120 or 4210 or 4280... 3

Electives... 10

TOTAL: 192 hours

Eight-hour sequence from foreign language or philosophy or history or art history or music.
Spring quarter only.
Twenty-hour of electives must be upper-division level.
Approved upper-division courses may be substituted.
Fall quarter only.
A minimum grade point average of 2.2 is required to enroll in these courses.

Option 2. Textile Science

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

Freshman Hours Credit
Chemistry 1110-20-30 or 1510-20-30... 12
English 1010 or 1011; 1020; 1033... 9
Home Economics 1510... 4
Psychology 2500... 4
Home Economics 1520... 4
Textiles & Clothing 1160... 3
Textiles & Clothing 1165... 3
Electives... 4

Sophomore
Chemistry 3211-19 or Nutrition 3310... 4
English 2510 or 2520 or 2520 or 2540... (choose two)... 8
Home Economics 2510... 4
Mathematics 1540-50-60 or 1840-50-60... 12
Sociology 1510... 4
Textiles & Clothing 3420, 3429... 4
Zoology 2920-30... 8
Electives... 6

Junior
Economics 2110, 2130... 6
Humanities electives... 8
Journalism 2210... 3
Physics 2210-20 or 1210-20... 8
Statistics 2100 or 2450... 3
Home Economics 3510... 4
Electives... 15

Senior
Child & Family Studies 4830... 3
Interior Design & Housing 2430, 3120... 6
Textiles & Clothing 2170, 3170, 4510, 4280 (choose three)... 9
Textiles & Clothing 4230... 4
Textiles & Clothing 4010, 4120, 4140, 4210... 12
Electives... 14

TOTAL: 191 hours

Eight-hour sequence from foreign language or philosophy or history or art history or music.
Twelve-hour of electives must be upper-division level.

Professional Curriculum in Home Economics Education

Option 1. Vocational Home Economics Education

The teacher education program in home economics, planned in cooperation with the College of Education, prepares prospective teachers for full-time or part-time service 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 certifying on one's area of interest. Requirements for admission to teacher education, to student teaching, and for recommendation for certification are listed on page 104.

All freshmen, 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.

Endorsements in 15 or more of the occupational areas are 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 or 1110-20-30... 12
English 1010 or 1011; 1020; 1033... 6

English 1031 or 1032 or 1033... 3
Food Science 1010... 3
Home Economics 4210... 4
Child & Family Studies 1120... 3
Mathematics elective... 3
Physical Education or health electives... 3
Speech elective... 3
Textiles & Clothing 1160... 3
Textiles & Clothing 1165... 4

Sophomore
Home Economics 1520... 4
Economics electives... 4
Electives... 4

Home Economics Education 2240... 3
Humanities electives... 3
Literature elective... 3
Psychology 2500... 4
Social service electives... 4
Zoology 2920-30... 8

Junior
Child & Family Studies 3210, 3510... 6
Educ. Curriculum & Instruction 3020-30*... 3
Special Education 3333... 3
Educational Psychology 3810... 4
Electives... 10

Food Science 3020... 3
Home Economics Education 3420... 4
Child & Family Studies 3420 or 4210 or 4250... 3
Nutrition 3050... 3
Interior Design & Housing 3110... 3
Textiles & Clothing 3420... 3

Senior
Electives... 9

Home Economics Education 4240... 4
Home Economics Education 4310, 4610... 15
Interior Design & Housing 4320... 3
Child & Family Studies 4320, 3515... 3
Child & Family Studies 4440... 4
Nutrition 4050... 4
Interior Design & Housing 4410... 4
Textiles & Clothing 3440... 3

TOTAL: 190 hours

*12-17 hours of electives can be used for additional endorsement in one or more of the following occupational areas: food services; child care and guidance; clothing management, production, and services. If occupational endorsement is not sought, 9 hours of electives are to be selected in additional home economics subject matter. See page 106 for humanities requirements.

*Choose courses in history, anthropology, geography, political science, sociology, or Child and Family Studies 2110.

*Requires admission to Teacher Education Program.

*Recommended course.
matter areas within the field, as well as educational principles and skills needed to effectively participate 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

Chemistry 1510-20-30

English 1010 or 1011, 1020, 6

English 1031 or 1032 or 1033

Food Science 1010

Home Economics 1510

Child & Family Studies 1120

Mathematics elective

Physical Education or health electives

Speech elective

Textiles & Clothing 1160

Textiles & Clothing 1165

*Electives and/or supporting courses

Sophomore

Home Economics 1520

Home Economics 2510

Economics electives

Home Economics Education 2240

Humanities electives

Literature elective

Psychology 2500

Social science elective

Zoology 2300/30

*Electives and/or supporting courses

Junior

Child & Family Studies 3515

Child & Family Studies 3210, 3510

Educational Psychology 3810 or Child & Family Studies 3520

Food Science 3020

Child & Family Studies 3420 or 4380

Nutrition 3020

Interior Design & Housing 3110

Rural Soc. 3420

Sociology 3420

Textiles & Clothing 3420

Vocational-Technical Education 2100

*Electives and/or supporting courses

Senior

Child & Family Studies 4210

Child & Family Studies or Sociology 3690

Child & Family Studies 4440

Child & Family Studies 4610

Home Economics 3510

Home Economics Education 4400

Home Economics Education 4500

Interior Design & Housing 4320

Nutrition 4050, 4060

Nutrition 4050, 4060

Textiles & Clothing 3420

Electives and/or supporting courses

TOTAL: 190 hours

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

Departments of Instruction

Child and Family Studies (245)

Professors:

Associate Professors:

Assistant Professors:

Lecturer:
A. E. Cox, M.S. Tennessee.

1120 Management and Its Contribution to Family Living (3) Decision-making process, home relations and decision making among persons involved in the family environment. Emphasis is given to the selection of courses and financial management practices. Emphasis is given to the decision-making process among persons involved in the family environment. Emphasis is given to the selection of courses and financial management practices.

1500 Introduction to Early Childhood Education (3) Introduction and overview of early childhood education; concepts of children, teachers, and teaching. Includes field observation.

2110 Human Developmental (3) Human development and child development in early childhood through adolescence. Emphasis is given to the selection of courses and financial management practices.

2120 Male-Female Relations (3) Examination of issues and development of communication skills and roles involved in relating to opposite sex.

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

2325 Day Care and Children (3) Examination of different types of day care and influence of day care on children. Prereq: 3210.

3200 Development in Infancy (3) Developmental changes through infancy. Prereq: 2110 or Zoology 2930 or equivalent.

3210 Development in Early Childhood (3) Comprehensive view of the child during 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 and 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 children and child behavior and development of individuals skills in observational methods. Prereq: 3200 or 3210 or 3220 or consent of instructor.

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

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

3420 Family Economics (3) Management of family income and resources to maintain family living. Emphasizes improvement of income position and reduce income insecurity. Prereq: or coreq: Economics 2120.

3510 Intimacy: Marriage and/or Supporting (3) Examination of primary relationships from perspectives of both individual and family development and relationship development. Emphasis on marriage, dating, and family form.

3515 Family Development (3) Focuses on family from childhood through marriage and public life cycle. Emphasizes the family life cycle stage on marital interaction and parenting. Prereq: 2110 or 3210 or 3510 or 3220.

3520 The Family and the Adolescent (3) Problems of growth and development during teen years; role of parents and other adults in fostering adolescent development. Upper-division students only. Prereq: 2110 or 3210 or 4 hrs. psychology.

4110 Student Teaching in Preschool Settings (6) Increasing responsibility for planning and guiding groups of young children under supervision of head teacher includes 2 hr. weekly seminar; Prereq: 1500, 3210, 3300, 3350; recommended; coreq; 4111. SY/NC.

4111 Student Teaching in Preschool Children (3) Increasing responsibility for planning and guiding groups of young children under supervision of head teacher includes 2 hr. weekly seminar; Prereq: 1500, 3210, 3300, 3350; recommended; coreq; 4110. SY/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. Emphasis on time and energy demands. Adaptations for the handicapped.

4260 Adult Development and Aging (3) Adult life in our society. Emphasis on cultural and societal changes through middle and aged years. Prereq: 2110 or Home Economics 1510 or equivalent background in adult development or consent of instructor.

4350 Advanced Child Development (3) Survey of selected theories 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 Relationships (3) Interpersonal relationships among family members and societal roles. Prereq: or or equivalent.


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. Emphasis on administration in day care agencies and programs for deprived preschool children. Prereq: 3110 or 3130 or 4110.

4630 Field Work in Children, 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. Hrs. arranged. May be repeated. Maximum credit 15 hrs. SY/NC.

4710 Contemporary Developments (1-3) Student or staff initiated course for study of special topic(s) parti-
6250 Advanced Topics (3)
6310 Individual and Family Development: Physiological Determinants (3)
6320 Individual and Family Development: Cognition (3)
6330 Individual and Family Development: Socialization (3)
6410 Theory Construction in Family Studies (3)
6450 Conceptual Frameworks for the Family (3)
6540 Seminar in Programs for Infants and Preschool Children (3)
6610-20 Applied Behavior Analysis in Natural Settings (3,3)
6710 Elements of Consumer Choice (3)
6730 Urban Consumers (3)

**Nutrition and Food Sciences**

**Professors:**
- R. E. Beauchene, Ph.D. Kansas State; M. R. Buckley (Emerita), M.A. Columbia; A. M. Campbell, Ph.D. (Emerita), Cornell; B. R. Carruth, Head (PhD), Ph.D. Missouri; G. E. Goertz (Emerita), Ph.D. Kansas State; E. B. Green (Emerita), M.S. Columbia; M. J. Hinchcock, Ph.D. Wisconsin; F. L. Macleod (Emerita), Ph.D. Columbia; L. M. Oldland (Dean Emerita), Ph.D. Wisconsin; D. Sc. Rhode Island; J. R. Savage, Ph.D. Wisconsin; J. T. Smith, Ph.D. Missouri; M. A. Smith*, Ph.D. Tennessee.

**Associate Professors:**
- D. W. Hubbard, Dr. P. H. Tulane; D. E. Lyon (Emerita), Ph.D. (Emerita), Cornell; M. P. Penfield, Ph.D. Tennessee; D. S. Sachan, Ph.D. Illinois; M. N. Taylor, M.S. Georgia; M.P.H. Berkeley.

**Assistant Professors:**

**Instructors:**
- L.L. Butler, M.S. Western Kentucky; W.L. Dodson, M.S. Tennessee; A. L. Hay, M.S. Kansas; N. J. Lee*, M.S. Case Western Reserve; K. L. Mount, M.S. Tennessee.

*Memphis.

**Food Science (386)**

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

2000 Cultural and Scientific Aspects of Foods and Nutrition (2) Cultural and scientific aspects of foods and nutrition as applied to the individual and community. Must be taken concurrently with Nutrition 2000. Prereq: 12 hrs. of natural science.

2510 Nature of Food I (3) Classification on basis of composition, type of systems, structure, and consistency, source, food components, and their interactions. Prereq: 1010, Chemistry 1510 or equivalent. 2 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.

3021 Clinical Experience in Dietetics (1) Planned experiences for application of economic principles of food selection and consumer acceptability in selected community facilities. Coreq: 3020. Open only to students in the Coordinated Undergraduate Program in Dietetics.

3510 Nature of Food II (3) Food composition in relation to response of foods to heat, microwave, enzymatic, and other physical and chemical treatments. Prereq: 1010. 3010 or 3010. 2 hrs. and 1 lab.
Nutrition (725)  

1230 Elementary Nutrition (3) Principles and application to everyday living.  

2000 Cultural and Scientific Aspects of Food and Nutrition (3) Cultural and scientific aspects of foods and nutrition as applied to the individual and the community. Must be taken concurrently with Food Science 2000. Prereq: 12 hrs of natural science.  

2710 Family Health Promotion (4) Management of family health throughout the life cycle with emphasis on family health status, health promotion and maintenance, health care, delivery system, and prevention of illness. (Same as Nursing 2710.)  

3000 Nutrition Science (3) Basic nutrients as chemical entities. Prereq: Chemistry 1510-20-30 or equivalent.  

3020 Nutrition (3) Fundamentals of nutrition which pertain to man. Not open to graduate students or undergraduate majors in nutrition or food science. Prereq: Chemistry 1510-20-30 or equivalent; Zoology 2920-30 or equivalent.  

3050 Basic Nutrition (3) Relationship of basic nutrition to human well being. Prereq: Chemistry 1510-20-30 or equivalent and Zoology 2920-30 or equivalent.  

3110 Organic Chemistry (4) Emphasis on subjects leading to 3220-30, Text. & Clo. 4220. Prereq: General Chemistry 1510-20-30 or 1510-20-30 or equivalent. Not for graduate credit to departmental majors.  

3220 Food Analysis (4) Elementary quantitative analysis; typical food analyses. Prereq: 3310 or equivalent. 3 hrs. and 1 lab. Not for graduate credit to departmental majors.  

3320 Physiological Chemistry (2) Metabolism of carbohydrates, lipids, and proteins. Role of vitamins and minerals in metabolism. Not for graduate credit to departmental majors.  

3330 Physiological Chemistry Laboratory (1) Prereq: 3320; coreq: 3320. 1 lab. Not for graduate credit to departmental majors.  

3340 Clinical Analyses (2) Laboratory and lecture. Principles, application, and interpretation of chemical analyses of physiological materials. Prereq: 3000 or equivalent; coreq: 3330.  

3410 Science of Nutrition (5) Basic principles of nutrition; significance of recommended dietary allowances and application. Prereq: 3330-35; Zoology 2920-30; Food Science 2510-25. 4 hrs. and 2 labs. Not for graduate credit to departmental majors.  

3411 Clinical Experience in Dietetics (1) Planned educational experiences for application of principles of normal nutrition in selected health care and community facilities. Coreq: 3410. Only to students in the Coordinated Undergraduate Program in Dietetics.  

3710 Individual and Family Health Problems (4) Influence of long-term and socio-cultural illnesses on individual and family living throughout the life cycle. (Same as Nursing 3710.)  

3920 Survey of Dietetics II (1) Introduction to dietetics and to career opportunities; role of diettian in health delivery systems. Prereq: Junior standing and FSA 3920.  

4010 Reproductive and Developmental Nutrition (3) Nutritive requirements for expectant mothers, infants, and preschool children. Prereq: 3020 or 3050 or 3410. 2 hrs. and 1 lab.  

4020 Nutrition for Children, Adolescents, and Adults. Prereq: Application of basic principles and research findings to good nutrition for children, adolescents, and adults. Prereq: 3020 or 3050 or 3410. 2 hrs. and 1 lab.  

4030 Community Nutrition (3) Nutrition problems and services in the community; supervised field experience is an integral part of course. Prereq: 3020 or 3050 or 3410.  

4031 Clinical Experience in Dietetics (3) Supervised field experience in the community. Prereq: 4231; coreq: 4030.  

4050 Nutrition throughout the Life Cycle (4) Application of nutrition principles throughout the life cycle with emphasis on communication of nutrition information. Prereq: 3050 or consent of instructor.  

4110 Introduction to Nutrition Research (3) Discussion of principles and laboratory experience. Prereq: 3410. 2 hrs. and 1 lab.  

4230 Nutrition in Disease (4) Nutrition problems in diseases influenced by diet. Prereq: 3410.  

4231 Clinical Experience in Dietetics (1) Planned clinical experiences applying principles of nutrition in disease. Coreq: 4230.  

4240 Nutrition in Disease II (3) Interdisciplinary lectures and discussions on the metabolic processes of normal and diseased organs and/or tissues and the dietary or behavior modifications required. Prereq: 4230. Design for senior students in the Coordinated Undergraduate Program in Dietetics.  

4241 Clinical Experience in Dietetics (2) Advanced educational experiences applying principles of nutrition in disease in selected health care facilities. Coreq: 4240. Open only to students in the Coordinated Undergraduate Program in Dietetics.  

