Sophomore  
*Chemistry 1510-20-30 ................................. 12  
Economics 2110-30 ................................. 6  
Biology 2130 ................................. 4  
Forestry 3040 ................................. 3  
Plant and Soil Science 2130, 3610 ................................. 7  
Animal Science 3210 ................................. 4  
Computer Science 2410 ................................. 3  
*Electives ............................................. 11

Junior  
Zoology 3060, 4240 ................................. 8  
Wildlife and Fisheries  
Science 3230 ................................. 3  
Forestry 3110, 3250 ................................. 7  
Plant and Soil Science 3120 ................................. 3  
Botany 3030 ................................. 4  
Agricultural Mechanization 3210 ................................. 3  
*Electives ............................................. 21

Senior  
Zoology 4200, 4660 ................................. 9  
Wildlife and Fisheries  
Science 4450, 4460 ................................. 8  
Wildlife and Fisheries  
Science 4510, 4520 ................................. 8  
Forestry 4210 ................................. 3  
*Electives ............................................. 22

TOTAL: 198 hours

Or equivalent honors courses.
*Sixty hours of electives, approved by the faculty adviser, to include:
6 hours of communications electives, with Journalism 2210, 3710 highly recommended;
12 hours of social science or humanities and 20 hours of electives to be taken from the following courses:
Ag Biology 3210 (4); Animal Science 3220 (3); Animal Science 3230 (2); Animal Science 3810 (4); Animal Science 3830 (3); Biology 2110 (4); Biology 2120 (4); Botany 4130 (4); Forestry 4205 (3); Forestry 4206 (3); Forestry 4230 (3); Forestry 4440 (3); Physics 1220 (4); Zoology 3900 (5); Zoology 3950 (5); Zoology 3951 (5); Zoology 4290 (4); Zoology 4330 (4); Zoology 4670 (4); Zoology 4700-4705 (5).

Ornamental Horticulture and Landscape Design  
Adviser: Professor Williams

Man's needs go beyond food, clothing, and shelter. He requires a degree of control over his environment, especially his immediate surroundings. Ornamental plants and their use are recognized as part of the environment, hence a curriculum in Ornamental Horticulture and Landscape Design. The major areas of study within this curriculum are: horticulture, nursery management, turfgrass management, and landscape design.

The area of horticulture includes the science of producing flowering plants in field and greenhouse and the art and science of using these plants for the benefit of man. Opportunities are available as greenhouse managers, floral designers, retail salesmen, garden writers, research workers, and teachers.

Nursery management deals with the growing of trees, shrubs, and other ornamental plants for sale. Skills necessary to be a nurseryman include horticultural knowledge and a business sense. Students in this area are prepared for work in nurseries, garden centers, botanical gardens, and arborets. They may find opportunities also in research, teaching, writing, sales, and landscape maintenance.

Turfgrass management includes all aspects of growing and caring for turfgrass, whether it be golf greens or home lawns. The increasing number of golf courses and home lawns and the emphasis on better quality make new opportunities for turfgrass managers. Such opportunities include golf course superintendents, park and recreational turf managers,高手 in lawn maintenance business, producer and seller of sod, research, teaching, and sales.

Landscaping means modifying man's outdoor environment to his greatest use, comfort, and enjoyment. It not only means the use of trees, shrubs, and other plant material to accomplish this goal, but it also means having an understanding of man's requirements for working, recreation, and housing. Emphasis in the area of landscape design is on plant material and design courses. Opportunities in this area include landscape nurserymen, landscape maintenance, garden center operation, allied sales, highway landscaping, park development, research, teaching, and writing.

Freshman  
Agriculture 1110-20-30-40-50-60 ................................. 20  
*Freshman Biological Sciences ................................. 12  
*English 1510-20 ................................. 8  
*Mathematics 1540-50-60 ................................. 12

Sophomore  
*Chemistry 1110-20-30 or 1510-20-30 ................................. 12  
*Economics 2110-20 ................................. 6  
*Speech 2311 ................................. 4  
*Physics 1210 or 2210 or Geology 1510 ................................. 4  
*English or Communications Electives ................................. 6  
Social Science or Humanities Electives ................................. 6  
Plant and Soil Science 2130 ................................. 4  
Orn. Hort. and Landscape  
Design 3010 ................................. 3  
Orn. Hort. and Landscape  
Design 3020 ................................. 3

Junior  
Social Science or Humanities Electives ................................. 6  
Chemistry 2290 or 3211-19 ................................. 4  
Agricultural Biology 3130, 3210 ................................. 8  
Plant and Soil Science 3110 ................................. 4  
Plant and Soil Science 3200 ................................. 3  
Orn. Hort. and Landscape  
Design 3030 ................................. 3  
Orn. Hort. and Landscape  
Design 3110 ................................. 3  
Orn. Hort. and Landscape  
Design 4120 ................................. 4  
*Electives ............................................. 7  

Senior  
*Plant and Soil Science 3040 ................................. 3  
Orn. Hort. and Landscape  
Design 4150 or 4160 ................................. 3  
Orn. Hort. and Landscape  
Design 4210 ................................. 4  
Orn. Hort. and Landscape  
Design 4610 ................................. 1  
*Agricultural Electives ................................. 9  
*Orn. Hort. and Landscape  
Design Electives ................................. 5  
*Electives ............................................. 23

TOTAL: 198 hours

Or equivalent honors courses.
*Students should consult with departmental adviser for suggested electives and suggested course of study.
*Or equivalent physical course.
*Mathematics 1480-50-60 may be substituted for students with high mathematics scores.

Plant and Soil Science  
Advisers: Professors Seitz, Skoold and Swingle and Associate Professors Reynolds and Smith

Plant and Soil Science deals with field and vegetable crops and soils. Plant science includes crop breeding and genetics for crop improvement and the introduction of new varieties; crop management (high yields of high quality products; and weed control for efficient crop production.

Soil science includes studies in soil formation and classification for a better understanding of our soil resource as extension agents or as specialists, with the Soil Conservation Service, Forest Service, Farmers Home Administration, Production Credit Association, and other public agencies. Many plant and soil scientists are employed in private industry as technical specialists, supervisors and salesmen. Banks and other financial institutions employ plant and soil scientists as appraisers and farm managers. Others may farm on their own, manage farms for others, or work in foreign agricultural programs. Certainly, plant and soil science is basic to all agriculture, and people trained in this important field will find many opportunities to serve in modern agriculture. Each student selecting this major must complete the basic curriculum for agriculture and fulfill the major group requirements. The curriculum in plant and soil science showing the manner in which the required courses may be taken by years is as follows:

Freshman  
Agriculture 1110-30-40-50 ................................. 16  
Lower Division Biological Sciences ................................. 12  
*English 1510-20 ................................. 8  
*Mathematics 1540-50-60 ................................. 12

Sophomore  
*Chemistry 1110-20-30 or 1510-20-30 ................................. 12  
*Economics 2110-20 ................................. 6  
Agriculture 1120 ................................. 4  
Plant and Soil Science 2130 ................................. 4  
*Speech 2311 ................................. 4  
*Physics 1210 or 2210 ................................. 4  
*English and Communications ................................. 6  
Social Science or Humanities Electives ................................. 9
Department of Agriculture

**Agricultural Biology (037)**

*Professor: L.F. Johnson, Ph.D. Louisiana State.*

**Associate Professors:** J.W. Hilfy, Ph.D. Ohio State; C.D. Piss, Ph.D. Clemson; H.E. Bean, Ph.D. Ohio State; C.J. Southards (Head), Ph.D. North Carolina State; J.L. Wilson, Ph.D. Tennessee.

**Assistant Professors:** R.R. Gerhardt, Ph.D. North Carolina State; P.L. Lambdin, Ph.D. Virginia Tech; E.H. Moody, Ph.D. California (Davis).

**3130 Introductory Plant Pathology (4)** Principles of plant pathology illustrated by diseases of common agricultural crop plants. Prereq: Botany 1120 or Biology 1120. 3 hrs. and 1 lab. (Same as Botany 3130.)

**3140 Forest Pathology (4)** Etiology, recognition, economic impact, and control of forest tree diseases; including wood decay and other diseases important to urban forestry and forest nurseries. Prereq: Botany 1120 or Biology 1220 or equivalent. 3 hrs. and 1 lab. No credit if 3130 previously taken.

**3210 Economic Entomology (4)** Structure, life history, habits, and principles of control of important insect pests of farm, garden, orchard, and household. 2 hrs. and 2 labs.

**3220 Apiculture (3)** Biology of the honey bee, with emphasis of beekeeping equipment and apiary management practices relative to pollination of crops and production of honey and beeswax. 2 hrs. and 1 lab.

**4010 Biology of Soil Microorganisms (4)** Morphology and physiology of soil organisms, decomposition of organic matter, chemical transformations, and interactions between soil organisms and higher plants. Prereq: 3130 or introductory microbiology. 3 hrs. and 1 lab. (Same as Microbiology 4010.)

**4030 Forest and Shade Tree Entomology (3)** Indentification, biology, ecology, and control of forest and shade tree pests. Prereq: 2210 or equivalent. 2 hrs. and 1 lab.