4330 Readings in Nutrition (3) Reports and discussions of current literature. Prereq: 3410.  

4420 Environmental Effects on Nutrition (3) Effect of natural and synthetic food toxins, drugs, both social and therapeutic, and extreme environmental conditions upon the nutrient availability, utilization, and requirements of humans. Prereq: 6 hrs natural science.  

4430 Diet and Drug Therapy (3) Effect of drug therapy on absorption and utilization of nutrients, and effect of diet on absorption, utilization, and toxicity of drugs. Prereq: 3410 or consent of instructor.  

4440 Clinical Experience in Dietetics (4) Experience in providing coordinated and continuing nutritional care in health delivery systems. Prereq: 4031. Open only to students in Coordinated Undergraduate Program in Dietetics.  

4450 Field Experience in Nutrition (1-6) Planned educational experiences based on individual needs and interests of students.  

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.  

4988-98 Honors: Nutrition (1-6) Problems for juniors and seniors with special ability and interest in nutrition. Prereq: Consent of department head. Hrs arranged.  

GRADUATE  

5000 Thesis  

5002 Non-Thesis Graduation Completion (3-15)  

5110-20 Advanced Physiological Chemistry (4,3)  

5140 Foods and Nutrition: Physicochemical Principles (3)  

5210 Advanced Nutrition (3)  

5220 Experimental Methods in Nutrition (3)  

5240-50 Research Techniques (3,3)  

5310-20-30 Community Nutrition (3,3,3)  

5340 Field Study in Community Nutrition (1-12)  

5350 Mental Retardation or Other Developmental Disorders of Childhood (3)  

5410-20 Human Nutrition (3,3)  

5420 Nutritional Aspects of Food for Diet (3)  

5440 Maternal and Child Nutrition (3)  

5450 Survey Methods in Human Nutrition (3)  

5460 World Food Supply and Human Nutrition (3)  

5470 Nutrition and Aging (3)  

5610 Nutrition in Mental Retardation and Developmental Disabilities (1-12)  

5700 Current Programs and Trends in Nutrition (1-3)  

5800 Problems in Nutrition (1-3)  

5900 Seminar (1-3)  

6000 Doctoral Research and Dissertation  

6110 Proteins and Amino Acids (3)  

6120 Mineral Metabolism (3)  

6130 Lipid Metabolism (3)  

6140 Vitamin Metabolism (3)  

6210 Advanced Topics in Nutrition (1-3)  

6900 Seminar (1-3)  

Food Systems Administration (388)  

2910 Seminar in Tourism, Food, and Lodging Administration (2) Overview of tourism including food and lodging aspects of tourism and professional curricula. Contacts with industry through field trips and guest speakers. Students must pay own expenses for field trips.  

3000 Dimensions of Tourism (3) Economic and cultural impact of tourism on society. Focus on forces influencing the domestic and international tourism industry.  

3110 Quantity Food Procurement, Production, and Service (5) Application of principles necessary for determining needs, procuring, storing, producing, serving foods in volume. Prereq: Food Science 1010 or 2510, Economics 2130 or consent of instructor, 3 hrs. and 2 labs.  

3220 Tourism, Food, and Lodging Administration Internship (5) Planned educational experiences in selected food and lodging operations or other tourism-related facilities. Prereq: 2910, 3110.  

3320 Food Service Administration (2-3) Effective and efficient use of management resources in food service systems. Two credits to include lectures only. Three credits to include quantity foods laboratory. Prereq: 3110 or consent of instructor. Not open to majors in Food Systems Administration.  

3820 Survey of Dietetics I (1) Introduction to dietetics and to career opportunities, and role of diettian in health delivery systems. Prereq: Junior standing.  

4130 Food Systems Administration (3) Functions of management applied to food service systems. Prereq: 3110.  

4140 Food System Personnel Development (3) Development of training programs for food systems personnel. Prereq: 4130 or consent of instructor.  

4150 Design and Layout of Food Service Systems (3) Design of physical facilities and selection and purchasing of equipment for food service systems. Prereq: 3110 or consent of instructor.  

4210 Tourism, Food, and Lodging Managerial Field Experience (5-15) Planned educational managerial experience in selected food services or food and lodging systems of tourism-related enterprises. To be taken at the beginning of the senior year with consent of instructor. Prereq: 4130, 4150.  

4250 Food and Lodging Managerial Cost Control (3) Cost analysis for control. Use of financial statements for decision making for food and lodging systems. Prereq: 4130, Accounting 2210.  

4260 Food and Lodging Physical Plant, Planning and Maintenance (4) Feasibility, planning development, and construction of food and lodging physical plant and maintenance. Electrical, mechanical, heating, plumbing, air conditioning and ventilation, and illumination systems. Types of building materials and construc-
tion. Prereq: 3110. 4150 or consent of instructor. 3 hrs.
and 1 lab.

4270 Tourism, Food, and Lodging Information Systems (3) Qualitative and quantitative analysis of information systems for decision making in food and lodging operations or other operations related to tourist industry. Prereq: 4130, 4250. Coreq: 4140.

4310 Tourism and Lodging Administration (3) Examination of management principles, processes, and concepts applied to various departments in tourist and lodging facilities. Current problems in hospitality organization and operation. Prereq: FSA 4130.

4410-20 Clinical Experience in Dietetics (3,3) Development of technical, human, and conceptual skills through planned occasional experiences at increasing levels of administrative responsibility in selected food systems. Must be taken in sequence. Prereq: 3110; 4410, 4150; 4420 coreq to 4140. Open only to students in the Coordinated Undergraduate Program in Dietetics.

4421 Contemporary Developments in Dietetics (2) Relating professional course concepts in clinical experiences through small group discussions. Open only to seniors in the Coordinated Undergraduate Program in Dietetics. May be repeated. Maximum credit 6 hrs.

4710 Contemporary Developments (1-3) Student or staff initiated course for study of special topic(s) pertinent to field; topics selected 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.

4800 Current Topics (1-3) Assigned reading and group discussion of research, literature. Hrs and credit arranged. Prereq: 3110 or consent of instructor. May be repeated.

4800 Seminar (1-3) Review, organization, and reporting of literature on selected topics. May be repeated for credit. Prereq: 3410 or consent of instructor. Hrs. and credit arranged.

4978 Honors: Food Systems Administration (1-3) Special problems for juniors and seniors showing special ability and interest in institution administration. May be repeated for credit. Hrs. and credit arranged.

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5110-20 Experimental Quantity Food Study (3,3)

5210 Methods of Food Systems Research (3)

5220 Experimental Design of Food Systems Facilities (3)

5230 Food Systems Evaluation (3)

5240 Financial Management of Food Systems (3)

5310 Administration of Food Service Delivery Systems (3)

5500 Clinical Training in Health Care Agencies (3)

5700 Current Problems and Trends in Food Systems Administration (1-3)

5800 Problems in Food Systems Administration (1-3)

5850 Field Experience (3-9)

5900 Seminar (1-3)

6110 Advanced Topics in Food Systems Administration (3)

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

6310-20 Quantitative Methods to Control Resources in Food Service Systems (3,3)

6900 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 systems 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 application of effective management of 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 integrated 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 together with 4120. 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 together with 4110. Prereq: 3110 and consent of instructor.

4130 Methods and Procedures for Community Services Work (3) Individual, group, and mass and indirect methods in community services work. Prereq: 3110. 2 hrs. and 1 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. Hrs. arranged. May be repeated with departmental approval for credit up to 9 hrs.

4910 International Study Tour (6) See page 157. Prereq: Consent of Instructor.

4978 Honors: Community Services Programs (3) Problems for junior and seniors with special interest in community services programs. May be repeated. Maximum credit 9 hrs. Prereq: Consent of department.

GRADUATE

5060 Practicum (1-12)

5100 International Studies (1-15)

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)

6210 Professional Issues in Human Resource Development (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 Professor: J. H. McIntosh, 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 124 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 163.

Textiles Merchandising and Design

Professors: R. G. Blakemore, Ph.D. Florida State; J. O. DiJonge (Head), Ph.D. Iowa State; B. G. Goswami, Ph.D. Manchester (England).

Associate Professor: D. F. Case, Ph.D. Princeton; R. Dilbeck, M.F.A. California (Los Angeles); M. F. Drake, Ph.D. Pennsylvania State; J. M. Ford, Ph.D. Pennsylvania State; J. A. Thompson, Ph.D. Missouri; L. C. Waddsworth, Ph.D. North Carolina State.

Faculty Associate: T. L. Vigo, Ph.D. Tulane.

Assistant Professors: C. E. Cox, Ph.D. Tennessee; S. J. Dillard, M.S. Tennessee; L. A. Kocher, Ph.D. California (Davis); G. K. McCurry, M.S. California State.

Lecturer: 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: Architecture 1002. 1 hour and 3 labs.

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, drawing, materials, environmental systems
on a micro-use scale. Prereq: 1430.

4251 Fundamentals of Interior Design II (4) Prob-
lem-solving in micro-environments using the design
process. Communication of design solutions through
perspective drawing, modeling, and experimental
workshop on an increasingly larger scale. Communication of
total design solutions using a variety of graphic, audio and
photographic techniques. Prereq: 2450 and full
admission to interior design program or consent of
instructor.

4252 Fundamentals of Interior Design III (4) Prob-
lem-solving in micro-environments using the design
process. Communication of design solutions through
perspective drawing, modeling, and experimental
workshop on an increasingly larger scale. Communication of
total design solutions using a variety of graphic, audio and
photographic techniques. Prereq: 2450 and full
admission to interior design program 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, eight-
teenth, and early nineteenth centuries.

3110 Beginning Interior Design (3) Individual and
design factors influencing selection, arrangement, and
combination of furnishings, to create the greatest sat-
isfaction from homes and places of work. Prereq: 1410 or
1 hr. and 2 labs.

3130 Color (4) Experimentation based on an under-
standing of the psychodynamics of color. Color commu-
nication 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 practice experience. Em-
phasis on professional responsibilities and relationships
within the interior design profession.

3450-51-52 Interior Design I, II, III (4, 4, 4) Studio
problem-solving in micro-environments using the design
process. Communication of design solutions through
perspective drawing, modeling, and experimental
workshop on an increasingly larger scale. Communication of
total design solutions using a variety of graphic, audio and
photographic techniques. Prereq: 2450 and full
admission to interior design program or consent of
instructor.

3470 Interior Design Practicum (5-15) Supervised prac-
ticum in establishments engaged in practice of interior
design. Planning and standing in interior design
program, 3260, and consent of instructor.

3480 Field Experience (3-15) Supervised field experi-
ence: subject to departmental approval. Prereq: Senior
standing and consent of faculty.

4320 Family Housing Problems (3) Housing require-
ments of families. Reading and judging house plans;
design of the visual environment. Prereq: Junior
standing.

4260 Interior Design Practicum (5-15) Supervised prac-
ticum in establishments engaged in practice of interior
architecture, furniture, and other design forms
within the cultural context for England from the sixteenth
through the nineteenth centuries.

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

4260 Interior Design Practicum (5-15) Supervised prac-
ticum in establishments engaged in practice of interior
architecture, furniture, and other design forms
within the cultural context for England from the sixteenth
through the nineteenth centuries.

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

4260 Interior Design Practicum (5-15) Supervised prac-
ticum in establishments engaged in practice of interior
architecture, furniture, and other design forms
within the cultural context for England from the sixteenth
through the nineteenth centuries.

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

4260 Interior Design Practicum (5-15) Supervised prac-
ticum in establishments engaged in practice of interior
architecture, furniture, and other design forms
within the cultural context for England from the sixteenth
through the nineteenth centuries.

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

4260 Interior Design Practicum (5-15) Supervised prac-
ticum in establishments engaged in practice of interior
architecture, furniture, and other design forms
within the cultural context for England from the sixteenth
through the nineteenth centuries.

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

4260 Interior Design Practicum (5-15) Supervised prac-
ticum in establishments engaged in practice of interior
architecture, furniture, and other design forms
within the cultural context for England from the sixteenth
through the nineteenth centuries.

4110 Lighting for Interior Designers (4) The applica-
tion of elements and principles of lighting and wiring to
the design of the visual environment. Prereq: Junior
standing.
of fabrics. Prereq: One quarter of organic chemistry. 3 hrs and 1 lab.

4260 Design Analysis: Functional Apparel (3) A systematic approach to apparel design integrating aesthetic, psychological, social and physiological aspects of apparel problems for special reference groups. Garment specifications are translated for production. Prereq: 1170, 2170 and 3170. 2 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.

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 (1) 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: Economics 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: 4510, senior standing, major in merchandising, and a minimum grade point average of 2.2; coreq: 4630. 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)

5140 Principles of Design Analysis (3)

5150 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)
The College of Law is, since 1961, 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 counselors, 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.

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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 Research and Service Program 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.

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Tennessee. Course selection and registration are subject to guidelines approved by the law faculty which include the requirement that any such course be acceptable for credit towards a graduate degree in the department offering the course.

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 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 Doctor of Jurisprudence and the Master of Business Administration degrees. A student pursuing the dual program is required to take fewer hours of course work than would be required if the two degrees were to be earned separately.

Admissions. Applicants for the J.D.-M.B.A. program must make separate application to, and be competitively and independently accepted by, the College of Law for the J.D. degree and the Graduate School and College of Business Administration for the M.B.A. degree, and by the Dual Degree Committee. Students who have been accepted by both colleges may commence studies in the dual program at the beginning of any term subsequent to matriculation in both colleges, provided, however, that dual program studies must be started prior to entry into the last 28 semester hours required for the J.D. degree and the last 24 hours required for the M.B.A. degree.

Curriculum. A dual degree candidate must satisfy the graduation requirements of each college. Dual degree students withdrawing from the dual degree program before completing the dual degrees will not receive credit toward graduation from either college for courses in the other college, except as such courses qualify for credit without regard to the dual degree program. For students continuing in the dual degree program, the J.D. and M.B.A. degrees will be awarded upon completion of requirements of the dual degree program.

The College of Law will award credit toward the J.D. degree for acceptable performance in a maximum of eight semester hours of approved graduate-level courses offered by the College of Business Administration. A student shall receive two semester hours of credit for each such course successfully completed unless the law faculty specifies otherwise. Two of the eight semester hours must be earned in Accounting 5810 or a more advanced accounting course. If College of Law credit is given for such accounting course, the dual degree student may not receive College of Law credit for Legal Accounting (Law College Course 8500).

The College of Business Administration will award credit toward the M.B.A. degree for acceptable performance in a maximum of eight semester hours of approved courses offered by the College of Law.

Except while completing the first year courses in the College of Law, students are encouraged to maximize the integrative facets of the joint program by taking courses in both colleges each year.

Awarding of Grades. For grade recording purposes in the College of Law for graduate business courses and in the College of Business Administration for law school courses, grades awarded will be converted to either Satisfactory or No Credit and will not be included in the computation of the student's grade average or class standing in the college where such grades are so converted. The College of Law will award a grade of Satisfactory for a graduate business course in which the student has earned a B grade or higher and a No Credit for any lower grade. The College of Business Administration will award a grade of Satisfactory for a College of Law course in which the student has earned a 2.3 grade or higher and a No Credit for any lower grade. Grades earned in courses of either college may be used on a regular graded basis for any appropriate purpose in the college offering the course. The official academic record of the student maintained by the Registrar of the University shall show the actual grade assigned by the instructor without conversion.

Satisfactory/No Credit Option

(1) Course Eligibility

Required courses may 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 grade 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 used in computing 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 (receipt of a grade) of 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 clinic 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 6 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 course during regular 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

Professors:

K. L. Penegar (Dean); L.M. Yale; N. P. Cohen; L.M. Harvard; J. G. Cook; L.M. Yale; G. E. Cohen; LL.B. Columbia; J. J. Gobert; J.D. Duke; R. M. Gray (Emeritus); L.M. George Washington; P. H. Hardin; J.D. Chicago; D. S. Jones; J.D. North Carolina; J. H. King; J.D. Pennsylvania; J. C. Kirby; L.M. New York; F. W. Lacey; S.J.D. Michigan; F. S. LeClercq; LL.B. Duke; C. H. Miller (Emeritus); J.D. Duke; E. E. Overton (Emeritus); S.J.D. Harvard; J. J. Phillips; J.D. Yale; J. A. Sebree; J.D. Michigan; J. L. Sobieski; J.D. Michigan; T. H. Sewell; L.M. George Washington; F. H. Thomford; S.J.D. Columbia; H. C. Warner (Emeritus); J.D. Chicago; H. Wicker (Emeritus); L.D. Newberry; D. Q. Wickham; L.M. Harvard.

Associate Professors:

G. L. Anderson; L.M. Harvard; J. P. Black; Jr., J.D. Vanderbilt; M.S.L. Black, J.D. Tennessee; D. K. ...
REQUIRED COURSES

8660 Income Tax I (4) What is income; whose income is it; when is it income; how is it taxed (capital gains and losses, maximum and minimum tax); deductions and credits; rates (corporate, estate, and trust).


8940 Civil Procedure II (3) Pleading, joinder of claims and parties; discovery; trials, verdicts, judgments and appeals. Inherent powers of courts; General Rules of Civil Procedure.

8030 Contracts I (3) The basic agreement process and legal protection afforded contracts. Problems to offer and acceptance, interpretation, illegality, and the statute of limitations.

8030 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.

8400 Criminal Law (3) Course on substantive aspects of criminal law. General principles applicable to all criminal conduct, then specific analysis of particular crimes. Substantive defenses of crimes, including insanity, intoxication, mistake, necessity, legal duty, self-defense, and duress.

8070 Legal Process (3) Introductory course on legal process. Brief survey of judicial organization and procedure. Legal history, case analysis, significance of precedent, influence of the judge as policy maker, adversary system, and role and responsibilities of the lawyer as an advocate. Legislative interpretation.

8110 Research and Writing I, II (1, 2) This two-semester sequential offering is designed to provide the student with a progressively more sophisticated involvement in legal research and writing. Fundamentals of legal research, sources, patterns of citation, and research skills will be an integral part. Among the other components to be included are the drafting of a law office memorandum and other written materials. The preparation and presentation of an appellate argument (written and oral) will also be expected. Classes will be divided, with individual criticism given on all work submitted. Lectures on research, writing, and advocacy skills will be included. (3110 graded S/NC).

8130 Property I (3) Freestanding estates, future interests, concurrent and successive tenancies, in fee, life and remainder, contract and deed. Principles of personal property.

8140 Property II (3) The recording system, title assurance, easements, nuisance, lateral support, water rights, zoning, and eminent domain.

8180 Tort I (3) Intentional interference with the person, false imprisonment, assault and battery, negligent security, dangerous conditions, and automobile accidents. Principles of tort liability.


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 national power, state power to regulate and tax, intergovernmental immunities; substantive due process; Congressional enforcement of civil rights.

8660 Legal Profession (2) Role of the lawyer in society and ethical responsibilities implied in that role. Admission to the Bar, the organized profession, solicitation, advertising, unauthorized practice, conflicts of interest, decision to represent or withdraw as counsel; fiduciary relationship, advocacy and its limitations, fees, and disciplinary procedures.

Additional Required Courses: Perspective Course Requirement: One course among the following is required for graduation: American Legal History; Comparative Law; Criminal Law Theory; International Law; Jurisprudence; Law and Economics; Language and Ethics; Legal Imagination; and Tax Theory.

Writing Requirement: One seminar or upper-level course requiring a substantial legal research paper under faculty supervision is required for graduation. This requirement may also be satisfied by a Directed Research project approved by the Academic Standards Committee.

NOTE: No single course may be taken to satisfy both the Perspective Course Requirement and the Writing Requirement. Additional required courses may be taken at any time during the second or third year.

ELECTIVE COURSES

8015 Comparative Law (3) A general introduction to the civil law systems of France and Germany, focusing on legal institutions, methodology and aspects of the law of obligations and commercial law.

8050 American Legal History (3) Historical development of the law, legal institutions, legal profession, and legal education from colonial times to present. Historical relationship of legal system to society.

8055 Criminal Law Theory (3) A study of the theoretical foundations of criminal law and an examination of concepts of justice and morality and pertinent materials in the physical and behavioral sciences.

8060 Criminal Process (4) Examination of the constitutional and statutory rights of parties charged with crimes, including arrest, search and seizure, self-incrimination, right to counsel, electronic eavesdropping, entrapment, guilty plea, fair trial, double jeopardy, and habeas corpus.

8125 Admiralty (2) Admiralty courts and their jurisdiction, death and injury to persons; special provisions concerning various maritime workers; carriage of goods by ships; principles governing collisions and liability.

8170 Trial Practice (3) Criminal and civil litigation, with primary emphasis on trial problems and preparation. Basic trial strategy, professional responsibility, fact investigation, witness preparation, discovery and presentation of evidence, selection and instruction of juries, opening and closing arguments.


8280 Bills and Notes (2) Negotiable instruments, negotiability, transfer, non-negotiability, holders in due course, requirements and defenses; liability of parties; discharge; letters of credit; Arts. 3, 4, and 5 of Uniform Commercial Code.

8280 Conflict of Laws (3) Jurisdiction, foreign judgments, choice of law, constitutional limitations, reviews, and classification.

8310 Constitutional Law II (3) Freedom of expression, association and religion. Fourteenth Amendment. Rights of criminally accused, including discrimination as to race, sex, etc., right to franchise and apportionment, concept of state action in matters of civil rights.


8360 Family Law (3) Survey of laws affecting the family. Marital and property relations; Domestic partners; Antenuptial agreements; support obligations; termination of parental relationship; adoption, divorce, alimony, property settlements, child custody, child support, adoption, abortion, and illegitimacy.

8420 Evidence (4) Rules regulating introduction and exclusion of oral, written, and demonstrative evidence, including relevancy, competency, impeachment, hearsay, privilege, judicial notice, presumptions, and burden of proof.

8450 Federal Courts (3) Jurisdiction of federal courts and conflicts between federal and state judicial systems, including nature of judicial power, federal questions, diversity, removal, jurisdictional amount, choice of state or federal law, habeas corpus, abstention, enjoining state proceedings, appellate jurisdiction, and joinder of parties and claims.

8490 Environmental Law (3) Survey course examining basic federal and state statutory schemes for air and water quality, pollution control, and environmental protection such as the National Environmental Policy Act of 1969; selected introduction to role and scope of federal, state and local agencies in enforcement and proposing new laws and regulations.

8500 Future Interests (3) The law of future interests, including reversions, remainders, possibilities of reversion and reversionary interest, entries of waste, and classification.

8510 Government Contracts (3) Principles relating to government procurement, both federal and state, to include award, performance, and termination of contracts. Administrative settlement of disputes arising under government contracts. Presreg: 8200.

8525 International Business Transactions (3) Legal status of persons abroad; acquisition and use of property within a foreign country; doing business abroad as a corporate enterprise; engaging in business within a foreign country, and expropriation or annulment of contracts or concessions.

8530 Public International Law (3) International agreements; organizations of states, nationality, territory, jurisdiction and immunity, claims, expropriation, force and war.

8530 Jurisprudence (3) A comparative examination of legal theories including natural law, idealism, historical jurisprudence, utilitarianism, analytical jurisprudence, sociological jurisprudence, legal realism, and the policy science approach.

8540 Labor Law (4) Evolution of labor relations law, rights of self-organization; employer and union under federal labor practices; strikes: boycotts and picketing, collective bargaining; public employee labor relations; inter-
nal union affairs; individual rights in labor relations; employment discrimination; federalism and preemption; unions and the antitrust laws.

8560 Law, Language, and Ethics (3) An intermediate level writing course. Law is the mind's attempt to defend, direct, and administer human activity. Exploration of ethical values underlying formal legal reasoning and determination of just outcomes. Analysis of judicial decision making and as a tool of legal criticism.

8565 Law and Economics (3) Examination of the relationship between legal and economic thought, with particular emphasis on the use of economic concepts and legal concepts through the methods of epistemology.

8590 Legal Accounting (2) Designed to familiarize law students with accounting problems and techniques, and to enable them to use and understand accounting information.

8650 Copyright, Patent and Trademark (3) Protection for intellectual property under federal and state law; patents, trademarks, trade secrets, copyright, tax considerations, and international aspects.

8655 Legal Imagination (3) Systematic study of literature and its application to accurate, fluent, and creative legal composition.

8670 Legal Writing (1) By arrangement. Academic credit for completion of a Casenote or Comment for the Tennessee Law Review as a member of a faculty supervised moot court competition. (Graded S/NC) Legal Writing will not be counted toward the total number of hours for division courses that may be taken on a S/NC basis.

8680 Legislation (3) Examination of interpretation and drafting of statutes, legislative process, and legislative power. Judicial views on legislative process subject to critical comparison with the realities of legislative process and applicable constitutional principles.

8690 Modern Land Use Law (2) Land use planning, nuisance, zoning, and eminent domain.

8700 Local Government (3) Distribution of power between state and local government units; sources of authority for limitation of local government operations; creation of local governmental units and determination of their boundaries; home rule; problems presented by fragmentation of local government units; problems in the financing of local services; influence of federal policy on local government finance and decision making.

8710 Natural Resources Law (3) Selected materials on nature of interest, conveyancing, royalties, grants and reservations, leases, and taxation.

8740 Business Associations (4) An introduction to the law of corporate, cooperative, and limited liability business entities, including agency, partnership, limited liability, and the corporation.

8750 Remedies (4) Study of judicial remedies, including damages, restitution, and equitable relief. Consideration of availability, limitations and measurement of various remedies. One objective is a comparative evaluation of remedies available in various situations.

8755 Selected Problems in Remedies (3) Advanced course, examining in depth particular remedial problems. Specific course content will vary. Possible topics of study include civil rights injunctions, remedies in complex litigation (class actions and/or derivative suits), problems in restitution. Prereq: 8750 or consent of instructor.

8760 Advanced Business Associations (2) Selected topics from the law of business associations. Prereq: 8740.

8770 Products Liability (3) Negligence of manufacturer, strict liability of manufacturer, products liability of retailer and other suppliers. Defectiveness and causation. Disclaimers and contributory fault.

8800 Sales and Secured Transactions (4) Art. 2 (Sales) and Art. 9 (Documents of Title) of the Uniform Commercial Code. Brief survey of suretyship and guaranty. Art. 9 (Security Interest) of the Uniform Commercial Code.

8815 Discrimination and the Law (3) Comparison of race, sex and other invidious discriminatory practices as they affect political participation, education, employment, housing and other social and economic activities; emphasis on legislative enforcement of post-Civil War Amendments to the Constitution.

8820 Securities Regulation (3) Advanced problems of governmental regulation of issuance of securities.


8840 Wealth Transfer Taxation (3) Transfers of wealth at death (estate tax) and during lifetime (gift tax); generation skipping transfers; deductibility and credits; administration, ademption, advancements and contribution of wills.

8850 Tax Theory (3) A comparative study of the devices and problems incurred in event of death collection through an examination of economic theory and various actual proposed schemes of taxation.

8862 Income Tax II (3) Partnership; corporate reorganizations and distributions; transactions among corporations and shareholders.

8905 Decedents' Estates (3) Nature, creation, transfer, termination, and modification of trusts; inheritances, administration, intestate succession; validity, execution, probate and contest of wills; ademption, advancements and contribution of wills.


8985 Directed Research (1-2 Hours) To be arranged. Independent research by a student under direct supervision of instructor; a student may take course maximum of one year in any two years of study. Proposal must be approved by Academic Standards Committee.

8990 Land Finance Law (2) Financing devices such as mortgages, deeds of trust and land contracts, problems involved in transfer of interests subject to these devices, problems of default, and the future. Consideration also directed to contemporary problems arising in such areas as condominiums, cooperatives, housing subdivisions, and shopping centers.

LEGAL CLINIC COURSES

Students are eligible to enroll in clinical courses after the successful completion of their fourth semester in addition to meeting other specified prerequisites. Students must enroll in only one clinical course per semester and are limited to a total of two courses.

8746-56 Introduction to Advocacy (4-6) Concentrated study of litigation with primary emphasis on trial problems and preparation. Basic trial strategy, discovery, presentation of evidence, voir dire, jury instructions, and opening and closing statements are among the topics addressed. Concentrated role-playing in simulated situations will be used in addition to the representation of actual clients. Ethical issues encountered by students during supervised fieldwork will be examined during the course and selected problems of professional responsibility will be analyzed and discussed.

8996 Advanced Advocacy (3) An independent study of selected arbitration problems on various topics under the supervision of an instructor. Students will receive credit for completion of a Casenote or Comment for the Tennessee Law Review or participation as a member of a faculty supervised moot court competition. (Graded S/NC) Legal Writing will not be counted toward the total number of hours for division courses that may be taken on a S/NC basis.

NOTE: Students receiving credit for 8710 prior to taking an Introduction to Advocacy course (8746 or 8756) will receive five (5) hours credit for both courses. Students receiving credit for 8746-56 after completing 8746 or 8756 will receive four (4) hours credit for 8756 after completing 8746 or 8756 will receive four (4) hours credit for 8785. Students enrolling in 8746 or 8756 after completing 8785 will receive seven (7) hours credit for the Introduction to Advocacy course.

SEMINARS

8240 Arbitration Seminar (2) Arbitration of labor agreements. Judicial and legislative developments, nature of process, relationships to collective bargaining, selected arbitration problems on various topics under collective agreements, and role of lawyers and arbitrators in the process.


8345 Criminal Law Seminar (2) Advanced problems in criminal law and administration of justice.

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: 8605 and 8640.

8455 Juvenile Law Seminar (2) Examines the unique history and philosophy of juvenile justice systems. Considers jurisdiction, judicial and extrajudicial functions of juvenile court, and various dispositional alternatives. Students will read judicial options 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 in regular basis.

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

8570 International Law Seminar (2) Study and discussion of current international law problems. Paper required.


8850 Law and Mental Health Seminar (2) Introduces to psychiatric principles, role of psychiatrist, and requiring participation in criminal defense representation, usually at preliminary hearings and misdemeanor trials in the general sessions courts. Prereq: 8040, 8060, and 8420.

8875 Advanced Advocacy (4) Builds on the lawyering and learning skills developed in 8746-56 by involving students in litigation and advocacy of greater complexity. When offered, course limited either to those students who have completed 8746 or to those who have completed 8756. Students having completed 8746 will engage in supervised fieldwork in such a way as to allow for complex, legal, legislative drafting, and appellate practice. Students having completed 8756 will be exposed to fieldwork involving representation of criminal defendants in felony trials and criminal appeals. Prereq: 8746 or 8756.

8785 Economic Development (4 or 5) Students develop models and skills pertaining to the representation of corporations and businesses. Emphasis on non-litigation skills such as negotiation, counseling, document preparation, business planning and representation before various state and federal agencies. Supervised fieldwork involves legal representation of community groups and small business ventures. Ethical issues encountered by students during their supervised fieldwork will be examined, as will selected problems of professional responsibility. Prereq: 8746 or 8756. (Graded S/NC) Legal Writing will not be counted toward the total number of hours for division courses that may be taken on a S/NC basis.
relationship to role of legal counsel; assigned readings; field work in mental health clinic; jointly taught by law professor and psychiatrist.

8870 Business Planning Seminar (2) Selected problems on corporate and tax aspects of business planning and transactions. Prereq: 8860, 8862, and 8740.

8890 Environmental Protection Seminar (2) Through team-teaching and input of selected experts, course will focus on specific problems of litigating in defense of the environment and mobilizing public and private efforts in defense of the environment. Problems 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.