**GRADUATE**

**5000 Thesis**

**5010 Research Methods and Instrumentation in Plant Pathology and Entomology (3)**

**5210 Plant Parasitic Nematodes (4)**

**5220 Plant Disease Control (3)**

**5230 Field Crop and Vegetable Insects (3)**

**5240 Insect Pests of Man and Animal (3)**

**5310 Special Problems in Plant Pathology or Economic Entomology (1-6)**

**5410 Seminar (1)**

**Agricultural Economics and Rural Sociology**

Profiessors: J.A. Martin (Head), Ph.D. Minnesota; M.B. Badenhop, Ph.D. Purdue; D.W. Brown, Ph.D. Iowa State; C.L. Cleland, Ph.D. Wisconsin; Irving Dubov, Ph.D. California (Berkeley); L.H. Keller, Ph.D. Kentucky; F.O. Leuthold, Ph.D. Wisconsin; W.P. Ranney (Emeritus), Ph.D. Minnesota; T.J. Whiten, Ph.D. Purdue.

**Associate Professors:** L.L. Bauer, Ph.D. North Carolina State; J.R. Brocker, Ph.D. Florida; O.M. Custer, Ph.D. Michigan State; B.J. Deaton, Ph.D. Wisconsin; B.R. McManus, Ph.D. Purdue; B.H. Pentecost, J.D. Tennessee; C.B. Sapinflong, Ph.D. Illinois; J.G. Snell, Ph.D. Michigan State.

**Agricultural Economics and Rural Sociology**

Profiessors: J.A. Martin (Head), Ph.D. Minnesota; M.B. Badenhop, Ph.D. Purdue; D.W. Brown, Ph.D. Iowa State; C.L. Cleland, Ph.D. Wisconsin; Irving Dubov, Ph.D. California (Berkeley); L.H. Keller, Ph.D. Kentucky; F.O. Leuthold, Ph.D. Wisconsin; W.P. Ranney (Emeritus), Ph.D. Minnesota; T.J. Whiten, Ph.D. Purdue.

**Associate Professors:** L.L. Bauer, Ph.D. North Carolina State; J.R. Brocker, Ph.D. Florida; O.M. Custer, Ph.D. Michigan State; B.J. Deaton, Ph.D. Wisconsin; B.R. McManus, Ph.D. Purdue; B.H. Pentecost, J.D. Tennessee; C.B. Sapinflong, Ph.D. Illinois; J.G. Snell, Ph.D. Michigan State.

**Credit for Cooperative Work**

A maximum of nine quarter hours credit may be earned by supervised employment on approved jobs. To receive credit, the student must receive the recommendation of his employer, must present a satisfactory written report, and must receive a passing grade from the University professor in charge. Employment periods shall not be less than twelve weeks. At least one quarter must be spent in study on the campus between periods of employment. Prerequisites: Junior classification, with quality grade average of 2.2 or above, and permission of the department head and the Dean of the College of Agriculture to register. Three hours credit, each quarter.

**Short Courses and Special Events**

Practical short courses in agriculture are offered for those who desire special training in certain fields. Some of these short courses are held on the Knoxville campus, others at the Buford Edlington 4-H Club Training Center, Milan, Tennessee, or appropriate research stations. The Resident Instruction, Research, and Extension staffs join in teaching these special courses annually and others are offered to meet immediate needs for special instruction. They are service courses and do not carry college credit.

In-service training is provided special groups, such as the teachers of vocational agriculture, through short-term courses which are offered at convenient locations in the state.

A special occasion known as Varsity Visit is held during the year. Delegates from all Future Farmers of America chapters are invited to spend a day on the agricultural campus with their advisers. Approximately 500 attend and inspect each department of the College.

**Departments of Instruction**

Numbers in parentheses following the course titles indicate quarter hours credit offered.

**Interdepartmental Offerings**

**Agriculture (028)**

1110 Introduction to Social Sciences for Agriculture 4 Social sciences as they relate to agriculture—economy in the economy; tools of social science analysis applied to agricultural problems; agriculture, its development, relation to man, industry and government. 4 hrs. and 1 lab.

1120 Introduction to Agricultural Engineering 4 Agricultural power and machinery fundamentals, agricultural structures, soils, and water conservation controls, and agricultural uses of electricity. 3 hrs. and 1 lab.

1130 Animal Science for Agriculture 4 Animals in Agriculture. Body systems and development, principles of inheritance, fundamentals of feeding, and function of farm animals. Animal sanitation, animal products, and the relationship to public health. 3 hrs. and 2 labs.

1140 Plant Science for Agriculture Plant structure, physiology, heredity and environment in relation to growth, adaptation, and management of crops. 3 hrs. and 2 labs.

1150 Food Technology and Science in Agriculture 4 Utilization, processing, and distribution of food products. 3 hrs. and 1 lab.

4018 Honors: Seminar (3) Selected topics. Offered alternate years. Open to juniors and seniors by invitation.

4110 Agricultural Industry Field Seminar (3) A travel study of the agricultural industry involving agricultural production, processing, marketing and services, and their inter-relationships. Prereq: Junior standing and permission of instructor.
3120 Agricultural Prices (3) Factors determining prices of farm products. Effects on price of varying degrees of commodity and monopsony supply. Sources of information on prices and related market data. Uses of price information and techniques of analysis in determining outlook for farm prices. Prereq: Agriculture 1110 and Economics 2120.

3320 Marketing Farm Products (3) American marketing system; alternative market structures, functions of marketing system, commodity marketing problems, current marketing problems and possibilities for improvement. Prereq: Agriculture 1110 and Economics 2120.

3410 Farm Business Analysis (3) Techniques of analyzing a farm business. Factors affecting farm income and efficiency. Resource acquisition, cash flow, risk, tax, and tenure consideration. Practice in decision-making on simulated farm. Prereq: Agriculture 1110 and Economics 2120. 2 hrs. and 1 lab.

3510 Commodity Futures Markets (3) Futures market as an instrument in marketing of primary industry products; processing crops; passing to others the risk of adverse price change; price analysis from two viewpoints: supply-demand and history (fundamentalist and chartist). Prereq: Junior standing. 3 hr.

3710 Consumer Demand for Agricultural Products (3) Economic principles, practices and budgeting techniques to use in purchasing of goods and services. Evaluation of advertising and other related information. Prereq: Agriculture 1110 and Economics 2120.

4120 Farm Management (3) Principles of farm organization and management; allocating land, labor, and capital to meet changing technologies; tenure arrangements and use of credit; risks; measures of success. Use and analysis of records; exercises in planning farms. Field trips arranged. Prereq: Agriculture 1110 and Economics 2120. 2 hrs. and 1 lab.

4140 Introduction to Agricultural Production Economics (3) Resource allocation, product selection, scale of operation of agricultural firms; aggregation of products and variables by individual or farm firms. Prereq: Agriculture 1110 and Economics 2120, and senior standing.

4210 Problems in Agricultural Economics (3) Supervised laboratory course in methods of collecting and analyzing information and in writing a report. Prereq: Agriculture 1110 and Economics 2120. Credit and hours arranged.

4240 World Agriculture and Trade (3) Economic bases of world agricultural production and trade: resource location, land tenure systems, international trade and commercial policy. Prereq: Agriculture 1110 and Economics 2120, or consent of instructor.

4250 Agricultural and Rural Planning (3) Decision-making concepts applied to design and implementation of local action programs. Case examples from the United States and abroad. Prereq: Agriculture 1110 and Economics 2120, or consent of instructor.

4310 Agricultural Finance (3) Nature and source of capital; credit problems of farmers; kinds and sources of farm credit; Agricultural Insurance and taxation. Prereq: Agriculture 1110 and Economics 2120.

4320 Agricultural Policies (3) Meaning of agricultural policy in democratic society; relationship of farm groups to public policy; problems in agricultural policy; types of agricultural policy and appraisal of results; current policy problems. Prereq: Agriculture 1110 and Economics 2120.

4330 Land Economics (3) Problems and policies of land use, conservation, development, taxation, and tenure; population growth and demand for land: principles and theories of rent, property, value, and income. Prereq: Agriculture 1110 and Economics 2120.

4610 Management of Farm Supply and Marketing Firms (3) Operations of firms selling farm supplies and merchandising agricultural products. Emphasis on accounting data and the economic theories for decision-making. Prereq: Agriculture 1110 and Economics 2120.


4710 Agricultural Law (4) Survey of law and application to the farmer, his family, and agricultural industry. Property, contracts, torts, drainage and water rights, landlord-tenant relationships, taxation and insurance, forms of business organization, estate planning, regulatory laws, and other selected topics.

GRADUATE 5000 Thesis
5011 Special Problems in Lieu of Thesis (3)
5120 Agricultural Price Analysis (3)
5130 Advanced Agricultural Production Economics (3)
5210 Seminar: Agricultural Policies (3)
5220 Seminar: Methodology of Research (3)
5230 Seminar: Adjustments to Industrialization (3)
5310 Research (3)
5410 Agricultural Marketing Analysis (3)
5420 Advanced Land Economics (3)
5440 Economics of Agricultural Development (3)
5610 Quantitative Methods in Agricultural Economics (3)
5710 Quantitative Methods in Agricultural Economics (3)

6000 Doctoral Research and Dissertation
6110-30 Seminars in Agricultural Economics (3, 3, 3)
6210 Agricultural and Rural Transformation Problems (3)
6410 Agricultural Supply Analysis (3)
6420 Marketing and Resource Use (3)

Rural Sociology (680)
3420 Rural Sociology (3) Nature of rural society; social systems concept; rural-urban differences; nature of social relations; population characteristics and movement; problems of rural people; tenancy, farm labor, health, services, educational facilities, churches, local government; impact of industrialization.