8975 Commercial Law Seminar (2) Content will vary. On some occasions this will be a planning seminar in which students are required to plan and execute a complex commercial transaction, such as the sale and financing of major equipment. Other years the seminar will focus on selected problems in commercial transactions, with students required to write a major research paper. Prereq: 8800.

8845 Legal Professional Competence Seminar (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.

8910 Administrative Law Seminar (2) In-depth study of principles of administrative law not covered in basic courses. Discretion, choice of adjudication of rulemaking to develop administrative policy, consistency in administrative action.

8930 Consumer Protection Seminar (2) Selected problems in consumer protection.

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.

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

8960 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.

8995 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.

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.
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 widening 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 a study of the liberal arts one thus learns to participate in an intellectual tradition which is independent of particular teachers and which guides one in the choice of subjects for investigation and in the interpretation of those subjects. With time the individual begins to apprehend the great adventures of the mind, and in the life of the educated imagination. A liberally educated person is identified not so much by specific knowledge as by quality of mind and by creative response to the challenges of the times.

At the heart of a liberal education is an appreciation of and a familiarity with a great triad: language, literature, and the arts; history and society; science and mathematics. These three great wellsprings of human thought are sources of the programs of study offered students in the College of Liberal Arts.

Admission to the College
(See page 29.)

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 preprofessional 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, communication design, 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).

(4) BACHELOR OF SCIENCE IN CHEMISTRY

The Bachelor of Science in Chemistry is a professional degree designed in accordance with the specifications of the American Chemical Society as the basis for advanced training in chemistry.
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, unfortunately, 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, effective way of attaining educational goals.

The importance of program planning can hardly be overstressed. A few students enter the college with specific educational objectives 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 them to develop their programs carefully and creatively in order that maximum flexibility in their ultimate decision making may be assured.

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 final years for in-depth study in the area of concentration. Elective courses may be taken at any time.

Advisers in the Liberal Arts Advising Center (220 Ayres Hall), in the various major departments, in the University Counseling Center, and elsewhere on campus are available to assist students with their program planning. In the final analysis, however, only the student can determine the program which will best satisfy particular needs.

Requirements for Degrees

Bachelor of Arts

As has already been stated, the general liberal arts degree is 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 program consisting of at least 36 credit hours in courses numbered 2000 or above as specified by the department or program, and counting no course 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 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 2110-2120, Economics 2100-2110, and Statistics 2100. Also, 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 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 this culture and through 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 facility with language 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 survey of western civilization or other broad 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 which will help him to see the 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 theoretical 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 modified and in turn been modified by philosophical, and the development of civilization.

Specific Requirements in the Triad

(1) Language, Literature, and the Arts
(2) Writing Proficiency

Each student is required to demonstrate the 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 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, 1028, 1038. Students who obtain the grade of A or B in 1028 have the additional option, with permission, to satisfy the remaining three credits in any 2000- or 3000-level writing course offered by the department. (3) English 1431, 1441, 1451.

(ii) By earning a score of 4 or 5 on the College Board Advanced Placement Test in English; or, 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.

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

(iv) 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 3000-level or above. Prerequisite to this option is intermediate-level competence in the language, demonstrated by diagnostic (noncredit) or 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) or 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 on Language, Literature, and the Arts, available in the Liberal Arts Advising Center. A minimum of two years of high school study will often qualify a student for entry into a 2000-level language sequence.

(iii) 24 hours in an integrated program in literature, culture, 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 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 not satisfied by the examination. Those who take 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 high school 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 able to satisfy a portion of the requirement in this way, thereby 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 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 several 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 categories (a) or (b).

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:

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

(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 field 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 any number of 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 
- Speech Pathology 
- Sociology 
- Spanish 
- Speech & Theatre 
- 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 educational objectives.

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

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

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

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 is in the student's 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 choice of courses of which it is composed. The student may design a program, in consultation with an adviser, and submit it to 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 returning students with less than 90 credit hours are invited each year to enter this distinguished honors curriculum. Selection is based on previous academic record, test scores, two written 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.

IV. Preparation for the Health Professions

Pre-Dental
Pre-Dental Hygiene
Pre-Medicine
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 at Memphis (UTCHS), 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-dental medicine program prepares students to undertake professional training during the third year of study at UTCHS. Other pre-health professional programs—dental hygiene, medical record administration, cytotechnology, nursing, pharmacy, and physical therapy—are offered for those students who are planning to pursue professional training in health professional areas which lead to an undergraduate degree from UTCHS but not to a degree from UTK.*

Admission to any program at UTCHS 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 competition for admission to 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.

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

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. In the three-year program the student must complete at least 135 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of the 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 more than 45 hours in addition to the courses outlined below. The requirement for a major is waived for those completing 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 The University of Tennessee, Knoxville, before entering UTCHS. 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.

**Bachelor of Science in Dental Hygiene is granted by UTCHS upon completion of a program which includes 96 hours of prescribed courses in the College of Liberal Arts and six quarters of study at UTCHS. Students interested in the pre-dental hygiene 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 pre-dental hygiene program and requirements in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-MEDICAL 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 medicine. Both programs are based upon the program outlined below. In the three-year program the student must complete at least 135 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of the 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 more than 45 hours in addition to the courses outlined below. The requirements for a major are waived for those completing 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 UTK 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.

**Bachelor of Science in Dental Hygiene is granted by UTCHS upon completion of a program which includes 96 hours of prescribed courses in the College of Liberal Arts and six quarters of study at UTCHS. Students interested in the pre-dental hygiene 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 pre-dental hygiene program and requirements in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-MEDICAL 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 medicine. Both programs are based upon the program outlined below. In the three-year program the student must complete at least 135 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of the 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 more than 45 hours in addition to the courses outlined below. The requirements for a major are waived for those completing 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 UTK 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.
Sophomore

Biology 1011-20-30 or Zoology 1121-28-38 12
Chemistry 3211-21-31 & 3219-29-39 12
Triad I 8
Triad II 8
Electives 4

48

Junior

Physics 2210-20-30 12
Triad I 8
Triad II 8
Electives 15

39

Senior

Completion of major program and B.A. requirements or Completion of one year at UTCES 45

Bulletins describing the pre-medical program and requirements in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

3

Or equivalent honors courses.

2

Many colleges of medicine require, and others strongly recommend, that in calculus, therefore, students preparing for the study of medicine are strongly encouraged to include 1840-50 in their programs. In some cases, mathematics courses above this level may be substituted.

3

Although not specifically required by the College of Medicine, the Health Professions Advising Committee strongly recommends that students include additional work in Biology 2140-49 or in Zoology 3050 and 3060, and in Microbiology 3000-09.

PRE-MEDICAL RECORD ADMINISTRATION PROGRAM

Admission to the medical record administration program at UTCES, leading to a Bachelor of Science in Medical Record Administration, requires completion of 135 hours of prescribed courses. Classes are admitted in September; applications must be filed by April 15. The selection process usually includes interviews with members of the faculty.

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 record administration requirements and program in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-MEDICAL TECHNOLOGY PROGRAMS

The college offers two programs leading to the study of medical technology:

(1) The Science-Medical Technology Curriculum leading to a Bachelor of Arts degree with a major in medical technology from The University of Tennessee.

(2) The Pre-Medical Technology Program leading to a degree of Bachelor of Science in medical technology from UTCES.

Science-Medical Technology Curriculum

The Science-Medical Technology 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 Triad I and Triad II in the Health Professions Office, 218 Ayres Hall.

Successful completion of this course, which results in the granting of 50 credit hours, makes the student eligible for a Bachelor of Arts degree with a major in medical technology from The University of Tennessee. In addition, a Certificate of Laboratory Training will be awarded by UTMRCH. 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.

Freshman

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<tr>
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Senior

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<th>Credit</th>
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Medical technology course of study at UTMRCH.

Pre-Medical Technology Program

Students planning to seek admission to the medical technology course of study at UTCES must complete 90 credit hours of prescribed courses while enrolled in the College of Liberal Arts. The program at Memphis is 7 quarters in length and leads to the degree of Bachelor of Science in Medical Technology from UTCES. Classes are admitted in September and application must be made one year in advance.

Students interested in the medical technology program of study at UTCES are encouraged to consult with a health professions adviser in the Liberal Arts Advising Center or the Coordinator of the Health Professions Office for the specific requirements for admission.

Bulletins describing both pre-medical technology programs and requirements in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-NURSING PROGRAM

The minimum requirements for admission to the College of Nursing at UTCES is 90 hours of prescribed courses in the College of Liberal Arts. The program at Memphis, which leads to the Bachelor of Science in Nursing from UTCES, is two years in length. Registered nurses who wish to work for a degree of Bachelor of Science in Nursing must complete 54 hours of prescribed courses to qualify for admission with advanced standing.

Students interested in the pre-nursing 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 pre-nursing program in the Health Professions Office, 218 Ayres Hall.

Note: 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.

PRE-PHARMACY PROGRAMS

The college offers three programs preparing students for the study of pharmacy at UTCES. The Bachelor of Science in Pharmacy degree is conferred by UTMRCH upon completion of three years of professional study at Memphis following any of the three programs.

The two-year program prepares students to be admitted to the College of Pharmacy upon completion of 90 hours of a prescribed course of study in the College of Liberal Arts. Further information may be obtained from the Health Professions Office, 218 Ayres Hall.

The three-year and four-year programs, which lead to a Bachelor of Arts degree from The University of Tennessee, Knoxville, as well as to the professional degree in pharmacy from UTCES, are based upon the program outlined below. In the three-year program, the student must complete at least 135 credit hours while enrolled in the College of Liberal Arts and, the B.A. degree is granted upon satisfactory completion of the first year of study at Memphis. 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 requirement for a major is waived for those taking their fourth year at UTCES. 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, prior to enrollment in the College of Pharmacy.

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<td>Chemistry 1110-20-30</td>
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Sophomore

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Junior

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Senior

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<tr>
<th>Course</th>
<th>Hours</th>
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Completion of major program and B.A. requirements or Completion of one year at the UT Center for the Health Sciences. 45

Bulletins describing the three pre-pharmacy programs in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

* Or equivalent honors courses.

* The College of Pharmacy requires a minimum of six hours of English or foreign language in addition to English 1010-20.
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) painting, (2) communication design, (3) drawing, (4) fiber-fabrics, (5) painting, (6) printmaking, (7) sculpture, and (8) watercolor. Interarea concentrations are also possible.

DEGREE: Bachelor of Fine Arts
Major: Studio Art

ELECTIVES
A recommended sequence of courses from such areas as business, 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-certificate 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 Advisement Center, Room 112.

CORE CURRICULUM
The art core is required of all B.F.A. candidates. It is designed to give a broad art background, both in studio and art history, 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 Hours Credit
1. Art Fundamentals 4
2. Art History 1. Art 1815, 1825, 3750 12
3. Elective art history 12

C. Studio
1. Art Fundamentals 1115, 1125, 1135 (to be completed during the freshman year) 12
2. Introduction to Media (to be completed prior to junior year) a. Art 2105, 2205 (or 2305), 2405... 12
b. A minimum of 12 hours selected from:
   Art 2250, 2255, 2450, 2505, 2605, 2950 12

Subtotal: 64 hours

II. Art Concentration (A or B)
A. Recommended courses of study in ceramics, communication design, drawing, fiber-fabrics, painting, printmaking, sculpture, and watercolor are available in the Art Office.

B. Inter-Area: A combination of courses from the various former areas (see II.A above) to be approved by the department.

Subtotal: 36 hours

III. General Curriculum

A. Triad
1. English Composition 9
2. History-Society 8
3. Science-Mathematics 8
B. Philosophy 3110 4
C. Non-art electives 20

Subtotal: 49 hours

IV. Electives
Option I: Additional art or non-art electives

Option II: Career preparation electives

Subtotal: 40 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 graduation 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. Admission 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 continuing motivation and interest must be maintained to remain in the program.

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

STUDIO 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 studio art courses
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 course numbers 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—organ and church music—strings—woodwind, brass, and percussion instruments—multiple wind instruments—studio music and jazz—Suzuki string pedagogy). The 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

**Freshman**

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**Senior**

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### MUSIC HISTORY AND LITERATURE

**Freshman**

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### TOTAL: 180 hours
**Music Electives**

- **Senior**
  - Liberal arts electives (not in music) 8
  - Junior recital 0

- **Junior**
  - English 1010 or 1011; 1020; 1031 or 32 or 33 9
  - Music 1111-21-31 9
  - Music 1113-23-33 3
  - Music 1340 3
  - Principal applied study 12
  - Ensemble 3
  - Liberal arts electives (not in music) 8
  - Music 2000 0

- **Sophomore**
  - Music 2111-21-31 9
  - Music 2113-23-33 3
  - Music 2310-20-30 3
  - Principal applied study 12
  - Ensemble 3
  - Liberal arts electives (not in music) 8
  - Music 2000 0

- **Junior**
  - Music 2340 3
  - Music 3112 3
  - Music 3113-23 6
  - Principal applied study 12
  - Ensemble 3
  - Junior recital 0
  - Music electives 3
  - Liberal arts electives (not in music) 8
  - Music 2000 0

- **Senior**
  - Music Education 4430 3
  - Principal applied study 6
  - Collateral applied study 6
  - Ensemble 3
  - Senior recital 0
  - Music electives 5
  - Liberal arts electives (not in music) 8
  - Electives 6
  - Music 2000 0

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**STUDY MUSIC AND JAZZ**

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**MULTIPLE WOODWIND INSTRUMENTS**

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**COLLEGE OF LIBERAL ARTS**
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<tr>
<td>Senior</td>
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<tr>
<td>English 1111-21-31</td>
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<tr>
<td>Music 2113-23-33</td>
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<tr>
<td>Music 2310-20-30</td>
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<td>Music 2599</td>
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<td>Applied Music</td>
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<td>Computer Science 1610</td>
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<tr>
<td>L. A. Electives (not in music)</td>
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</tbody>
</table>

**Total: 180 hours**

### 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 54 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 55. Students are accepted into planning from a broad variety of undergraduate backgrounds. Detailed information on the planning is available.
profession, admission requirements, and the program of study may be obtained from the Graduate School of Planning.

Public Administration

Students majoring in public administration 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 work in related disciplines.

Freshman  
1Political Science 2510-20, 2530 (choose 8 hours)  
2Sophomore  
3Economics 2110-20-30-31  
Junior  
4Political Science 3565-66, 3567-68  
5Political Science 3545-46 or 3801-02-03-04  
6Economics 3340  
7Accounting 2110-20-30-31  
Senior  
8Political Science 4610-20  
9Political Science 4410  
10Economics 3410  
11Accounting 3510  
12Finance 4500-66

In addition, sufficient electives in political science must be taken to meet the number of hours required for a major in political science.

Further information may be obtained in the Department of Political Science.

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 55. 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 admitted 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.

NOTE: The same course may be applied both to certification requirements and to Triad or major requirements of the College of Liberal Arts.

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 29.

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 must 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. Exception: Students who register for a course S/NC in a restricted area will be required to change to regular grading when the error is discovered.

(4) A transfer student who has more than 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 student selecting 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 in which 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 the S/NC option before registering for courses on this basis.

Off-Campus Study

Recognizing that learning is not restricted to formal classroom situations, the college provides for students to earn credit toward graduation for approved off-campus study. Such study may be undertaken only with prior approval of the faculty member and the department concerned. It may include certain kinds of work experiences, community involvements, working in political campaigns, etc. Credit per quarter will vary from 1-16 hours. Up to 24 total credit hours 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 co 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 terms basis. A second is through group programs conducted...
abroad by other academic institutions to which UKT 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 member 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
make 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
accommodation 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.
It provides advanced graduate training for students in clinical psychology and also serves
as a training facility for graduate students in the School of Social Work. Referrals for
treatment come from many sources, including
self-referrals and referrals by relatives and
friends and by various social and mental health agencies. Treatment services are available to
anyone regardless of residence, sex, age,
race, or citizenship.