4450 Diffusion of Agricultural Technology (3) Analysis of diffusion process; why new technology spreads from scientists to final adopters. Topics discussed include adoption process, communication behavior, mass media, role of professional change agents, opinion leadership, and two-step flow hypothesis. Prereq: Rural Sociology 3420, or consent of instructor.

5340 Special Problems (3)
5430 Rural Sociology Seminar (3)
ments of machine design component; synthesis of mechanisms, mechanical and hydraulic drive. Team effort in completing machine design project. Prereq: 3640 or permission of instructor. 1 hr. and 2 labs.

GRADUATE 5000 Thesis

5240 Environmental Control In Agricultural Structures (3)

5340 Hydrology of Agricultural and Forest Lands (3)

5440 Instrumentation in Agricultural Systems (3)

5540 Engineering Properties of Agricultural Materials and Products (3)

5640 Research Problems in Agricultural Engineering (3)

5710-20 Simllitude in Design and Research (3, 3)

6000 Doctoral Research and Dissertation

6110 Seminar (1)

6310 Engineering Systems Analysis in Agriculture (3)

6610 Selected Topics In Agricultural Engineering (3)

Agricultural Mechanization (080)

2110 Agricultural Drawing and Mapping (3) Fundamentals of graphics and mapping, with emphasis on applications in agriculture and forestry. 1 hr. and 2 labs.

2130 Agricultural Surveying (3) Measurement of horizontal distances and angles; differential and profile leveling; topographic surveying and mapping; area computation. Prereq: Math 1500 or permission of instructor. 1 hr. and 2 labs.

2140 Forest Surveying (2) Instruments, methods, and computations used in determining distances, angles, elevations, and area related to forest management problems. Credit cannot be given for both 2130 and 2140. Prereq: Math 1500. 1 hr. and 1 lab.

3100 Seminar (1) Presentations, discussions, reports on research techniques. Prereq: Permission of department head.

3110 Agricultural Mechanics (3) Organizing and managing school and farm shops; techniques, materials, and procedures in design and construction of shop projects; metal work and welding. 1 hr. and 2 labs.

3140 Forest Surveying and Mapping (3) Use of low-precision methods and instruments including pacing, Abney level, topographic trailer tape, hand compass, and staff compass. Field measurements, computations, and layout involving random and true lines, traverses, topographic mapping and forest roads. Prereq: 2140. Ten periods of six hours per period.

3210 Soil and Water Conservation Facilities (3) Leveling, topographic surveying, planning, construction, and maintenance of drainage, irrigation, and erosion-control systems. Prereq: Math 1550. 2 hrs. and 1 lab.

3220 Agricultural Structures (3) Functional planning of structures: environmental control, construction methods, properties of building materials, and cost estimation. Prereq: Math 1550. 2 hrs. and 1 lab.

3510 Agricultural Utilities and Processing Equipment (4) Electrical equipment; controls; water systems; heating and refrigerating systems; waste disposal systems. Prereq: Agril. 1120; Physics 1220. 3 hrs. and 1 lab.

4120-30 Seminar (1, 1) Presentations, discussions, reports. 4120—Professional development topics. 4130—Industry trip. Prereq: Permission of department head.

4160 Agricultural Waste Utilization and Disposal (3) Techniques, equipment, and structures for utilizing, treating, and disposing of agricultural wastes by land, spreading, leaching, and processing. Prereq: Senior standing. 2 hrs. and 1 lab.

4170 Small Engines (3) Concepts and mechanics of small gasoline engines; selection, operation, adjustment, and repair of single cylinder engines. 2 hrs and 1 lab.

4180 Equipment and Techniques for Application of Agricultural Chemicals (3) Equipment for application of liquid, solid, and gaseous chemicals; system components; operational characteristics; safety considerations; calibration; select, design, and management; materials handling and disposal methods. 2 hrs and 1 lab.

4210 Agricultural Machinery and Tractors (4) Agricultural machinery and power units; adaptation to agricultural practices; field efficiencies, capacities, adjustment, and servicing. Prereq: Math 1550. 3 hrs and 1 lab.

4220 Special Problems in Agricultural Mechanization (3) Selection, analysis, solution, and report of research problem. May be repeated for maximum of nine hours credit when engaged in approved industry work. Prereq: 3100 and permission of department head.

4290 Forest Utilities and Roads (4) Electrical service and equipment, power sources, water supply, and sanitation systems emphasizing forest recreation facilities. Planning, construction, and maintenance of forest access roads, culverts, and timber bridges. Prereq: 2130 or 2140. 3 hrs. and 1 lab.

GRADUATE 5000 Thesis

5110 Research Problems in Agricultural Mechanization (3)

5210 Electro-mechanical Systems In Agriculture (3)

5310 Instrumentation in Agriculture (3)

5410 Agricultural Machinery System Analysis (3)

5610 Selected Topics In Agricultural Mechanization (3)

Agricultural Extension Education (075)

Professor: R.S. Dotson (Head), Ph.D. Pennsylvania State.

Associate Professor: C.E. Carter, Jr., Ph.D. Ohio State.

3110 Introduction to Agricultural Extension (3) History; philosophy; organization; teaching methods; and relationships with other educational agencies.

4110-20 Field Studies (3, 3) Supervised work experience with county extension agents in a designated county. For senior and graduate students. Prereq: 3110; and permission of instructor. Requires living off-campus for a specified time.

GRADUATE 5000 Thesis

5011-21 Special Problems In Lieu of Thesis (3, 3)

5100 Special Problems In Agricultural Extension (1-6)

5210 Long-Range Extension Program Planning (3)

5220 Seminar (3)

5230 Evaluation In Programs of Agricultural Extension (3)

5310 History, Philosophy and Objectives (3)

5320 Volunteer Leadership In Agricultural Extension Programs (3)

5330 Supervision of Agricultural Extension Programs and Personnel (3)

Animal Science (113)

Professors: R.R. Johnson (Head), Ph.D. Ohio State; M.C. Bell, Ph.D. Oklahoma State; J.K. Blieter, Ph.D. Ohio State; C.C. Chappell, Ph.D. Texas; S.L. Hansard, Ph.D. Florida; H.M. Jamison, Ph.D. Tennessee; G.S. Jacobson, Ph.D. Michigan State; R.L. Murphee, Ph.D. Wisconsin; D.O. Richardson, Ph.D. Ohio State; H.V. Shirley, Ph.D. Illinois; R.R. Shrider, Ph.D. Dakota State; E.W. Swanson, Ph.D. Missouri; G.E. Wylie (Emeritus) A.M., Missouri.

Associate Professors: W.A. Backus, Ph.D. Tennessee; K.M. Barth, Ph.D. Rutgers; G.L. Bratton, D.V.M., M.S. Texas; A.M. Eken, E.R. Lichum, M.S. Tennessee; J.B. McLaren, Ph.D. Auburn; M.J. Montgomery, Ph.D. Wisconsin.

Assistant Professors: J.A. Corrick, Ph.D. Tennessee; J.P. Hitchcock, Ph.D. Missouri; J.M. Meekley, Ph.D. Oklahoma State; F.B. Masincup, Ph.D. Kansas State; J.D. Smalling, Ph.D. Texas A & M.

In addition, academic assistants of staff members at CARL, Oak Ridge, and U.T. College of Veterinary Medicine are used on appropriate occasion.

2610 Fundamentals of Meat Animal Evaluation (3) Criteria for live animal and carcass evaluation; market classes and grades; judging; subjective and objective techniques for determining muscle and fat relationships in cattle, hogs and sheep. 1 hr. and 2 labs.

2710 Introduction to Biometrical Aspects of Animal Science (3) Biometrical concepts for optimum comprehension of material presented in upper division animal animal sciences courses. Basic in probability as introduction to concept of distributions. Expected values of variables as most probable values. Biometric and normal distributions and the prevalence in biological material. Planning effective experiments. Association of relationship of variables. Assessment of validity of hypotheses. 2 hrs and 1 lab.

2810 Farm Animal Management Practices (3) Integration of management practices and skills into cattle, horse, sheep, poultry and swine enterprises. Practices and skills include dehorning; castrating; docking; foot care; shearing, age determination, identification; preparing for show and sale; vaccinating and immunizing; and controlling parasites. Facilities needed in livestock management including buildings, fences, corrales, equipment, space requirements and restraining devices. 2-3 hrs lab.

2820 Introduction to Light Horses (3) Scope and role of light horse industry; breeds—development, function and use; unsoundness; tack; introduction to light horse management. May not be used by Animal Science majors to meet graduation requirements. 2 hrs and 1 lab.

3210 Anatomy and Physiology and Farm Animals (4) Skeletal and joints, skeletal muscles, blood and microcirculation, and nervous, cardiovascular, respiratory, digestive, renal and endocrine systems; demonstration of physiological phenomena. Prereq: Biology 1210 or Agriculture 1130. 3 hrs and 1 lab.

3220 Physiology of Reproduction (3) Comparative anatomy and physiology or reproductive systems of higher vertebrates; gametogenesis, fertilization, implantation, prenatal growth, parturition and initiation of lactation; endocrine regulation of reproductive phenomena. Prereq: 3210 or permission of instructor. 2 hrs and 1 lab. (Same as Zoology 3220.)

3310 Introduction to Animal Nutrition and Feeding (3) Nutrient utilization, function and requirements of farm animals; animal feed, nutrient content and factors affecting feeding value; balancing rations for beef and dairy cattle, swine, and poultry. Not available to students with credit in 3330. Prereq: Agriculture 1130, Chemistry 1150 or 1530. 2 hrs and 1 lab.

3320 Animal Nutrition (3) Properties, functions, utilization and deficiency symptoms of essential nutrients; nutritive value determinations and their use.
3330 Feeds and Ration Formulation (3) Feedstuffs, additives, feeding standards, nutrient requirements and ration formulation for beef and dairy cattle, sheep and swine, and for laboratory animals. Prereq: 3320. 2 hrs and 1 lab.

3410 Heredity in Animals (3) Basic chromosomal mechanisms of heredity with emphasis on Mendelian principles and exceptions such as linkage and cytoplasmic inheritance. Introductions to biochemical basis of heredity and to quantitative inheritance. Illustrations of principles related to species familiar to agriculture students. Prereq: Agriculture 1130. 2 hrs and 1 lab.

3420 Principles of Animal Breeding (3) Genetic principles involved in breeding of economic species. Genetic basis of variation. Partitioning of variation according to various kinds of causative difference such as differences in genetic makeup and environment. Selection and consequences. Mateing systems and handling of laboratory animals. Prereq: Agriculture programs. Prereq: 3410 or equivalent. 2 hrs and 1 lab.

3430 Breeds of Farm Animals (3) Study of evolution and classification of breeds of cattle, horses, sheep, swine and poultry. Breeding structure. History, development, characteristics and improvement programs of various breeds. Effects on production in dairying and swine industry and impact of crossbreeding programs. 2 hrs and 1 lab.

3510 Animal Hygiene and Sanitation (4) Parasitic, viral and bacterial organisms in farm animals; immunization; control and protection against disease; veterinary regulations and quarantine; herd health programs. Prereq: 2100, 2210, 2250 or 2610 or permission of instructor. 3 hrs and 1 lab.

3520 Avian Diseases (3) Major diseases; characteristics, prevention and treatment, management practices and systems for domestic birds, upland game birds and water fowl. 2 hrs and 1 lab.


3620 Dairy Cattle Judging and Classification (3) Characteristics and techniques of judging, evaluation, classification and typing beef cattle and dairy cattle. Economic value of classification ratings. 3 labs.

3630 Judging Poultry and Poultry Products (3) General judging techniques for poultry and poultry products according to USDA standards; factors affecting quality. 1 hr and 2 labs.

3640 Horse Selection and Judging (3) Selection, judging, evaluation of soundness and scoring of walking and jumping ability. Prereq: permission of instructor. 1 hr and 2 labs.

3810 Nutrition and Management of Laboratory Animals (3) Principles of feeding, breeding and handling of animals in scientific investigations. Specific species' requirements, peculiarities and research for which best fitted; laws governing use and handling of animals. Prereq: Agriculture 1130 and permission of instructor. 2 hrs and 1 lab.

4110 Special Problems in Animal Science (1-4) Special research and/or special reports based on supervised study or review of the literature or literature review, dealing with subjects applicable to field of animal science; approved supervised work experiences in State-Federal laboratories or in private industry. May be repeated for a maximum of 9 hours credit. Prereq: Senior standing and permission of instructor. 1 hr.

4210 Physiology of Lactation (3) Development, anatomy and function of mammary glands, endocrine interactions for mammary development and milk secretion; factors affecting yield and composition of milk. Prereq: 3210.

4220 Avian Physiology (3) Anatomy and physiology of avian species with emphasis on poultry. Prereq: 3010. 2 hrs and 1 lab.

4230 Applied Reproduction in Farm Animals (3) Application of methods and techniques in collecting, evaluating, processing and preserving semen; insemination of females; pregnancy determination; gestation and parturition. Male and female infertility. Prereq: 3220. 1 hr and 2 labs.

4310 Feeding Systems for Ruminants and Horses (3) Application of nutrition and feeding principles. Comparison of feeding systems utilized during the life cycle of cattle, horses and sheep. Prereq: 3330. 2 hrs and 1 lab.

4320 Feeding Systems for Poultry and Swine (3) Application of nutrition and feeding principles in comparison of feeding systems utilized during the life cycle of poultry and swine. Laboratory feeding trials to demonstrate basic nutrition concepts. Prereq: 3330. 2 hrs and 1 lab.

4410 Applied Animal Breeding (3) Applications of principles studied in 3420. Team taught by specialists in breeding of dairy cattle, meat animals and poultry. Prereq: 3420. 2 hrs and 1 lab.

4610 Advanced Beef Cattle, Dairy Cattle, Horse, Poultry, Sheep and Swine Judging (2) Specialization in judging, evaluation, selection, and presentation of oral reasons on classes of beef cattle, dairy cattle, horses, poultry, sheep and swine. May not be repeated for credit. Prereq: Permission of instructor. 2 hrs.

4615 Beef Cattle Production and Management (4) Integration of principles of nutrition, physiology and breeding into complete beef cattle management program. Topics will include structure of industry, enterprise establishment, systems of production, production practices, and herd improvement programs. Alternatives evaluated in terms of production response and economic returns. Prereq: Senior standing and permission of instructor. Recommended course be taken after completion of sophomore and junior Animal Science core courses. 3 hrs and 1 lab.

4620 Dairy Cattle Production and Management (4) Integration of principles of nutrition, physiology and breeding into complete dairy cattle management program. Topics will include structure of industry, enterprise establishment, systems of production, production practices, and herd improvement programs. Alternatives evaluated in terms of production response and economic returns. Prereq: Senior standing and permission of instructor. Recommended course be taken after completion of sophomore and junior Animal Science core courses. 3 hrs and 1 lab.

4730 Pork Production and Management (4) Integration of principles of selection, nutrition, breeding, physiology and marketing into complete pork production and management program. Topics will include structure of industry, enterprise establishment, systems of production, production practices, and herd improvement programs. Alternatives evaluated in terms of production response and economic returns. Prereq: Senior standing and permission of instructor. Recommended course be taken after completion of sophomore and junior Animal Science core courses. 3 hrs and 1 lab.

4840 Poultry Production and Management (4) Structure of poultry industry, organization and management of poultry enterprises including rear ing, housing, feeding, processing and marketing. Prereq: Senior standing and permission of instructor. Recommended course be taken after completion of sophomore and junior Animal Science core courses. 3 hrs and 1 lab.

4850 Light Horse Production and Management (3) Integration of principles of nutrition, physiology and breeding into light horse management program. Topics include structure of industry; systems and practices of production; individual animal and herd improvement programs; tack, equipment and facilities for both pleasure owners and commercial producers. Alternatives evaluated in terms of pleasure, recreational and economic returns. Prereq: Senior standing and permission of instructor. Recommended course be taken after completion of sophomore and junior Animal Science core courses. 2 hrs and 1 lab.

4860 Lamb and Wool Production and Management (3) Integration of principles of selection, nutrition, breeding, physiology and marketing into complete lamb and wool production and management program. Topics will include structure of industry, enterprise establishment, systems of production response and economic returns. Prereq: Senior standing and permission of instructor. Recommended courses be taken after completion of sophomore and junior Animal Science core courses. 2 hrs and 1 lab.

4910 Seminar (2) Review of literature and presentations on special topics and current research in animal science field. Prereq: Senior standing. 1 hr and 1 lab.

5000 Thesis

5011 Problems in Lieu of Thesis (1-6)

5110 Special Problems in Animal Science (1-6)

5210 Endocrine Relations in Animal Production (4)

5230 Advances in Mammalian Reproduction (3)

5240 Advanced Studies of the Secretion of Milk (3)

5311 Analytical Techniques in Animal Nutrition (3)

5321 Energy in Animal Nutrition (4)

5331 Proteins in Animal Nutrition (3)

5341 Vitamins and Minerals in Animal Nutrition (3)

5410 Genetics of Animal Populations (3)

5710 Methods of Evaluating Experimental Data in Animal Science (3)

5720 Design and Interpretation of Experiments in Animal Science (3)

5910 Seminar (1)

6000 Doctoral Research and Dissertation

6150 Topics in Milk Constituents (3)

6160 Topics in Dairy Microbiology (3)

6211 Advanced Topics in Animal Physiology (1-6)

6220 Environmental Physiology of Farm Animals (3)

6230 Animal Growth and Development (3)

6311 Advanced Topics in Animal Nutrition (1-6)

6411 Advanced Topics in Animal Breeding (1-6)

6420 Animal Breeding Research Methods and Interpretation (3)

6811 Advanced Topics in Animal Products (1-6)

6910 Seminar (1)

Food Technology and Science (378)

Professors: J. T. Miles (Head), Ph.D. Wisconsin; T. B. Harrison (Emeritus), M.S.A. Tennessee; W.W. Overcast, Ph.D. Iowa State.

Associate Professors: J. L. Collins, Ph.D. Maryland; B. J. Demott, Ph.D. Michigan State; H. C. Haynes, Ph.D. Illinois; C. C. Melton, Ph.D. Kansas State.