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 stage 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.

Instructional Facilities
The college carries out its varied teaching
and research activities in more than two dozen principal buildings in two areas of the campus,
as well as in a number of converted residences which provide office, studio, or
clinical space. The older of the two clusters of buildings is on "The Hill," and includes Ayres
Hall (psychology and mathematics), Austin
Peay (psychology), Hesler (biological
sciences), Physics (physics and astronomy),
Geology-Geography (geology and geography),
and Debney and Buehler (chemistry). West of
"The Hill" is a recently built group of buildings
for the humanities, social sciences, and fine
arts: McClung Tower and the Humanities-
Social Sciences classroom building (classics,
English, foreign languages, history, human
services, philosophy, political science, religious
studies, sociology, and speech and theatre),
the Music Building (music), and the Hearing
and Speech Center (audiology and speech
pathology). In this area also are the McClung
Museum and the Clarence Brown and
Carousel Theatres, as well as the
Undergraduate Library. Anthropology is
housed in South Stadium, and art utilizes
several small buildings for its studies.

College Offices
The College Administrative Office is in 226
Ayres Hall. The Student Academic Affairs
Office is in 218 Ayres Hall. The Liberal Arts
Advising Center is in 220 Ayers Hall.

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. Guhe, Ph.D. Michigan;
B. L. Jantz, Ph.D. Kansas; P. W. Parmalee, Ph.D.
Texas A & M.

Associate Professors:
I. Harrison, Ph.D. Syracuse; M. H. Logan, Ph.D.
Pennsylvania State; F. H. Smith, Ph.D. Michigan.

Assistant Professors:
W. E. Kippel, Ph.D. Missouri; B. Howell, Ph.D.
Kentucky; G. F. Schroedi, Ph.D. Washington State.

Research Assistant Professor:

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

1Alumni 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,
3333, 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, 4250,
4400, 4420, 4430, 4440, 4550, 4560, 4740.
(b) Physical: 3070, 3900, 3920, 3930, 4930,
4950, 4960, 4970. (c) Archaeology: 3610,
3620, 3630, 3640, 3860, 3740, 4460, 4600,
4610, 4640, 4650.
A minor in anthropology consists of 27 hours
including the 2510, 2520, 2530 introductory
courses.

2510 Human Origins (4) Non-technical survey of man's
development from prehistoric times to the
present.

2520 Prehistoric Archaeology (4) Survey of
prehistoric culture with special emphasis on method
and theory in archaeology; prehistory of western Eu-
rope and Africa, archaeology in Americas.

2530 Human Culture (4) Introduction to
tribal society and culture and similarities and
differences in man's material culture, social, eco-

conic, and political organizations, ideology, art,
and language.

2540 Introduction of Linguistic Anthropology (4)
Basic linguistic concepts. Aspects of language studied
by anthropologists and sociolinguists.

3010 Prehistoric Humans and Their Lifeways (3) A
survey of the development of humans and their cultural
behavior from earliest evidence of humans until the end
of the Paleolithic. Emphasis on the interaction between
cultural and biological development and adaptation.
Prereq: 2510 or 2520 recommended.

3070 Genetics and Society (3) (Same as Botany
3070.)

3333 Visiting Lecture Program (3) Developed
around lectures by visiting scholars in physical anthro-
3410 Principles of Cultural Anthropology (3) Basic concepts and objectives in study of culture. Range of cultural phenomena and approaches to its study. 2530 recommended.

3440 Religion of Primitive Peoples (3) Religions of non-literate peoples. Place of religion in their social and cultural systems. 2530 recommended. (Same as Religious Studies 3440.)

3450 Community Studies in Complex Culture (3) Review of cross-cultural comparative urban and village communities and methodologies used in community studies. 2530 recommended.

3490 African Religions (4) (Same as Religious Studies 3490 and Beck Studies 3490.)

3510 Peoples and Cultures of Mainland Asia (3) Ethnographic survey indigenous cultures of mainland Asia. Cultural diversity and human ecology in a real perspective. 2530 recommended.

3540 North American Indians (3) Ethnographic survey of aboriginal cultures of sub-Saharan Africa. Cultural diversity and human ecology in a real perspective. 2530 recommended.


3555 Cherokee Ethno History (3) Survey of southern and southwestern tribes and external relationships from first European contact to present. Emphasis on 18th and 19th centuries.


3580 Peoples and Cultures of Mesoamerica (3) Ethnographic survey of aboriginal peoples and post-conquest changes in Indian cultures. Emphasis upon analysis of small rural communities using modern village studies as source material. Recommended prereq: 2530.

3590 Archaeology of United States and Canada (3) Survey of prehistoric North American Indian cultures. Focus on initial occupation to European contact. 2530 recom-

3600 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 Ages. 2520 recommended. 3620 and 3630 should be taken in sequence.

3640 Ancient Civilization of Mesoamerica (3) Introduction to archaeology of areas of advanced Indian culture in Mexico and Central America beginning with earliest cultures and proceeding to contact with European and African explorers. 2520 recommended.

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 an archaeological excavation, interpretation, and explanation. Prereq: 2520 or consent of instructor.

3700 Forms of Folklore (4) Introduction to anthropological study of folklore.

3710 European Folk Culture (3) Traditional aspects of life as expressed in technology, beliefs, art, and folklore, under changing historical and socio-economic conditions.

3800 Language and Culture (3) Relationship between linguistic categories and social organization of cultures. 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 anthropology. 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.

4010 Foreign Study (1-10) See page 186.

4012 Off-Campus Study (1-16) See page 184.

4013 Independent Study (1-16) See page 184.

4110 Education in Cultural Perspective (3) (Same as Educ. C & I 4110.)

4111 Non-Western Education: Anthropological Approaches (3) Analysis of historical educational practices among non-Western peoples encountered from application of modern educational theory in various cultures. Particular attention is paid to American Indians, 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 the present. Emphasis on change in social organization and societal development. Prereq: 2530 or consent of instructor.

4210 Ethnographic Research Techniques (3) Methods of collecting, organizing, 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, questions values and ethics in intervention schemes, and of organization of planned change in applied programs. Prereq: Consent of instructor. Recommended: 2530.

4250 Medical Anthropology: Lecture (3) Survey of medical anthropology. Emphasis on Western and non-Western cultural aspects of health, disease and death, and related concepts. Focus on analyses and descriptions of anthropological fieldwork.

4259 Medical Anthropology: Laboratory (3) Fieldwork in medical anthropology. Emphasis on cultural aspects of health, disease, and death in industrial societies and folk medicine systems which co-exist with Western, medical medicine. Coreq: or prereq: 4250.

4300 Readings in Anthropology (1-9) Intensive reading, problem oriented. For anthropology majors with senior standing. Others by consent of instructor. May be repeated to a maximum of 9 credit hours.

4340 Field Work in Anthropology (3-9) Practicum work in cultural anthropology affecting both process of analysis of data; intensive reading. Prereq: 2510-20-30 and consent of instructor. May be repeated to a maximum of 9 credit hours.

4400 Cultural Ecology (3) Survey of concepts and methods in understanding the relationships 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. Recommended: 2520 or 2530.

4430 Personality and Culture (3) Analysis of relation between individual, society, 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 problems of urbanization and planning. Prereq: 3450 or consent of instructor. (Same as Urban Studies 4440.)

4480 Current Trends in Anthropology (3) Analytical integrative review in symposium of current debates, research directions, theories, fieldwork methods, and general assumptions of the four subfields of anthropolo-

4490 Cross-Cultural Survey of Sex Roles and Behavior (3) Examination of sex roles and sex behavior from cross-cultural and documentary viewpoints. Draws disparate and scattered studies together and attempts to arrive at conclusions on questions such as how sex roles are learned, the parameters of acceptable sexual behavior, and degrees of tolerance for sexual deviation in various cultures.

4510 Peoples of China II: Chinese Society after 1644 (3) Anthropological analysis of Chinese society and culture in period of intense Western contact, rejection of the West, development of modern community. Chinese society and culture. Prereq: 2530 or consent of instructor. Recommended: An East Asian course.

4550 Indians of the Southeastern United States (3) Survey of Southeastern Indian cultures; emphasis on adaptation to environment; lifeways of Southeastern American 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. May be repeated to a maximum of 18 credit hours.

4570 Peoples of Southeast Asia (3) Survey of representative ethnic groups and indigenous cultures of mainland and island Southeast Asia. Problems of contemporary culture changes. Prereq: 2530, consent of instructor, or an East Asian course.

4580 Asians in the Americas since 1800: Anthropological Perspectives (3) Character, factors, and motivations in Asian immigration to North, Central, and South America. Assimilation pattern and enclave communities are major topics. Major focus on United States.

4590 Peoples of Japan (3) Analysis of cultural diversity and unity of peoples of Japan. Prereq: 2530 or consent of instructor. Recommended: 2510 or an East Asian course.

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 Africa Prehistory (3) Survey of cultural history in Africa, south of the Sahara, from earliest evidence of human activity to time of European contact. Prereq: 2520 or consent of instructor.

4640 Zoarchaeology (3) Basic osteological studies of vertebrate classes; emphasis on aboriginal man's utilization of native animals in his subsistence and recreational activities. Broader perspective and interpretation of archaeologically derived molluscan and vertebrate remains.

4650 Archaeology of Southeastern United States (3) Intensive study of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

4660 Prehistory of Northwest North America (3) Survey of archaeological research and prehistoric cultures in Northern Great Basin, Columbia Plateau, Northwest Paeans, and Northwest Coast. Prereq: 2520 or consent of instructor.

4720 American Folklore (3) Anthropological perspectives on folklore of geographical regions and ethnic groups of the United States. Prereq: 3700 or consent of instructor.
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 Paleopatology (4)
5960 Dermatoglyphtics (3)
5970 Emergence and Early Evolution of Man (3)
5980 Neanderthal and Human Evolution (3)
5980 Human Variation (3)
6000 Thesis

Graduate Catalog.

and doctoral degrees are given in the examination of casts and other materials pertinent to anatomically modern man. Emphasis on functional forms. Prereq: 2510. Recommended: Zoology 4380.

4950 Primate Studies (3) Survey of field and laboratory investigations of comparative anatomy and non-human primate behavior. Prereq: 2510 or consent of instructor.

4960 Primate Paleontology (3) Survey of fossil primate forms; origin and evolution of major primate lineages; emphasizing the earliest Hominoid and related forms. Prereq: 2510. Recommended: Zoology 4380.

5945 Comparative Primate Anatomy (4)
5950 Paleopatology (4)
5960 Dermatoglyphtics (3)
5970 Emergence and Early Evolution of Man (3)
5980 Neanderthal and Human Evolution (3)
5980 Human Variation (3)
6000 Thesis

See Romance Languages.

Arabic Language

Art (140)

Professors:


Associate Professors:


Assistant Professors:


Instructors:

L. J. Kocian, M.F.A. California (Davis); T. C. Staup, M.F.A. Wisconsin.

Pi Beta Phi ARROWMONT SCHOOL OF CRAFTS

Lecturers, summer 1981:

D. Aguado; K. Bates; P. Bourke; E. Carlos; M. Croft; R. Daehnert; M. Davidson; L. Davis; C. Devillier; P. Donhauser; E. Erickson; J. Fumero; M. Goldenstein; M. Goldring; P. Grayson; P. Hassler; M. Hu; W. Hunt; C. Jansen; A. Kasuba; K. Kirkip; J. Klein; B. Kopf; T. Lang; M. Lenderman; B. Loy; J. McNaughton; J. McQueen; T. Markussen; G. Obremski; J. Parque; E. Pujol; B. Ramsey; T. Reising; S. R. Warren; J. Roberts; V. Rivers; J. Sahler; J. Schutze; W. Seelig; V. Spinisky; T. Suomalainen; T. Turner; D. Valente; B. D. VanDenHeien; J. Wallace; D. Warner; L. Watson; C. Yarborough; N. Znamierowski.

Each summer the craft workshops in Gatlinburg, Tennessee, are made possible through cooperative efforts between the Department of Art and the Pi Beta Phi Arrowmont School of Crafts. The Pi Beta Phi Fraternity provides the funds, the facilities, and the management for Arrowmont. The University of Tennessee, Knoxville, College of Liberal Arts, Department of Art appoints the instructors and provides for the administration of craft classes with appropriate accreditation. In addition to providing advanced instruction in designer-created crafts through classes taught by nationally known craftspersons, the craft workshops have expanded to a fully-fledged program serving as a training center for artists and craftspersons from throughout the United States. Also, cooperation with national and local craft organizations has so stimulated the work of craftspersons throughout the area that their work has gone to national and international exhibition. Art has two aspects: history of art and practice of art. Knowledge of the practice of art is required of art history majors; knowledge of art history is required of studio majors. The department reserves the right to acquisition of student studio work.

UNDERGRADUATE

B.A. Major: Art History—Consists of 36 hours in art history courses numbered 2000 and above. Greek and Roman art and archaeology from the Department of Classics may be included. Art 1815 and 1825 are prerequisites to the major. Undergraduate work in art history is enhanced by knowledge of at least one foreign language and by study in an art discipline. Graduate work normally requires reading knowledge of at least two foreign languages, usually German and French.

B.A. Minor: Art History—Consists of 24 hours in art history courses numbered 2000 and above. Art 1815 and 1825 are prerequisites to the minor.

B.A. Major: Art (Concentration in Studio)—Art 1000, 1115, 1125, 1135, 3750, and eight additional hours in courses numbered 2000 and above, including a minimum of 21 hours in upper-division courses.

B.A. Minor: Art (Concentration in Studio)—None offered. For information regarding the Bachelor of Fine Arts degree, see page 180.

1000 The Visual Artist (4) Lecture course with guest artists for art majors and non-art majors. Role of visual artist. Language of art and design. Materials and processes of arts disciplines (painting, sculpture, graphics, craft, photography, and architecture). Major issues and concerns in visual arts and career opportunities. Must be taken freshman year.

1115 Studio Fundamentals (4) Development of observational skills and perception of reality. Fundamental aspects of drawing—line, tone, space, form, and composition. Primarily for students majoring in art and education majors.

1125 Studio Fundamentals (4) Surface composition and color. Primarily for art, architecture, interior design, and art education majors.

1135 Studio Fundamentals (4) Real space and volume. Primarily for architecture, art education, and interior design and art education majors.

1150 Introduction to Crafts (4) Presence of art in immediate environment; design used in daily living by...
cultures different from ours; emphasis on awareness of
2105 Survey of Drawing (4) Further exploration and
2006 Special Topics (2-4) Student or instructor in-
May be repeated.
2004 Special Topics (1-4) Student or instructor in-
structor initiated course offered at convenience of de-
 brainstorming and written into the course. Prereq: Determined by department. May be repeated.
Maximum credit 16 hours.