Assistant Professors: E. A. Childs, Ph.D. Georgia; S. L. Melton, Ph.D. Tennessee; M. J. Rieman, Ph.D. Kansas State.

2110 Food Regulations and Standards (3) Federal and State laws regulating food industry. Quality grades and standards and methods of evaluating processed foods. 2 hrs and 1 lab.

2120 Food Manufacturing (4) Preparation of raw material, cleaning, grading, slicing, crushing, extracting, filtering, pumping, mixing and heat processing. Prereq: Math 1550. 3 hrs and 1 lab.

3020 Dairy Products I (4) Procurement, processing and distribution of fluid milk. Manufacture of frozen and condensed dairy products. 3 hrs and 1 lab.
3210 Food Composition (3) Determination and study of food materials. Manipulation and processing of foods with attention to changes and interactions occurring during processing and storage. Prereq: Chemistry 1120 or 1502 or 1502. 2 hrs and 1 lab.

3220 Food Preservation (4) Survey of food industry aspects and means to control aspect of deterioration of food. Prereq: Microbiology 2610. 3 hrs and 1 lab.

3570 Evaluation and Grading Dairy Products (3) Market standards and grading of dairy products with practice in grading milk, ice cream, butter, cheese and other specialized dairy products. 1 hr and 2 labs.

3610 Meat Evaluation and Grading (3) Grading standards for quality and quantity and principles of evaluation and grading for beef and lamb. Practice in grading and judging carcasses and cuts. 1 hr and 2 labs.

3840 Meat Science (3) Processing methods, carcass characteristics of meat animals; slaughter, cutting, selection, curing, freezing and cookery. 2 hrs and 1 lab.

4000 Problems in Food Technology (1-4) Research problems in student's area of interest. Required written report. Supervised experience in state or federal laboratories or approved industries encouraged. May be repeated for a maximum of 9 hours credit. Prereq: Permission of department head.

4010 Food Technology and Science Seminar (1-3) Review of literature, oral and written reports. May be repeated for a maximum of 3 hours credit. Prereq: Junior standing and permission of instructor.

4030 Dairy Products II (4) Principles in the manufacturing of butter, cheese and special dairy products. Prereq: 3020. 3 hrs and 1 lab.

4050 Advanced Food Composition (3) Intensive study of food composition and the changes affected by processing and storage. Prereq: 3210 and Nutrition 3320 or equivalent. 2 hrs and 1 lab.

4110 Food Plant Sanitation (3) Environment for manufacturing and processing foods. Prereq: Junior standing. 2 hrs and 1 lab.

4120 Food Quality Assurance (3) Systems for quality assurance in food industries. Various methods including statistics used by food industries to assure desired quality of food products. Prereq: Junior standing and 3 hrs statistics. 2 hrs and 1 lab.

4120 Food Additives (3) Substances used in food manufacturing with emphasis on properties and functions. Prereq: Nutrition 3320 or equivalent.

4110 Food Packaging (3) Characteristics and applications of materials and containers to packaging requirements of food. Prereq: 3220. 2 hrs and 1 lab.

4110 Food Crop Products (3) Food products from crops with emphasis on types, manufacturing systems, quality attributes and utility.

4180 Microbiology in Food Manufacturing (3) Relationship of growth of common food microorganisms in fermentative and enzymatic changes occurring during processing and manufacturing of foods. Prereq: Microbiology 2610 or equivalent. 1 hr and 2 labs.

4280 Fermented Foods (3) Role of microorganisms in preparing foods with emphasis on development of certain desirable characteristics, flavor, aroma, texture, and keeping quality. Prereq: Microbiology 3810. 2 hrs and 1 lab.

4840 Meat Products Manufacturing (3) Prepared meat products; emphasis on sausage making and information relating to cost controls, inspection, and heat science. Prereq: 3840 or consent of instructor. 1 hr and 2 labs.

4920 Physical Phenomena of Foods (4) Physical properties of food materials. Foams, emulsions, colloidal systems, crysalles, gels. Effects of manufacturing practices on these properties. Prereq: Consent of instructor. 3 hrs and 1 lab.

GRADUATE

5000 Thesis 5100 Seminar (1) 5120 Food Color (3) 5130 Food Enzymology (3) 5140 Food Flavors (3) 5150 Fats and Oils (3) 5200 Research (1-5) 5310 Food Products Development (3) 5320 Food Thermobiology (3) 5420 Advanced Food Quality Assurance (3) 5510 Meat Technology (3) 5530 Microorganisms Common in Food Products (3) 5540 Microbial Cultures in Foods (3)

Forestry

Professors: J.W. Barret (Head), Ph.D. Syracuse; H.A. Core, Ph.D. Syracuse; E. Thor, Ph.D. North Carolina State; Ph.D. Tennessee.


Assistant Professors: B.L. Dearden, Ph.D. Colorado State; D.M. Ostermeier, Ph.D. Syracuse; J.C. Rennie, Ph.D. North Carolina State.

Forestry (396)

1620 Introduction to Forestry (3) History of forestry; establishment, care, protection, and use of forest stands; forest products industries; organization and agencies for establishment of forest policies; forest resources.

3020 Forest Environments and Ecology (3) Environments and ecology of forests and associated lands; emphasis on the application of ecological principles to contemporary problems. Available for graduate credit for non-forestry majors only. Prereq: 8 hours of biology, botany, or zoology. 3 hrs.

3040 Dendrology and Silvics of Woody Angiosperms (3) Classification, nomenclature, identification, and silvical characteristics of the more common woody angiosperms native to North America; native ranges, distribution patterns, habitat requirements; regeneration, recruitment, and life history, place in succession; ecological significance in forest production. Weekly field trips during scheduled lab period plus one weekend field trip. Available for graduate credit for non-forestry majors only. Prereq: 8 hours basic biology or botany. 2 hrs and 1 lab.

3050 Dendrology and Silvics of Gymnosperms (3) Classification, nomenclature, identification, and silvical characteristics of the major North American conifers. Distribution patterns, habitat, and community relationships including classification, life history, regeneration requirements, place in succession, and importance. Available for graduate credit for non-forestry majors only. Prereq: 8 hours basic biology or botany. 2 hrs and 1 lab.

3110 Forest Measurements and Biometry (4) Measurement of individuals in animal and plant populations; linear regression; sampling of forest populations; growth and potential production. Prereq: Plant and Soil Science 3610 and Computer Science 2410 or equivalent. 3 hr and 1 lab.

3120 Wood Technology (4) Wood properties; identification of commercial woods by macro and microscopic characteristics. Prereq: 3040, 3050. 2 hrs and 2 labs.

3130 Forest Protection (3) Destructive agencies; fire, insects, diseases; chemical, mechanical, and biological control; forest health and potential suppression. Prereq: Agricultural Biology 3210, 3130.

3210 Forest Economics (3) Supply, demand, price relationships; input-output studies; taxation, insurance, and economics aspects of multiple use. Prereq: Economics 2120.


3230 Wildlife Management (3) Lives and ecological relationships of wild animals; biological, social, and economic aspects of their management. 2 hrs and 1 lab. (Same as Wildlife and Fisheries Science 3230).

3240 Introduction to Forest Recreation (3) Concepts of leisure time in recreation. Historical development of forest recreation. Forest resources. Development, management, and administration of forest recreation areas and systems.

3320 Principles of Silviculture (3) Influence of site factors on reproduction, growth, development, and character of forest vegetation; classification of forest structure; silvicultural laws. Prereq: 3020 or Biology 2130, 3040, Plant and Soil Science 2130. 3 hrs.

3730 Conservation (3) Forest resources of state, nation, and world; forests in soil and water conservation; wildlife management and recreation; conservation programs.

4002 Utilization (3) Wood-using industries; processing of forest products and by-products; timber grading; pulpwood operations, flooring plants, treating plants; plant layout, flow diagrams. Prereq: 3120.

4003 Field Methods of Timber Inventory (4) Field measurements and techniques; determining appropriate sample design for specific purposes; tree and stand growth; site evaluation; field problems. Prereq: 3110 and Agriculture, Mechanization 3140.

4004 Forest Practice (3) Management of forestlands by public and private organizations; "multiple-use" concept as it influences management decisions; impact of public pressure for outdoor recreation on management decisions; management prescriptions. Prereq: 4006. Satisfactory-No Credit.

4006 Silvicultural Methods (4) Methods and application of intermediate and regeneration cuttings; site preparation, planting and seeding; modifications of cutting methods to obtain desired goals and benefits. Prereq: 3320.

4020 Forest Watershed Management (3) Water as a forest resource: role of forests in the hydrologic cycle; control of water quantity, quality, and regimen; watershed planning. Prereq: 3320 or permission of instructor. 3 hrs. Two overnight field trips.

4110-20-30 Problems in Forestry (1-6, 1-6, 1-6) Special research or individual problems in forestry. Prereq: Senior standing. Total not more than 9 hrs.

4210 Forestry Organization and Administration (3) Forestry organization; planning concepts and types of organizations; administration; decision-making in forest resource management. Prereq: Junior, Field Session.

4220 Forest-Resource Management (4) The forest as integration of resource uses; review of traditional timber-management concepts; the multiple-use concept; valuation of forest resources for decision-making and planning; taxation of forestry firm. Prereq: 4210.