2105 Survey of Drawing (4) Further exploration and
2117 Intermediate Design and Color (4) Prereq:
1115-25-35.
2119 Intermediate Three-Dimensional Design (4)
Prereq: 1115-25-35.
2205 Introduction to Painting (4) Capacities of oil
and acrylic. Prerequisite: 1115, 1125, 1135 for art majors; none for non-art-majors.
2206 Special Topics in Painting (4) Student or in-
structor initiated course offered at convenience of de-
2205 Introduction to Fabric Design (4) Exploration of
printing, resist, and direct application methods of dye-
ing fabric. Includes block printing, fold/dyeing, direct
drawing, and painting.
2255 Introduction to Fiber Design (4) Exploration of
woven and non-woven constructions in fiber: loop-
ing, hitching, frum loom weaving, and related processes of
spinning and dyeing fiber. Prerequisite: 1115-25-35 for art majors; none for non-art-majors.
2236 Special Topics in Fiber and Fabrics (4) Student
or instructor initiated course offered to be attended by
department. Prereq: Determined by department. May be repeated.
Maximum credit 16 hours.
2280 Fabric Design I: Dyeing Techniques (4)
Application of dyes, dyeing, resist, and direct dyeing
2285 Fiber Design II: Non-Woven (4) Application
of interlopping, coiling, and twining in contemporary fiber
and non-fiber constructions. Prereq: 2255. May be repeated. Maxi-
mum credit 8 hours.
2270 Fabric Design II: Screen Printing (4) Utilization
of paper, resist, rust, and photo stencils in designing
surface of fabric. Prereq: 2250. 2260 also recom-
mended.
2275 Fiber Design II: Weaving (4) Application of
weaver-controlled and loom-controlled constructions in
floorloom weaving. Prereq: 2255. 2260 also recom-
mended. May be repeated. Maximum credit 8 hours.
2305 Introduction to Watercolor (4) Capacities of
understanding and working with the medium of wa-
tpaper, tempera, and watercolor. Prerequisite: 1115, 1125, 1135 for art majors, none for non-art-majors.
2315 Watercolor II (4) Techniques that make water-
color a major medium of expression. May be repeated. Maximum credit 8 hours. Prereq: 2305 for art majors, none for non-art-majors. May be repeated. Maximum credit 8 hours.
2405 Introduction to Sculpture (4) Problems in clay
modeling, construction, and basic casting techniques.
Prerequisite: 1115, 1125, 1135 for art majors, none for non-
art-majors.
2406 Special Topics in Sculpture (4) Student or in-
structor initiated course offered at convenience of de-
partment. Prereq: Determined by department. May be repeated. Maximum credit 8 hours.
2415 Sculpture II (4) Development of skills and experi-
ence in particular area of sculpture as agreed by
student and instructor. May be repeated. Maximum credit 8 hours. Prereq: 2405.
2416 Sculpture: Life Modeling (4) Modeling tech-
cniques in clay and wax, working from figure. Possibi-
elities of expression with human figure as subject. Empha-
sis on modeling process as both observational and
analytical. Prerequisite: 1115, 1125, 1135, or consent of
instructor.
2450 Introduction to Wood Sculpture (4) Explora-
tion of wood as medium of expression. Study of
tools and basic skills in lamination, finishing, carving,
and use of joints. Prerequisite: 1115-25-35 for art majors,
none for non-art-majors.
2480 Wood Sculpture: Studio Projects (4) Applica-
tion of lamination and carving skills in designing utilitari-
an and nonutilitarian art objects. Prereq: 2450. May be repeated.
Maximum credit 8 hours.
2505 Introduction to Communication Design (4)
Survey of the field of graphic design. Study of
 designers’ tools and equipment. Prerequisite: 1115, 1125,
1135 for art majors, none for non-art-majors.
2506 Special Topics in Communication Design (4)
Student or instructor initiated course offered at conveni-
ence of department. Prereq: Determined by depart-
ment. May be repeated. Maximum credit 16 hours.
2515 Lettering and Layout (4) Fundamentals of hand
lettering and layout design. Study of designers’ tools and equipment. Prerequisite: 1115, 1125, 1135 for art majors, none for non-art-majors. Will not substitute for 2516.
2516 Advertising Design (4) Fundamentals of letter-
ing and layout for newspaper, magazine, television,
outdoor advertising. Non-art majors only.
2525 Production (4) Theory and practice of mechani-
cal preparation of art work for various printing pro-
cesses. Emphasis on skills and craftsmanship. Prereq:
2515.
2545-55-65 Photo-Graphica (4,4,4) Introduction to
art of photography.
2560 Introduction to Printmaking (4) Relief, lithogra-
phy, intaglio, and screen printing.
2610 Intaglio II (4) Metal plate intaglio printing in
traditional and contemporary techniques of etching,
drypoint, mezzotint, aquatint, and photolithography. May be repeated.
Maximum credit 8 hours.
2616 Lithography II (4) Exploration of stone and
aluminum plate lithography applying traditional and
contemporary printing techniques. May be repeated.
Maximum credit 8 hours.
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 tech-
niques of jewelry and metalworking. Prerequisite: 1115,
1125, 1135 for art majors, none for non-art majors.
2656 Special Topics in Metal Design (4) Student or
instructor initiated course to be offered at convenience
department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.
2665 Metal Design II: Jewelry (4) Additional jewelry
and metalworking techniques including casting,
stonesetting, and forming. Prereq: 2655. May be re-
peated. Maximum credit 8 hours.
2751 Metal Design II: Enameling (4) Exploration of
vitreous enamel as individual art form and in combina-
tion with other materials. Prereq: 2655. May be re-
peated. Maximum credit 8 hours.
2725 Black Art (4) Black art history in America. 19th
century to contemporary trends.
2935 Film Design (4) Introductory theory and practice
of film making. Emphasis on graphic elements through
use of motion picture camera. May not receive credit for
both 2116 and 2935.
2950 Introduction to Ceramics (4) Exploration of
ceramics. Designing and constructing pottery forms
using pinch, coil, slab, and wheel techniques. Prereq:
1115-25-35 for art majors, none for non-art majors.
2950 Special Topics in Ceramics (4) Student or in-
structor initiated course to be offered at convenience of de-
partment. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.
2960 Ceramics II: Handbuilding Techniques (4)
Prereq: 2950.
2970 Ceramics II: Wheel Techniques (4) Prereq:
2960.
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. Prereq: 2115.
3119 Design Resources (4) Sources, development,
and application of design as it relates to visual arts.
Design proceedings, tools, and materials utilized in
designing research projects. Prereq: Completion of
studio core.
3215 Painting III (4) individual expression with varied
media on canvas. May be repeated. Maximum credit 12 hours. Prereq: 8 hours of credit in 2215 for art majors; consent of instructor for non-art majors.
3260 Fabric Design III: Stitchery and Applique (4)
Stitching and application methods in designing surface
of fabrics. May be repeated. Maximum credit 12 hours.
3270 Fabric Design III: Individual Class Projects (4)
Prereq: 3260 or consent of instructor. May be repeated.
Maximum credit 8 hours.
3275 Fiber Design I: Individual Class Projects (4)
Prereq: 3260 or consent of instructor. May be repeated. Maximum credit 8 hours.
3315 Watercolor III (4) Individual expression with
water-based media on paper. May be repeated. Maximum credit 12 hours. Prereq: 8 hours in 2315 for art majors, consent of instructor for non-art majors.
3415 Sculpture III (4) Individual projects through dis-
cussion with instructor. Designed to widen previous
experience. May be repeated. Maximum credit 12 hours.
3416 Sculpture: Advanced Life Modeling (4) Ad-
vanced modeling techniques in clay and wax, working
from live model. Prereq: 3415 or permission of instructor.
3515 Graphic Design (4) Advanced theory and tech-
niques visual problem solving for printed materials
and television. Prereq: 2525.
3516 Typography (4) Theories and techniques of
typography and printing as fine art medium. Creative
problems are solved using type and printing presses.
May be repeated. Maximum credit 12 hours.
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)

5101 Foreign Study (1-12)

5102 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)

5245 Graduate Sculpture I (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 (2-4)

5425 Graduate Sculpture II (2-4)

5525 Graduate Communication Design I (2-6)

5526 Graduate Communication Design II (2-6)

5625 Graduate Communication Design III (2-6)

5626 Graduate Communication Design IV (2-6)

5627 Graduate Printmaking—Intaglio (2-6)

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

5625 Graduate Printmaking—Lithography II (2-6)

5626 Graduate Printmaking—Intaglio 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 (2-4)

5975 Graduate Ceramics II (2-4)

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. Garney, Ph.D. Iowa; D. M. Lipscomb, Ph.D. Washington, I. V. Nabile, 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, 3170, 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, 4330, 4850, 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 audiology majors are: Audiology and Speech Pathology 4560, 4610, 4750 and Psychology 2500, 2520, 2530, and 3150 plus not less than 10 nor more than 22 credit hours from the following: 3065, 4320, 4460, 4470, and 4940.

Additional recommended courses for speech pathology majors are: Audiology and Speech Pathology 4520, 4450, 4460, 4470, 4750, Anthropology 2530 or 3410, Psychology 2500, 2520, 2530, 2540, 3150, Special Education 4030, 4341, 4342, 4110, 4120, 4130, 4160, and Child and Family Studies 4610.

191 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 predication of English sounds with analysis of their formation; acoustic characteristics of speech and speech perception.

3055 Speech Science II (4) Anatomy and physiology of speech production mechanism. 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 3550 or Educational Psychology 2430 recommended.

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

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 advice with diagnostic tests. Prereq: 3040, 3050, or consent of instructor. (Same as Special Education 4040.)

4070 Free Association (4) Orals and written free association as procedure for diagnosing and treating communicative disorders. Includes didactic self analysis.

4101 Foreign Study (1-16) See page 185.

4102 Off-Campus Study (1-16) See page 185.

4103 Independent Study (1-16) See page 184.

4190 Speech Development of the Hearing Impaired (3) Prereq: 3050. 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.)

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

4320 Aural Rehabilitation (14) Prereq: 3040. 4320 Aural Rehabilitation (14) Prereq: 3040 (Same as Special Education 4320.)

4330 Clinical Practice in Speech Pathology (1-6) Prereq: 3040, 3050, 3310, 4040, and consent of instructor. S/NC. (Same as Special Education 4330.)

4340 Clinical Practice in Speech Pathology (1-6) Prereq: 3040 and consent of instructor. May be repeated for credit. S/NC. (Same as Special Education 4340.)

4400 Voice Disorders (4) Etiology, diagnosis, and treatment of organic and functional voice disorders. Prereq: 3040, 3065, 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: 4460, 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.

*ADMISSION TO CLINICAL TRAINING SPEECH PATHOLOGY AND AUDIOLoGY

Students who wish to enroll in clinical practice courses in speech pathology and audiology and speech pathology must apply for admission at the Hearing and Speech Center prior to the initial practicum enrollment. Clinical admissions may be limited due to available supervisory staff, clinical facilities and caseloads. A grade of "C" or better in each prerequisite course is required for clinical practice enrolment. 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.

4550 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.

4840 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.

4850 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.

4860 Topica 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 overlap of special auditory tests. Prereq: 3710. (Same as Special Education 4720.)


4830 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 4830.)

4840 Introduction to the Verbo-Tonal System (4) Prereq: 3710 or 4760; 4930 and 3050 recommended. (Same as Special Education 4840.)

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)

5051 Practicum in Aural Rehabilitation (1-6)

5060 Anatomy and Physiology of Speech (3)

5070 Anatomy and Physiology of Hearing (3)

5071 Physiological Acoustics and Electrophysiology (3)

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)

5201 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)

5350-60-70 Advanced Clinical Practice in Speech Diagnosis (1-6, 1-6, 1-6)

5380 Cerebral Palsy (3)

5381 Adult Dysarthria (3)

5390 Cleft Palate (3)

5440 Hearing Aid Evaluation (3)

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)

5506 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)

5570 Management and Supervision for Speech-Language-Hearing Professionals (3)

5600 Independent Study in Audiology (1-6)

5610 Practicum: Language Pathology in Children (3)

5651 Seminar in Language Differences (3)

5730 Hearing Disorders (3)

5740 Pediatric Audiology (3)

5750 Educational Audiology (3)

5790 Seminar in Psycholinguistic Concepts in Speech Pathology (3)

5830 Advanced Aural Rehabilitation (3)

5950 The Verbo-Tonal System (3)

6000 Doctoral Research Dissertation

6010 Experimental Phonetics (3)

6019 Experimental Phonetics Laboratory (2)

6020 Psychoacoustics (3)

6029 Psychoacoustics Laboratory (2)

6060 Applied Anatomy and Physiology of Speech Mechanism (3)
6069 Laboratory in Applied Anatomy and Physiology of Speech Mechanism (2)
6070 Experimental Techniques in Cochlear Physiology and Neurophysiology (3)
6080 Seminar in Speech Science (3)
6090 Seminar in Hearing Science (3)
6110 Experimental Design in Speech and Hearing (3)
6117 Theories of Hearing (3)
6119 Advanced Instrumentation in Speech and Hearing Science (3)
6500 Advanced Seminar in Audiology (3)
6520 Advanced Seminar in Speech and Language (3)
6560 Directed Research (1-6)
6570 Directed Study in Speech Pathology (1-3)
6580 Directed Study in Audiology (1-3)
6590 Directed Study in Speech Science (1-3)
6600 Directed Study in Hearing Science (1-3)

Bacteriology

See Microbiology.

Biochemistry (186)

Professors: W. D. Hicks, Ph.D. Harvard (Head); J. E. Churchich, Ph.D. Sheffield (England); J. G. Joshi, Ph.D. Poona (India); K. J. Monty, Ph.D. Rochester.

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

Assistant Professors: L. Brattsten, Ph.D. Illinois; R. E. Bryant, Ph.D. Illinois; R. H. Feinberg, Ph.D. California (Berkeley); E. Freire, Ph.D. Virginai; J. Koonz, Ph.D. Kentucky.

UGERGRADUATE

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 4450, 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 tissues. Metabolism of carbohydrates, lipids, proteins, and nucleic acids. Biochemistry of body fluids. Action of drugs and hormones. Prereq: Chemistry 1110-20-30 or 1118-28 or Zoology 1118-28 and at least 15 hours of upper-division courses chosen from: Botany 3030, 3010, 4030, 4310, Forestry 3025, 3550, 3730, 4020, Geography 3520-30; Microbiology 4110, 4150, Wildlife 3200, 4450, 4460, 4720-29. In meeting the upper-division minimum requirement, at least 8 hours must be chosen from the list below. 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.

Concentration in Ecology Consists of Biology 3110-20-30, Chemistry 3211-21-31, and 3219-29-39, and Environmental Engineering 3000, either Geography 3250 or Geography 3530, and 17 hours of upper-division courses from: Botany 3030, 3010, 4030, 4310; Forestry 3025, 3550, 3730, 4020; Geography 3520-30; Microbiology 4110, 4150, Wildlife 3200, 4450, 4460, 4720-29. In meeting the upper-division minimum requirement, at least 8 hours must be chosen from the group Botany, Microbiology, and Zoology. Prerequisites to this concentration 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); Physics 1210-20 or 2210-20.

Note: Students majoring in biology are advised to exercise care in fulfilling the science and mathematics Triad requirements. Math 1841-51 (or in some cases 1550-60) and chemistry 1110-20-30 or equivalent (20 hours altogether) must be completed by biology majors. Students majoring in biology are advised to consider completion of a physical science minor (page 222).

Minor: Consists of Biology 3110-20-30 and 12 hours of upper-division courses chosen from the list below. Biochemistry 4110-20, 4119, 5010, Botany, any 3000 or 4000-level courses; Microbiology 3150, 3250, 3300 or 4000-level courses; Zoology, any 3000 or 4000-level courses except 3010-20-30. (In meeting the upper-division minimum requirement, not more than 10 hours may be transferred from any one biological science department, and not more than 4 hours of research courses may be credited.) Prerequisites to this minor are

Biophysics

Consists of Biophysics 5000, 5110, 5120, and/or 4500, 5010, and/or 4250, 4290, 4369, 4380, 4450. In meeting upper-division minimum requirements, 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 or 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.

Concentration in Organismal and Systems Biology Consists of Biology 3110, 3120, 3130, Chemistry 2141-21-31, 3219-29-39, and 16 hours of upper-division courses from: Biochemistry 3110, 4110-20, 4119, 4500; Botany, any 3000 or 4000-level courses including not more than 3000, 3070, 3090; Microbiology 3200, 3700, 3519, 4110-19, 4140-49, 4270-79, 4420, 4908; Zoology 3050, 3060, 3080, 3150, 4050, 4110-20-30, 4250, 4290, 4369, 4380, 4450. In meeting 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 or 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.