4230 Forest-Resource Management Plans (4) Field problems and case studies in forest-resource management: the forest as a system; management of forest enterprises as a producer of timber, recreational services, watershed services, and wildlife; producing multiple services; preparation of a comprehensive plan based on optimizing forest uses. Prereq: 4220.

4240 Interpreting Forest Resources (3) Principles and techniques of interpreting forest resources; importance of environment in forest resource management; development and administration of interpretive services. Possible overnight field trips required. Prereq: 3240 or equivalent.

4330 Forest Policy (3) History of forestry in the United States with emphasis on development of forest re-
source policies; current policies influencing development and management of forest resources; brief survey of policy implications of forest resource organizations in public and private sectors. Prereq: 4004.

4340 Aerial Photography in Forest-Resource Management (3) Use of conventional aerial photographs in forest-resource management; interpretation of detail, aerial inventories, preparation of cover-type maps; uses of other remotely sensed imagery. Prereq: Civil Engr 4260 and Forestry 3110 or equivalent. 1 hr and 2 labs.

4420 Forest Tree Improvement (3) Forest tree improvement related to silviculture; nature and purposes of tree improvement and forest genetics; principles of tree cytology and population genetics; improvement of seed sources, selection of superior pheno-types and development of seed orchards; hybridization; seed production and seed certification. Prereq: 4006, Botany 1120. 2 hrs and 1 lab.

4430 Regional Silviculture of the United States (3) Factors that influence silvicultural management of important tree species in North America. Importance of forests and forestry to a region; physiography, geology, soils, climate and weather, sites, silvicultural types, ecology, problems of protection, and silvical characteristics of the more important species. Prereq: 4006 and 4210.

4440 Forest Recreation (3) Forest lands as a recreation resource, interrelationships of forest recreation and other management activities; development and management of forest recreation areas; socio-economic and political determinants of recreation development and management. Prereq: 6 credits in sociology and/or economics. Junior standing. 2 hrs and 1 lab.


GRADUATE

5000 Thesis

5110 Special Problems in Forestry (1-6)

5220 Seminar in Forest Tree Biology (3)

5230 Seminar in Forest Management (3)

5240 Seminar in Forest Genetics (3)

5250 Recreation Planning for Forests and Associated Lands (3)

5310 Seminar (1)

WILDLIFE AND FISHERIES SCIENCE (993)

3200 Wildlife Resources and Their Conservation (3) Wildlife and minimal resources of the United States, their interrelationships with soil, water, and forests and other plant life; contribution to economic and social development, and what and how to conserve wildlife. General course for non-wildlife and Fisheries majors.

3230 Wildlife Management (3) (Same as Forestry 3230)

4110 Problems in Wildlife and Fisheries Science (1-4) Special research or problems in wildlife and fisheries science. Prereq: Senior standing. May be repeated. Maximum credit 9 hours.

4450 Game Mammals (4) Classification, identification, distribution, natural history, and management principles of game mammals in North America. Prereq: 3230 or one year of Zoology. 2 hrs and 2 labs.

4460 Game Birds (4) Biology, classification, identification, distribution and management of game birds in North America. Prereq: 3230 or one year of Zoology. 2 hrs and 2 labs.

4500 Problems in Wildlife and Fisheries Sciences (1-8) Special research or individual problem in wildlife and fisheries science. Prereq: senior standing. May be repeated to maximum of 9 hours credit.

4510 Freshwater Fishery Biology (4) Principles and methods of fish population estimation; population dynamics; sampling techniques and equipment.
Assistant Professors: F. L. Allen, Ph.D.; D. M. Motsch; G. M. Lessman, Ph.D.; Michigan State; V. H. Reich, Ph.D.; Iowa State.

Clyde B. Austin Distinguished Professor.

2130 Soils (4) Nature and properties of soils. Physical, chemical, biological processes and factors influencing soil genesis and water conservation. Prereq: Chemistry 1120 or 1520 or 1620. 3 hrs and 1 lab.

3020 Crop Ecology (3) Crops and environment: geographic location; site, heat, light, water and interplant relationships as a basis for judgment of cultural practices used to modify environmental factors. Prereq: 8 hrs biological sciences. 2 hrs and 1 lab.

3040 Crop Physiology (3) Physiology of crop plants; growth phenomena related to crop production; use of general theories of physiology; effects of season, growth-regulating substances, functions of light, heat, air, minerals, and water. Prereq: 8 hrs biological sciences. 2 hrs and 1 lab.

3110 Soil Fertility and Fertilizers (4) Properties of soils in relation to plant nutrient availability and uptake; methods of soil fertility evaluation; principles of fertilizer use; manufacture and properties of fertilizers. Prereq: 2130. 3 hrs and 1 lab.

3120 Grain and Oil Crops (3) Distribution, improvement, management, utilization of soybeans, cotton, peanuts, corn, rice, sorghum, soybeans and related crops. Prereq: 2130. 8 hrs biological sciences. 2 hrs and 1 lab.

3140 Forage Crops (4) Characteristics, adaptation, improvement, management, use of grasses and legumes for pastures, hay, and silage. Prereq: 2130. 8 hrs biological science. 3 hrs and 1 lab.

3160 Cotton and Tobacco (4) Characteristics, adaptation, improvement, culture, harvesting, and marketing of cotton and tobacco. Prereq: 2130. 8 hrs biological science. 3 hrs and 1 lab.

3180 Fruit Crops Management (4) Soils, planting, cultivation, development of fruit crops plantations; pest control, harvesting, packing, storage and pruning. Prereq: Ag Biology 3210, 3130. 3 hrs and 1 lab.

3220 Soil Management (4) Soil management for crop production including cropping systems, fertilizer use, and tillage operations for specified soil and farming conditions. Prereq: 2130. 3 hrs and 1 lab.

3250 Soil in Forestry (3) Soil as a medium for tree growth; relation of physical, chemical, and biological properties of soils to tree growth and management of forest stands. Soil properties of importance in road location, recreational development and watershed management. Prereq: 2130; Forestry 3320. 2 hrs and 1 lab.

3510-20 Commercial Vegetable Production (3, 3) Characteristics, economic importance, adaptability, and production of important vegetable crops for fresh and processing markets. Students may elect one of these courses. Need not be taken in sequence. Prereq: 8 hrs biological science. 2 hrs and 1 lab.

3610 Interpretation of Agricultural Research (3) Statistics as applied to agriculture. Statistical methods in interpretation of research results. Prereq: Math 1550.

3710 Principles of Weed Science (4) Basic principles of weed science; history, ecology, economic losses, means of control, types of herbicides, and specific recommendations for various crop and non-crop uses. Prereq: 8 hrs biological science and 3 hrs organic chemistry. 3 hrs and 1 lab.

4110 Soil Chemistry (4) Colloidal systems; properties and behavior of colloidal soil materials; relation of chemical properties to plant nutrient availability. Prereq: 2130; Physics 1210. 3 hrs and 1 lab.

4120 Principles of Crop Breeding (4) Genetic principles and techniques used in crop improvement. Prereq: 8 hrs biological science or permission of instructor. 3 hrs and 1 lab.

4230 Soil Analysis (3) Analytical techniques used in soil chemistry and soil fertility studies. Prereq: 4110, Chemistry 2140 or concurrent. Two 3-hr labs.

4250 Agricultural Chemicals and the Environment (4) Characteristics, use, mode of action, degradability, and environmental impact of chemicals used in agriculture, forestry, and related areas with emphasis on agricultural pesticides; environmental safeguards imposed by federal and state regulations on chemical development and use. Prereq: One of the following: biology or biotechnology courses and one year chemistry. 3 hrs and 1 lab.

4320 Soil Formation, Morphology, and Classification (4) Soil formation; properties, distribution, and classification of soils; interpretation of morphology; use of soils surveys. Prereq: 2130. 3 hrs and 1 lab.

4400 Problems in Plant and Soil Science (1-6) Special research or library problems in some phase of plant and soil science. May be repeated to maximum of 9 hours credit.


GRADUATE

5000 Thesis

5011-21 Special Problems in Lieu of Thesis (3, 3)

5100 Special Problems in Plant and Soil Science (1-6)

5200 Soil-Crop Relationships (3-6)

5240 Soil Productivity and Management (3)

5250 Pedology (4)

5310 Design and Interpretation of Experiments (3)

5340 Soil Physics (3)

5370 Advanced Soil Fertility (3)

5390 Soil Physical Chemistry (3)

5600 Seminar (1)

5710 Advanced Plant Genetics (3)

5720 Quantitative Genetics (3)

5750 Advanced Plant Breeding (4)

5810 Crop Climatology (4)

5820 Advanced Crop Physiology and Ecology (4)

5850 Mechanisms of Herbicide Action (3)

6000 Doctoral Research and Dissertation

6100 Special Topics in Soil Science (3)

6200 Special Topics in Plant Breeding (3)

6300 Special Topics in Crop Physiology and Ecology (3)

6340 Advanced Soil Physics (3)

6390 Advanced Soil Physical Chemistry (3)

6410 Experimental Designs (3)

6516 Growth Control with Chemicals (3)

6600 Seminar (1)

College of Veterinary Medicine

Willis W. Armistead, Dean

The College of Veterinary Medicine, established in 1974 offers a professional curriculum leading to the degree Doctor of Veterinary Medicine (D.V.M.). When fully developed the College will offer graduate studies leading to the degrees Master of Science (M.S.) and Doctor of Philosophy (Ph.D.). Residency training programs in various clinical specialties will also be offered.

The College is organized in six academic departments: Animal Science (jointly with the College of Agriculture), Environmental Practice, Microbiology (jointly with the College of Liberal Arts), Pathobiology, Rural Practice, and Urban Practice.

Primary objective of the College is to educate veterinarians for private practice. However, the professional curriculum provides an excellent basic medical education, in addition to training in diagnosis, disease prevention, medical treatment, and surgery. Graduates consequently are qualified to pursue careers in many facets of veterinary medicine and related health professions.

Most American veterinarians are engaged in private practice. The majority of these are in general practices, which deal with the diseases of all kinds of animals. About one-fourth of the veterinarians in the United States are engaged exclusively in pet or companion animal practice. A growing number is concerned with the health problems of zoo animals, laboratory animals, wildlife, and aquatic species.

Veterinarians also find rewarding careers in the U.S. Public Health Service, the U.S. Army and Air Force, and in state, county, or local health agencies. A large number of veterinarians is employed by the U.S. Department of Agriculture and by state departments of agriculture for important work in livestock disease control, meat and poultry inspection, serum and vaccine production, and the protection of our country against the importation of animal diseases.

Excellent opportunities exist also for veterinarians interested in research — both research for the direct benefit of animals and research conducted with animals but for the benefit of man. Such opportunities are available at colleges and universities, and with governmental agencies, private research institutions, and biological and pharmaceutical companies.

Facilities

Administrative offices of the College of Veterinary Medicine are located in Morgan Hall on the Agricultural Campus. The Department of Animal Science is housed in Brehm Animal Science Building, also on the Agricultural Campus, and the Department of Microbiology is located in Hesler Biology Building on the main campus of the University of Tennessee, Knoxville.

The remainder of the College will be housed in a large teaching hospital which is under construction and scheduled for
Applications must be completed and mailed so as to reach the Director of Admissions before February 1 each year. All preveterinary requirements must have been completed before the student enrolls in the College of Veterinary Medicine.

Course Load
The professional curriculum of the College of Veterinary Medicine requires a specific number of hours for each quarter. A student may enroll for fewer or more than that number only with the permission of the Dean. Because of the sequential and highly integrated character of the professional curriculum, all courses in a given quarter are considered prerequisite to those in the succeeding quarter.

Professional Curriculum
The professional curriculum in veterinary medicine is a three-year, year-round program, including summers. The first year (3 quarters) consists mostly of preclinical subjects such as anatomy, physiology, microbiology, parasitology, and general pathology. The second year (4 quarters) includes the study of diseases, their causes, diagnosis, treatment, and prevention. The final year (4 quarters) is devoted to intensive training in the solving of animal disease problems, including extensive clinical experience in the teaching hospital. The curriculum also provides for education in the science and art of veterinary medicine and in paramedical subjects such as animal behavior, medical communication, professional ethics, jurisprudence, economics, and practice management.

FIRST YEAR

<table>
<thead>
<tr>
<th>Fall Quarter</th>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Vet. Animal Science 8510</td>
<td>12</td>
<td>19</td>
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<tr>
<td>Vet. Animal Science 8540</td>
<td>12</td>
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<tr>
<td>Vet. Medicine 8310</td>
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<td>Vet. Microbiology 8101</td>
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<td>Vet. Animal Science 8240</td>
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<td>3</td>
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<tr>
<td>Environmental Practice 8611</td>
<td>12</td>
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<tr>
<td><strong>Winter Quarter</strong></td>
<td><strong>9</strong></td>
<td><strong>hours</strong></td>
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| Vet. Animal Science 8520 | 12 | 4 |
| Vet. Animal Science 8550 | 12 | 4 |
| Vet. Medicine 8311 | 12 | 2 |
| Vet. Microbiology 8102 | 12 | 3 |
| Vet. Animal Science 8250 | 12 | 4 |
| Environmental Practice 8612 | 12 | 2 |
| **Spring Quarter** | **9** | **hours** |

| Vet. Microbiology 8103 | 12 | 3 |
| Pathobiology 8730 | 12 | 3 |
| Pathobiology 8710 | 12 | 6 |
| Vet. Medicine 8210 | 12 | 1 |
| Vet. Medicine 8212 | 12 | 3 |
| Vet. Medicine 8220 | 12 | 3 |
| **TOTAL 57 hours** | **19** | **hours** |

*Includes history, literature, music or art appreciation, philosophy, religion or foreign language.
*Includes economics, anthropology, political science, psychology, sociology and geography.

Environmental Practice (346)

Environmental Practice (346)
Professor: H. Kitchen (Head), D.V.M. California (Davis), Ph.D. Florida.
Associate Professor: J.W. Oliver, D.V.M., Ph.D. Purdue.

6811-12 Pharmacology (1,2) Theories of transport across membranes. Introduction to principles of drug action and distribution. Receptor theory, adverse drug reactions; correlated with Animal Science 8240-50. One-hour lecture for 8611; Two hours of lecture for 8612.

Veterinary Microbiology (996)

For listing of faculty and courses outside the veterinary medicine curriculum see: Department of Animal Science, College of Agriculture.

8240-50 Veterinary Physiology (3,4) Introduction to concepts and problems in physiology which form a base for clinical applications and for formal training in pharmacology, medicine, pathology and surgery. Order of sequence: respiratory, cardiovascular, digestive, and genito-urinary, etc. Three hours of lecture for 8240; 4 hours of lecture for 8250.

8510-20 Histology (4,4) Microscopic anatomy of respiratory, cardio-vascular, digestive, urinary, and reproductive systems; integument, and special sense organs. Sequence of presentation as listed above. Correlated with 8240-50. Two hours of lecture and two laboratories.

8540-50 Gross Anatomy (4,4) Gross anatomy of common domestic species. Lecture; dissection of embryos, specimens; study of projections, slides, models and living animals. Cardio-vascular and respiratory systems are first in sequence. Correlated with 8510-20 if possible. One-hour lecture and two laboratories.

Veterinary Animal Science (992)

For listing of faculty and courses outside the veterinary medicine curriculum see: Department of Animal Science, College of Agriculture.

Admission Procedure

Admission of new students will be for the fall quarter each year. Applicants will be screened carefully by a faculty committee to determine those best qualified for admission within the College enrollment quota.

Applicants will be considered in the following order of priority: (1) residents of Tennessee; (2) legal residents of states with which the University of Tennessee has contracts for veterinary medical education; (3) residents of other states or foreign countries.

Forms and instructions for making application for admission may be obtained from:
Office of the Dean
College of Veterinary Medicine
P.O. Box 1071
Knoxville, Tennessee 37901
Pathobiology (742)
Professor: R.L. Michel (Head), V.M.D. Pennsylvania, Ph.D. Michigan State.

8710 Veterinary Pathology (3) Principles of pathology including causes of disease, disturbance of cell growth, inflammation, and neoplasms; introduction of clinical hematology. Three hours of lecture and three laboratories.

8730 Veterinary Parasitology (3) Basic principles of parasitology, protozoology, helminthology, and entomology and their relation to disease in animals. Two hours of lecture and two laboratories.

Rural Practice (870)

Urban Practice (886)
Professor: E.D. Gage (Head), D.V.M. Texas A & M.

Interdepartmental Offerings

Veterinary Medicine (989)

8010 Professional Relations (1) Professional speaking and writing, research design and data interpretation, and public relations. One-hour lecture.

8310 Introduction to Veterinary Medical Practice (2) Species, breed identification; basic care, feeding, restraint and handling. Introduction to physical diagnosis, intravenous techniques, blood sampling, etc. One-hour lecture and one laboratory.

8311 Introduction to Veterinary Medical Practice (2) Physical diagnosis, history taking, and client relations; anesthetic principles, agents, and techniques. One-hour lecture and one laboratory.

8312 Introduction to Veterinary Medical Practice (3) Basic surgical principles, preparation for surgery, wound healing and suturing; fundamentals of radiology. Correlated with 8320. Two hours of lecture and one laboratory.

8320 Medical Science Interactions (3) Multi-discipline laboratory. Demonstrations and surgical experiments to illustrate variety of physiologic and pharmacologic principles. Emphasis on anesthetic techniques, basic clinical chemistry. (i.e., acid-base) provides appreciation for survival and emergency techniques and for drug action. Correlated with 8312. Two hours of lecture and one laboratory.
School of Architecture

Donald D. Hanson, Dean
William J. Lauer, Assistant Dean

The School of Architecture presents a comprehensive program of undergraduate courses, offering opportunities for both general studies and professional specialization.

The intent of the School's program is to complement the University's learning opportunities by providing curricula and course offerings in the art and science of design. Accordingly, the program is composed of informational, analytical, and integrative studies related to the human role in shaping and changing the built environment. The welfare of this environment, which is a vital factor in the well-being of people everywhere, depends upon the knowledge and skill which those educated in the design sciences can contribute to continuing processes of developmental change.

A goal of this revised program is to provide undergraduate studies in scholarly and professional areas related to the knowledge base and methodologies for working with the built environment, while at the same time utilizing the School's resources, faculty, and facilities to their maximum effectiveness.