Biophysics (190)

Coordinator: K. J. Monty

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

A. Concentration in Cell Biology Consists of Biology 3110-2030, Chemistry 3211-21-31,
introductory biology courses (Biology 1210-20-30 or Botany 1110-20 or 1118-28 or Zoology 1118-28) and Chemistry 1110-20-30.

Note: Certain upper-division courses require organic chemistry or other prerequisites; consult the catalog description in each case.

1210-20-30 General Biology (4,4,4) 1210—Biology of cells: chemical basis of life, cell structure and function, energy metabolism, cell division, DNA, RNA, and protein synthesis, monera, protista, and fungi. 1220—Biology of plants and animals; survey of plant kingdom, structural and functional aspects of plant tissues, plant growth and reproduction, survey of the animal kingdom, reproduction and development in animals, animal tissue and organ systems. 1230—Genetics, evolution, populations and ecology. May be taken in any sequence. Students who receive credit for 1210-20-30 may not also receive credit for Botany 1110-20, 1119-28 or Zoology 1118-28-38.

3110 General Genetics (4) Classical and modern principles of heredity. Prereq: 1210-20-30 or Botany 1110-20 or equivalent of 2 years of high school biology and satisfactory ACT scores; Chemistry 1110-20-30. 3 hrs and 1 additional class meeting. May be taken in any sequence or combination with 3120 and 3130.

3120 Cell Biology (4) Organization and function of the cell. Topics: membrane, DNA, protein synthesis, 5 hrs and 1 additional class meeting. May be taken in any sequence or combination with 3110 and 3130.

3125 General Ecology (4) Relations between organisms and their environment, including human environment. 3 hrs and 1 additional class meeting. May be taken in any sequence or combination with 3110, 3120, 3125, 3130, 4710.

3130 General Zoology (4) Principles of heredity. Prereq: 1210-20-30 or Botany 1110-20-30 or Biology 1210-20-30. 1210-20-30 required of students in Department of Botany and Biology. Students not receiving credit to this minor are Botany 1110-20, 1140 or 1118-28, or Biology 1210-20-30.

Corequisites are 4 hours of upperdivision courses in a related biological science (zoology, microbiology, biochemistry, entomology, agricultural biology, forestry, or plant and soil science).

1110-20 Fundamentals of Botany (4,4) Nature and development of plants, including processes, structure, life histories, inheritance, ecology, and importance to man. Enrollment in sequence is desirable. Two 1-hour discussions and approximately 3 hours audio-visual laboratory per week. Students may not receive credit for both Botany 1110-20 and Biology 1210-20-30.

1118-20 Honors: Fundamentals of Botany (6,6) Honors course designed for superior students who are majoring in biology or botany. Open to freshmen with a score of 27 or better on the Scholastic Aptitude Test or the American College Testing Program, or sophomores who have a cumulative grade point average of 3.25 or greater in the sciences. Required by department, omit the freshman year sequence and enter 1118-20. Students must take a cumulative examination after completing 1118-20 and 1120. Three 2-hour lecture-lab-discussion. Must be taken in sequence. Students may not receive credit for both Botany 1118-20 and Biology 1210-20-30.

1140 Selected Topics in General Botany (4,4) Areas will include plant growth, population genetics, environmental interactions, and impact of human activities on biological resources. Lectures, laboratory, field trips, and individual projects. Two hours lecture-discussion and 4 laboratory workshops per week. Occasional field trips. Prereq: Botany 1110-20 or Biology 1210-20-30.

3010-30 Plants in Evolution (4,4) Monera and algae; evolution of vascular plants; brief survey of other land plants; role of plants in present civilizations. Prereq: Botany 1110-20 or Biology 1210-20-30.

3050 Socio-Economic Impact of Plants (3) Significance of plants in various aspects of human civilization. Prereq: 6 hours biology and 6 hours in cultural or social science.

3051-32 Field Botany (4,4) Emphasis on fall and winter flora, respectively. Prereq: 3030. Need not be taken in sequence.

3052-35 Field Botany (4,4) Study of plants in natural environments including plant identification, collection, preservation, and basic ecological concepts. Prereq: 6 hours of biological sciences. Not for botany graduate credit.


4075 Botanical Photography (3) Emphasis on photography of natural history subjects and achievement of technical and aesthetic skills and knowledge to produce illustrations for class, seminar, or public lecture. Landscape, habitat, close-up, and small object photography, in color, using 35 mm format emphasized. Limited shared equipment available. Students encouraged to use own equipment. Film and processing costs paid by student. Photos processed and critiqued in 4012. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq: 6 hours of botany. Recommended: Botany 3010-20.

4240 Paleobotany (4) (Same as Geology 4240.)
4310 Plant Ecology (4) Interactions between individuals, species communities and their environments. Circulation of energy and matter in ecosystems. Weekly field trips or laboratory periods, and at least two weekend field trips. Prereq: 3030 or equivalent.
4410-20-30 Undergraduate Research Participation (2,2,2) Experience in active research projects under supervision of staff members. Prereq: junior or senior standing, minimum grade average 3.0, consent of instructor.
4710-20-30 Senior Seminar (1,1,1) At least 2 hours of 4710-20-30 are required of botany majors. Prereq: senior standing.
4830 Field Measurements in Plant Ecology (3) Practice in the use of field and laboratory instruments for the measurement of environmental factors, plant functions, and/or community characteristics. Data collection will be followed by analysis and interpretation of data. Visits to highly instrumented field sites will be included. Prereq: 3030 or equivalent; 1 year of physics and chemistry recommended.
GRADUATE
5000 Thesis
5002 Non-Thesis Graduation Completion (3-15)
5003-04 Non-Thesis Research (3,3)
5011 Mycology (4)
5012 Morphology and Evolution of Phycomycetes (4)
5021 Bryology (4)
5022 Lichenology (4)
5031 Vascular Plant Taxonomy (4)
5061 Physiological Ecology (4)
5095 Phytoplankton Ecology (4)
5040 Principles of Biological Illustration (3)
5080 Pteridology (4)
5090 Morphology and Evolution of Beadilomyces (4)
5120 Agrostology (4)
5150 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 (1-6,1-6,1-6)
5340 Plant Geography (4)
5350 Analysis of Plant Communities (4)
5360 Marine Ecology (3)
5410-20-30 Seminar in Teaching of College Botany (1,1,1)
5450 Seminar in Botany (1)
5510-20-30 Systems Ecology (3,3,3)
5780 Plant Cytology (4)
5810 Cytogenetics (4)
5820-21-22-22-23-24 Methods and Instrumentation in Laboratory Investigations (1,1,1,1,1,1)
5830 The Field Research Problem (4)
5850-51-52-53-54-55 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)
6050 Advanced Topics in Cryptogamic Botany (2-4)
6210 Phytopathology (3)
6310 Advanced Topics in Cytology and Cell Biology (2-3)
6320 Ecosystems of the World (3)
6420 Advanced Topics in Genetics (2-4)
6520 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. Mamanov (Head), Ph.D. Louisiana State; N. S. Bowman, Ph.D. Princeton; C. A. Buehler (Emeritus), Ph.D. Ohio State; R. J. Scott, Ph.D. Illinois; J. Q. Chambers, Ph.D. Kansas; J. A. Dean (Emeritus), Ph.D. Michigan; J. F. Eastham, Ph.D. California (Berkeley); W. H. Fletcher, Ph.D. Minnesota; G. W. Kabalka, Ph.D. Purdue; C. W. Keenan, Ph.D. Texas; D. C. Kleinfelder, Ph.D. Princeton; J. W. Larsen, Ph.D. Purdue; M. H. Lietzke, Ph.D. Wisconsin; R. M. Magid, Ph.D. Yale; G. D. O'Keeffe, Ph.D. California (Berkeley); R. M. Fagan, Ph.D. Wisconsin; J. R. Peterson, Ph.D. California (Berkeley); G. K. Schweitzer; D. W. Illinois; D. A. Shively (Emeritus), Ph.D. Iowa State; H. A. Smith (Emeritus), Ph.D. Harvard; W. T. Smith (Emeritus), Ph.D. Ohio State; W. A. Van Hook, Ph.D. Johns Hopkins; E. W. Wehry, Ph.D. Purdue; T. F. Williams; Ph.D. London (England); J. H. Wood (Emeritus), Ph.D. North Carolina.

Associate Professors: J. E. Bloom, Ph.D. Manchester (England); F. A. Grimm, Ph.D. Cornell; J. F. Kissling, Ph.D. Akron; C. A. Lane, Ph.D. California (Berkeley); F. M. Schell, Ph.D. Indiana.

Assistant Professors: J. L. Addock, Ph.D. Texas; S. D. Alexandrakis, Ph.D. California (Berkeley); J. D. Kova, Ph.D. Yale; L. J. Magid, Ph.D. Tennessee; M. J. Sepaniak, Ph.D. Iowa State; C. Woods, Ill., 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 163.

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.

The prerequisite A consists of Chemistry 1110-20-30, Mathematics 1840-50-60, 2840-50, Physics 2510, 2310-20. The concentration consists of Chemistry 2140, 2149, 3211-23-21, 3219-29-39, 3410-20-30, 3429 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 requirement but at least one three-hour chemistry course must be included.) While not required, Math 2660 is highly recommended as an elective for majors in this concentration.

Concentration B is specifically 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 not appropriate for students intending to become professional chemists.

The prerequisites consist of Chemistry 1110-20-30, Mathematics 1540-50-60 or 1840-50-60, and any one of the following natural science options: (a) Physics 2210-20-30 or 2510, 2510-20, (b) Geology 1510-20, (c) Biology 1210-20-30; (d) Biology 3110-20 and Microbiology 3200, 3519; (e) Botany 1110-20. The concentration consists of Chemistry 2140, 2149, 3211-23-21, 3219-29-39, 4910-20-30, 4929 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 requirement but at least one three-hour chemistry course must be included.)

A minor in chemistry shall consist of the successful completion of 24 hours of chemistry courses numbered 2000 and above including Chemistry 2140-40 (4 hours) and at least one of the following sequences: Chemistry 3211-31-31, 3219-29-39, 4910-20-30, 4929 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 requirement but at least one three-hour chemistry course must be included.)

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 3510. 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 change 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 and may then 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 reduced to 10 to permit 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 grade of C or D in 1128 will not be eligible for 1138 and must take 1130 to get credit. Beginning students who have had high school chemistry and who have had additional experience (e.g., summer institute study, special research projects, home laboratory) are invited to apply during the summer to the head of the department for permission to take a proficiency examination in one or more quarters of freshman chemistry. If a satisfactory grade is made on the examination, credit will be allowed for the quarter (or course) for which the exam was taken.

1110-20-30 General Chemistry I (4,4,4) General courses of theoretical and descriptive chemistry. 1110—Modern atomic theory, chemical bonding, stoichiometry, and quantum theory. 1120—Quantitative aspects of solution chemistry, kinetics, chemical equilibria, and thermochemistry. 1130—Non-metallic and metallic elements, electrochemistry, and introduction to organic and biochemistry. Must be taken in sequence. 3 hours and 1 lab.

1118-28-38 Honors: General Chemistry (4,4,4) (See explanation above) 3 hours and 1 lab.

1410 Chemistry for Nurses (4) Inorganic compounds, organic compounds, and biochemistry. 3 hours and 1 lab.

1420 Chemistry for Nurses (4) Aromatic compounds and biological chemistry. Prereq: 1410. 3 hours and 1 lab.

1510-20-30 General Chemistry II (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, oxidation and reduction, kinetics and equilibria. Introduction to organic chemistry, alkanes, unsaturated and aromatic hydrocarbons. 1530—Structure and bonding in biomacromolecules: proteins and nucleic acids. 1540—Introductory biochemistry—amino acids and proteins, carbohydrates, lipids, 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 society and dealing with current social concerns. 1610—Basic principles of chemistry, reaction mechanisms, and the applications of modern techniques to solution of chemical problems. Not open to students taking 3210-20-30. 3 labs. (Not open to students who have completed 4610.)

3219-29-39 Organic Chemistry Laboratory (1,1) Experiments on topics discussed in 3212-21-31. Corresponding lecture (3212-21-31) is coreq for students not having credit for the lecture.


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 spectrophotometric 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: 3219-29-39 or 3219, 3529-39 is a coreq for students not having credit for the lecture.

3810 Radioactivity and its Applications (3) Radioactive materials in tracer and therapeutic applications. Radioactive decay and disintegration, and related techniques. Introduction to radioactivity. 3819 Organic Chemistry Laboratory (1) Experiments in topics discussed in 3219-35-39. Similar to 3219 laboratory. Must be taken in sequence. Prereq: Math 1550 or equivalent, 1 year of general chemistry.


4119 Physical Chemistry Laboratory I (1) Solutions, phase equilibria, reaction kinetics, and spectroscopy. Corresponding course 4110 is coreq.

4160-70 Intermediate Physical Chemistry (3,3) Designed for entering graduate students who have had one year of physical chemistry. 4160—Three laws of thermodynamics, heat engines and refrigerators, solutions, and chemical equilibria. 4170—Gases and kinetic theory, chemical kinetics, molecular spectroscopy, and introduction to chemical statistics. 4210 Advanced Analytical Chemistry I (3) Chemical separations including chromatography, ion exchange, and solvent extraction; spectrophotometric techniques. Prereq: 2140-49.

429 Advanced Analytical Chemistry Laboratory I (1) Experiments on topics discussed in 4210. Coreq: 4210.

4220 Advanced Analytical Chemistry (3) Electroanalytical methods of analyses (including potentiometry, coulometry, polarography, and voltammetry); magnetic resonance methods; mass spectrometry; x-ray absorption and fluorescence techniques. Prereq: 2140-49, 3420 or 4290 recommended.

4229 Advanced Analytical Chemistry Laboratory I (1) Experiments on topics discussed in 4220. Coreq: 4220.

4240 Physical Inorganic Chemistry (3) Theoretical concepts leading to an understanding of inorganic chemistry, as applied to particular examples of molecular structure, and chemical reactivity. Prereq: 3410-20-30, 4110.

4429 Biophysical Chemistry Laboratory (1) Experiments in topics discussed in 4910-20-30. Must be taken in sequence. Not open to students taking 4310-20-30-39 sequence. 4929 is coreq or prereq for 4929. 1 lab.

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 minoring in chemistry, the prerequisite is two years of chemistry including qualitative 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) 5129 Advanced Organic Chemistry Laboratory (3) 5139 Spectroscopic Characterization of Organic Compounds (2)

5140 Introductory Polymer Chemistry (3)

5150 Kinetics of Polymerization (3)

5190 Organic Chemistry of Polymers (3)

5170 Physical Chemistry of Polymers (3)

5220 Analytical Chemistry of Environmental Pollutants (3)

5240 Chemical Instrumentation (4)

5290-60-70 Advanced Analytical Chemistry (3,3,3) 5295-69-79 Advanced Analytical Chemistry Laboratory (1,1,1)

5340-50 Quantum Chemistry (3,3)
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 3210-20-30, 3310-20, 4010. 4101 may be taken for a maximum of 6 hours. The Greek 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, 3310, 3320.

1210-20-30 Beginning Greek (3,3,3) Must be taken in sequence.

2610 Xenophon (4)
2620 Homer: Odyssey (4)
2630 Homer: Iliad (4)
2640 Greek New Testament (4) Prereq: 2610 or consent of instructor.

2650 Readings in Hellenistic Greek (4) Reading and discussion in religious and secular literature of Hellenistic Greek (koine). Prereq Classics 1210-20-30. May be repeated. Maximum credit 8 hours. (Same as Religious Studies 2650.)

3010 Plato (3)
3020 Herodotus (3)
3030 Euripides (2)
4020 Aeschylus, Sophocles (3)
4030 Lysias (3)
4040 Aristophanes (3)
4050-60-70 Directed Readings in Greek (3,3,3)

Latin

UNDERGRADUATE
A major in Latin consists of 39 hours in 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 3210-20-30, 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 earns 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—Virgil's Aenid. 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 Cautilus (2) Prereq: 3 or 4 years of high school Latin or 2521.

3440 Livy (3)

3450 Pliny and Martial (3)

3460 elegiac 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 (3,3,3) May be repeated for credit.

4340 Horace, Odes (3)

4350 Tacitus (3)

4360 Lucrètius (3)

4370 Readings in Medieval Latin (3)

GRADUATE

5410-20-30 The Latin Epic. Lucretius, Virgil, Lucan (3,3,3)

5510-20-30 The Latin Comic. 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, 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 bases. General, non-technical vocabulary. Exercises in English etymology. Open to students who have credit for either Classics 2710 or 2720.

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. Slices 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 Greece. Emphasis on Roman attitude toward deity, religion, and society. Readings, lectures, slides, and discussion. (Same as Religious Studies 3220.)

3310 Art and Archaeology of the Aegean Bronze Age and Early Greece (3) and Early Greece (3) Troy, and 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 Greek 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 650 B.C. to 500 A.D. 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, Pasetum, Cumas, Praeneste, 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 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 Augustan 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 1 3856.)

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:

T. Feagin (Head), Ph.D. Texas; R. M. Aiken, Ph.D. Northwestern; J. M. Moshell, Ph.D. Ohio State; K. C. O'Kane, Ph.D. Pennsylvania State; C. P. Pfleiger, Ph.D. Pennsylvania State; M. G. Thomason, Ph.D. Duke.

Assistant Professors:

R. H. Weller, Ph.D. and Stephen Methods; D. L. Matsuek, Ph.D. Texas; M. R. O'Kennon, Ph.D. Clarkson; R. H. Sady, Ph.D. Notre Dame; D. W. Straight, Ph.D. Texas.

Instructor:

K. Y. Bowler, M.S. Tennessee.

*Space Institute

UNDERGRADUATE

Computer science offers an undergraduate major 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 is a prerequisite to a major in computer science which consists of 2610, 2710, 3155, 3520, 3715, 4510, 4550, and an additional 15 hours selected from computer science intermediate and advanced courses. Also required are Math 2480-50 and Statistics 3450.

Minor: A minor in computer science consists of 2610, 2710, and an additional 18 hours of upper division computer science courses.

Introductory and Service Courses

1410 Introduction to Business Oriented Programming (3) Current and potential uses of computers as tools in commerce and management with emphasis on learning FORTRAN programming. Not for computer science majors. Students may not receive credit for both 1410 and 1510.

Introduction to Programming—FORTRAN (4) Computer as a tool of varied uses in modern world; emphasis on basic programming in FORTRAN. Problem-solving process; organization and characteristics of digital computers. Survey of applications of computers in various disciplines. Students may not receive credit for both 1410 and 1510.


2610 Programming Techniques in FORTRAN (3) Problem formulation and solution. External devices and direct access input and output. For students who have programmed before in a higher level language. Prereq: 1510 or 1610 or 3150 or consent of instructor.

2710 Machine Organization (3) Elementary computer architecture. Introduction to machine and assembly language programming, representation of data, and machine-level programming. Prereq: 2610 or 3150 or 3520.

3010 Computers and Society (3) History of computing and computer systems; capabilities of computer applications in artificial intelligence, humanities, social sciences, and engineering. Examination of ethical problems in foreign countries; computer assisted instruction; future advances in computing; careers in computing. Prereq: Consent of instructor.

3150 Introduction to Numerical Algorithms and Programming (3) Roots of equations, systems of linear equations, least-squares data fitting, numerical integration, numerical methods for ordinary differential equations. Introduction to FORTRAN IV. Prereq: Math 2860. (Same as Math 3152.)

3155 Introduction to Numerical Algorithms (3) Roots of equations, systems of linear equations, least-squares data fitting, numerical integration, numerical methods for ordinary differential equations. Introduction to FORTRAN IV. Prereq: Math 2860. (Same as Math 3152.)

4010 Computer Programming—COBOL (3) Computer programming in businesses-oriented language COBOL. Prereq: 1410 or 1610 or 3150 or consent of instructor.

4910 Commercial Computer Concepts and Control (3) Elements, operation, and control of computers in a business environment. Topics include input, storage, data manipulation, output, flowcharting, and error control. Prereq: 3410 and Accounting 3210.

4310 Statistical Data Processing (3) FORTRAN language and its use in data processing and scientific data. Use of SPSS and SAS programs for standard statistical analyses such as frequency distribution, percentage, data reduction correlation and regression, analysis of variance. Not for credit for computer science majors. Prereq: Statistics 2100 or equivalent.

4320 Independent Study in Computer Science (1-3) Special project in area of student's primary interest. To be directed by computer science faculty, perhaps jointly with student's faculty advisor. Prereq: Consent of instructor. May be repeated. Maximum credit 9 hours.

4340 Interactive Statistical Data Processing (3) Statistical data processing using interactive computer systems. Use of computer utility and statistics programs such as StatPack, editors, and FORTRAN. Not for credit for computer science majors. Prereq: Statistics 2100 or equivalent and Computer Science 4310 or knowledge of a procedure-oriented language such as FORTRAN.

Intermediate and Advanced Courses

3510 Computer Organization and Programming I (3) Problem formulation and advanced programming in FORTRAN; operation and control of digital computers. Prereq: 1410 or 2510 or 3150 or consent of instructor.


3715 Discrete Structures (3) Introduction to discrete structures useful in computer science. Graphs and algorithms for manipulating data represented by them. Algebraic structures, Boolean algebras, lattices, graphs, monoids. Prereq: 3715 or equivalent. Prereq: Math 3715.

3725 Advanced Discrete Structures (3) Advanced topics in discrete structures useful in computer science. Graphs and algorithms for manipulating data represented by them. Algebraic structures, Boolean algebras, lattices, graphs, monoids. Prereq: 3715 or equivalent. Prereq: Math 3715.

4590 Number Systems for Digital Computers (3) Floating-point number representation, mixed-radix representation, multiple-modulus residue number representation, finite-segment p-adic number representation, errors in floating-point computation, finite fields, and exact computation using digital computers. Prereq: 3155.

4210 Introduction to Artificial Intelligence (3) Intelligent computer, general problem-solving, expert systems, natural language understanding, computer vision and learning. Computer implementation of AI problems in Prolog. Prereq: 4510. (Same as Electrical Engineering 4210.)
4450 Small Computer Systems (3) (Same as Elec. Engr. 4150.)
4410 Analysis and Management of Computer Installations (3) Analysis and design of computer systems; implementation, justification, performance in systems; perspective on systems. Prereq: 3520 or equivalent.
4490-90 Special Topics in Computer Science (1-4) Credit determined at time of registration. May be repeated. Maximum credit 9 hours with consent of department. Prereq: Recommendation of computer science staff

GRADUATE
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 of 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 Theory of Compilers (3)
5455 Finite Difference Methods for Partial Differential Equations (3)
5465 Finite Element Methods (3)
5475 Advanced Topics in Numerical Partial Differential Equations (3)
5570 Database Management Systems (3)
5665-67-75 Numerical Mathematics (3,3,3)
5670-80 Advanced Operating Systems (3,3)
5710 Finite Automata Theory (3)
5730 Computability and Computational Complexity (3)
5750 Theory of Formal Languages (3)
5775 Combinatorial Algorithms
5810 Information Organization and Retrieval (3) 5840-50 Pattern Recognition (3)
5880 Data Security (3)
5910-30-50 Special Topics in Computer Science (1-3, 1-4, 1-6)
5940-50 Advanced Small Computer Systems (3,3)
5970 Independent Study in Computer Science (1-3)

Cultural Studies
Director: Dr. Charles O. Jackson
Basic Faculty:
B. K. Dumas, Ph.D. English; Donald M. Fine, Ph.D. Russian; E. J. Gangloff, Ph.D. Special Programs; R. Gwynne, Ph.D. Special Programs; T. J. A Hefferman, Ph.D. English; Ferdinand A. Hilters, Ph.D. Special Programs; W. L. Humphreys, Ph.D. Religious Studies; C. O. Jackson, Ph.D. History; I. Leki, Ph.D. Special Programs; H. E. Lewald, Ph.D. Spanish; D. M. Morrow, M.A. Special Programs; M. L. Osborne, Ph.D. Philosophy; M. E. Peek, M.A. Special Programs; H. Q. 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 cultural studies concentrations in American studies, Ancient Mediterranean 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.

American Studies (099)
History 2510-20 (or equivalent honors courses) are prerequisite to a concentration in American studies which consists of 36 quarter hours: English 3010-20-30, American Studies 3010 and 4010, and 21 hours of upper-division elective 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.

3233-34 Forms of Popular Literature and Culture (3,3) (Same as English 3233-34.)
4010 Topics in American Culture (3) Content varies. May be repeated once.

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 courses (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, 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 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, religious studies, and sociology. Students who prefer to use Asian Studies 2510-20 for Triad or elective credit may, with permission of 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. Eric Gangloff.
ARABIC (127)
Asian Language and Literature
4770-80-90 Intermediate Sanskrit (4,4,4) (Same as Religious Studies 4940-50-60.) and composition practice with native speaker. Must be Japanese in graded primer with attention paid to finer points of grammar. Class will include conversation, drill, and composition practice with native speaker. Must be taken in sequence.

2510-20 Asian Civilization (4,4) Must be taken in sequence. Three class meetings and two laboratory periods. May be repeated once for credit.

2431-32-33 Elementary Modern Standard Arabic (4,4,4) Must be taken in sequence. Class meetings and two laboratory periods. May be repeated once for credit.

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—Fires of classical civilizations. 2520—Traditions 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 (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 Literature 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 novels. Major concentration is on the ancient and classical periods of Indian literary history.

3631-32-33 Intermediate Japanese (4,4,4) Prereq: 2631-32-33 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.

4010-20-30 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.

4631-32-33 Advanced Japanese (4,4,4) Reading in Japanese in graded primer with attention paid to finer points of grammar. Class will include conversation, drill, and composition practice with native speaker. Must be taken in sequence. Prereq: 3631-32-33 or equivalent.

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.)

Asian Language and Literature

ARABIC (127)
(See Romance Languages)

1510-20 Spoken Arabic (4,4)

2110-30 Elementary Modern Standard (3,3,3)

3510-20 Intermediate Modern Standard (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

Asian Studies 2531-32-33 Beginning 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 or equivalent or consent of instructor. Must be taken in sequence.

Asian Studies 4531-32-33 Advanced Chinese I, II, III (4,4,4) Taped language program. Prereq: 3531-32 or equivalent or consent of instructor. Must be taken in sequence.

HEBREW

Asian Studies 2631-32-33 Beginning Modern Hebrew I, II, III (4,4,4) Taped language program. Must be taken in sequence.

Asian Studies 3631-32-33 Intermediate Modern Hebrew I, II, III (4,4,4) Taped language program. Prereq: 2631-32 or equivalent or consent of instructor. Must be taken in sequence.

JAPANESE

Asian Studies 2631-32-33 Elementary Japanese I, II, III (4,4,4) Must be taken in sequence.

Asian Studies 3631-32-33 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 4631-32-33 Advanced Japanese I, II, III, (4,4,4) Reading in Japanese in graded primer with attention paid to finer points of grammar. Class will include conversation, drill, and composition practice with native speaker. Must be taken in sequence. Prereq: Asian Studies 3650-60 or equivalent.

PERSIAN

Asian Studies 2731-32-33 Beginning Persian I, II, III (4,4,4) Taped language program. Must be taken in sequence.

Asian Studies 3731-32-33 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.

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)

Arabic 3610 Islamic Literature In English Translation (4)

Asian Studies 3650-60 Japanese Literature In English Translation (4)

Asian Studies 3660 Modern Japanese Literature In English Translation (4)

Spanish 4050-60-70 Hispano-Arabic Literature and Culture (5,5,5)

Music 4260 Introduction to Ethnomusicology (3)

(b) Economics, Geography, History, and Political Science

Economics 4232 The Political Economy of Asian Development (3)

Geography 3870 Geography of Asia (4)

History 3780-90 History of the Middle East (3,3)

History 3785 Contemporary Middle East (4)

History 3800 North Africa since 1830 (3)

History 3810-20-30 History of East Asia (3,3,3)

History 4791 Modernization of the Middle East (3)

History 4792 Historical Writings in Islamic History (3)

History 4811-21 History of Japan (4,4)

History 4870 Cultural History of China (3)

History 4880 History of Modern China (3)

History 4890 History of Contemporary China (3)

Political Science 3621-22 Politics of Asian States (4,4)

Political Science 3641 Government and Politics of Middle East and North Africa (4)

Political Science 3795 Contemporary Middle East (4)

(c) Anthropology, Philosophy, Religious Studies, and Sociology

Anthropology 3510 Peoples and Cultures of Mainland Asia (3)

Anthropology 4510 Peoples of China in Chinese Society after 1839 (3)

Anthropology 4570 Peoples of Southeast Asia (3)

Anthropology 4590 Peoples of Japan (3)

Philosophy 3650 Philosophy and Religion in India (4)

Philosophy 3660 Buddhist Philosophy and Religion (4)

Philosophy 3671 Religion and Philosophy in China (4)

Religious Studies 3650 Philosophy and Religion in India (4)

Religious Studies 3660 Buddhist Philosophy and Religion (4)

Religious Studies 3671 Religion and Philosophy in China (4)

Religious Studies 3672 Religion and Society in Japan (4)

Religious Studies 3680 Islam (4)

Religious Studies 3760 Eastern Religions and Western Thought (3)

Religious Studies 3770 Zen Buddhism (3)

Religious Studies 4670 Topics in Eastern Religions (4)

Religious Studies 4960 Tradition, Change and Modernity In Asia (4)

Sociology 3672 Religion and Society in Japan (4)

Sociology 4960 Tradition, Change and Modernity in Asia (4)

Afro-American Studies

The concentration and minor in African and 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 coordinator of the African and Afro-American Studies Committee, Mr. Marvin Peek.

**Black Studies (195)**

1510-20 Elementary Swahili (4,4) Taped language program. Must be taken in sequence.

2010-20 Introduction to Black Studies (4,4)

3140-50-60 Directed Readings in Black Studies (1,1,1) Designed for students who are interested in doing intensive reading in some area of Black studies which is not covered 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 Studies and Anthropology 3490.)

3550 Religion and Racism in America (4) (Same as Religious Studies 3550.)

3560 Black Religion in America (4) (Same as Religious Studies 3560.)

3630-40 The Education of Black People (4,4)

3810 Afro-American Family (3,3)

4200 Senior Seminar on Pan-Africanism (4)

4102 Off-Campus Study (1-16)

4101 Foreign Study (1-16) Prereq: Consent of instructor.

4800 Afro-American Psychology (3) (Same as Psychology 4800.)

**Approved Area Courses**

**Anthropology**

3350 Peoples and Cultures of Africa (3)

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 4610-20-30 Black Literature (3,3,3)

Geography 3830 Geography of Africa (3)

History 1950-60 Afro-American History: An Introduction (4,4)

History 2950 Introduction to Afro-American History (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 3560 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 Inequality (4)

Sociology 4820 American Minority Ethnic Groups (4)

Speech 4582 Black Rhetoric (4)

**Recommended**: for the concentration and the minor:

(a) Those with a concentration in Black studies are encouraged to take a second major, with which an individually designed program in Black studies can be correlated.

(b) Students should seek academic advising from the Chairman of Black Studies for courses for the concentration of 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. Human Services 4400 and/or Black Studies 4102.

**Cinema Studies**

Minor: Consists of English 2690 and Art 2935 plus sixteen additional hours of approved area courses. It is strongly recommended that English 2690 and Art 2935 be taken before selection of electives provided for in the minor.

For further information consult the chairperson of the Cinema Studies Committee, Dr. Ferdinand A. Hilsenr.