Facilities

The design laboratories, classrooms, computer room, library, and administrative offices of the School are located in three buildings—Estabrook Hall, Meirose Annex, and Alumni Gym. It is entirely appropriate that one of the newest schools, and particularly architecture, should be temporarily housed in venerable Estabrook Hall constructed in 1898. Other disciplines that share direct interests with the School—Engineering, Fine Arts, and Industrial Arts—are also located in the building. The Meirose Annex provides additional space for upperclass research and design activities.

The principal library holdings of the School are contained in the James D. Hoskins Library. Extensive general collections and reference volumes in architecture and the fine arts are housed there. These sources are augmented by the branch library of the School where students have access to all the reference books in current use.

Student Sponsorship

A number of $500 sponsorships are made available each year by architectural firms of Tennessee. These grants cover tuition and fees, travel expenses to a designated U.S. city for study purposes, subscription to a foreign architectural journal, purchase of special drafting equipment, and purchase of special reference books for the student recipients' personal libraries. Honor students in all the upper four years are eligible for this aid, but it is primarily awarded to students of third and fourth year standing.

Lecture Program

ROBERT B. CHURCH MEMORIAL LECTURESHIP

The income from the endowment is used to sponsor outstanding speakers from the profession.

General Information

Students are advised to consult the University's general requirements as stated in the front section of this catalog as well as the requirements for the School of Architecture.

Self advising will not be permitted in the School of Architecture. Students must plan their schedule by consulting with an assigned advisor in the student's area of concentration. Electives will be chosen with the concurrence of the advisor and with full consideration of the necessary prerequisites.

Requirements for Admission to Second Year Architecture

(1) satisfactory completion of first year architectural program with grade point average at least 2.3; exceptions by petition only.

(2) a personal interview and evaluation of applicant's work by a designated member of the School of Architecture,

(3) application to the School of Architecture no later than June 15 preceding the start of the second year.

Students must maintain an overall 2.3 grade point average by the end of 48 hours (attempted) in order to maintain "full status" in the program. Delinquent students will be put on "temporary status" for one quarter. These students will have one quarter to raise overall GPA to a 2.3 or have minimum 2.3 on each quarter's work until overall average is raised to a 2.3. If GPA is not brought up to a 2.3, student will be dropped from the architecture program.

Minor

An undergraduate minor in architecture is offered in order to enable students in other colleges to pursue additional architectural science and design courses of special interest. The minor will consist of not less than 18 hours. Persons interested must obtain the consent of the Admissions Committee of architecture and Dean of the School of Architecture, who will approve specific programs of study proposed by students.

Course Load

The average course load in any quarter is 17-18 credit hours. The minimum which may be taken by full-
Program for Architecture

Degree: Bachelor of Architecture

Major: Architecture

<table>
<thead>
<tr>
<th>Concentrations</th>
<th>Design</th>
<th>History/Humanities</th>
<th>Administration</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Criticism</td>
<td>2. Production</td>
<td>2. Environmental Controls</td>
<td></td>
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</tbody>
</table>

Restoration/Preservation, Management, Production, Development, Structures, Systems Building, or Environmental Controls. Refer to numbers in the 4300 sequence for Architecture Design Lab Electives. Any exceptions to the curriculum outline have been footnoted. For any additional specialized requirements, the student should inquire at the School of Architecture.

First Year

<table>
<thead>
<tr>
<th>Courses</th>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Architecture 1001, 1002</td>
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<td>Architecture 1004, 1005, 1006</td>
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<tr>
<td>English 1510-20</td>
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<tr>
<td>Physics 2240-50</td>
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<tr>
<td>Math 1550-60 (For Design &amp; Hist/Humanities Concentrations)</td>
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Second Year

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<tr>
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<td>Architecture 2001-02-03</td>
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<td>Architecture 2006, 2005</td>
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<td>Architecture 2011-12-13</td>
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<td>Architecture 2015-16</td>
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Third Year

<table>
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<tr>
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<tbody>
<tr>
<td>Architecture 3011-12</td>
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<td>Architecture 3013-14</td>
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Total: 144 hours

CRITICISM TRACT

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<th>Hours</th>
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<td>4</td>
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<tr>
<td>Electives...</td>
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Total: 240 hours

RESTORATION/PRESERVATION TRACT

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<tr>
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<td>Architecture Design Lab Electives...</td>
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<tr>
<td>Control Electives...</td>
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<tr>
<td>Electives...</td>
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Total: 240 hours

ADMINISTRATION CONCENTRATION

MANAGEMENT TRACT

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<tr>
<td>Architecture 4501-02, 4531...</td>
<td>8</td>
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<tr>
<td>Industrial Engr. 4150...</td>
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<td>3</td>
</tr>
<tr>
<td>Architecture 4571, 4525...</td>
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<tr>
<td>Architecture 4510-15, 4531...</td>
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Total: 240 hours

PRODUCTION TRACT

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<td>Architecture 4501-02, 4531...</td>
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<td>8</td>
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<tr>
<td>Industrial Engr. 4150...</td>
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<tr>
<td>Architecture 4571, 4555...</td>
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<tr>
<td>Architecture 4545, 4550, 4560...</td>
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Total: 240 hours

DEVELOPMENT TRACT

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<tr>
<td>Control Electives...</td>
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<td>4</td>
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<tr>
<td>Electives...</td>
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</tbody>
</table>

Total: 240 hours

Curricula for Architecture

All students studying for a Bachelor of Architecture Degree will include the following requirements in their first three years of study. During the fourth and fifth years, the student's work will be concentrated in one of the following Tracts: Design, History, Criticism, etc.
TECHNOLOGY CONCENTRATION

STRUCTURES AND ENVIRONMENTAL CONTROL TRACTS

<table>
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<th>Fourth Year</th>
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<tr>
<td>Architecture 4701, 3015, 4702</td>
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<td>Control Electives</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Fifth Year</td>
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<tr>
<td>Architecture Design Lab Elective</td>
<td>8 8</td>
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<tr>
<td>Control Electives</td>
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<td>Electives</td>
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Total: 240 hours

SYSTEMS BUILDING TRACT

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<tr>
<td>Architecture 4761-62</td>
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<tr>
<td>Architecture Design Lab Elective</td>
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<tr>
<td>Architecture 4741-42-43</td>
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<tr>
<td>Control Electives</td>
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<tr>
<td>Fifth Year</td>
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<tr>
<td>Architecture 4751</td>
<td>4</td>
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<tr>
<td>Architecture 4752-53</td>
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<tr>
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<td>Electives</td>
<td>8 8</td>
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<td>Architecture 4765</td>
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Total: 240 hours

Third Year

<table>
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<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture Design Lab Elective</td>
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<tr>
<td>Controlled Elective</td>
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<tr>
<td>Architecture 4029</td>
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</tbody>
</table>

Electives | 2 12

Total MINIMUM REQUIRED: 160

*Mathematics 1800 may be substituted for Mathematics 1860. Credit for either course will count as control credits.
*Students entered in History/Humanities Concentration take Arch 2101-02; students in Technology Concentration take a control elective and Architecture 3701.
*Students entered in the Structures and Environmental Control Tracts of the Science Concentration will take the following: Architecture Design Lab Elective (8), Arch 3702 (4), and an Elective (4).
*Tract is governed by the Control Electives.
*The last two quarters of Architecture Design Lab Elective may be substituted by Control Electives upon approval of faculty advisor.

Second Baccalaureate Degree Program

A program leading to a Bachelor of Architecture has been initiated to accommodate those outstanding students holding a bachelor's degree in another field. The program condenses the major professional courses into a nine-to-eleven-quarter curriculum depending on the student's performance and ability. A special Committee advises, reviews student progress, and structures individual programs of study subject to approval by the Dean.

Applicants must show at least a 2.5 overall grade point as well as goals and abilities appropriate to the program. A personal interview is required. Prerequisite courses include Math 1810-20 and Basic Engineering 1310-20 or Physics 2210-20, or their equivalents.

The following courses reflect a general advisory model:

First Year

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture 4020-21-23</td>
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<td>Architecture 4022-24</td>
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<td>Architecture 4025-26-27</td>
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<tr>
<td>Mathematics 1550-60</td>
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<td>Physics 2240-50-60</td>
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<td>Second Year</td>
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<tr>
<td>Architecture 3011-12</td>
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<tr>
<td>Architecture 2011-12-13</td>
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<tr>
<td>Architecture 2006, 2015-16</td>
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<tr>
<td>Architecture Design Lab Elective</td>
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Second Year

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture Design Lab Elective</td>
</tr>
<tr>
<td>Controlled Elective</td>
</tr>
<tr>
<td>Architecture 4029</td>
</tr>
</tbody>
</table>

Electives | 2 12

Total MINIMUM REQUIRED: 160

*Mathematics 1800-50 is recommended for qualified students.
*Electives may be taken any time over the three-year period.

Controlled Electives Lists

DESIGN CONCENTRATION

- Accounting 2110-20; Anthropology 2510, 2530, 3410; Audiology and Speech Pathology 4750; Architecture 2101, 2102, 3113, 3712, 3910, 4110, 4137, 4610, 4710, 4720, 4721-22, 4726-27, 4734, 4735, 4736-37, 4739, 4771-72, 73, 4775, 4785, 4786, 4900, 4910; Art 3735, 3736, 3745, 3746, 3765; Botany 1110-20, 3030, 3090; Broadcasting 3650, 4020, 4030; Business Law 4110; Child and Family 3510, 3551, 3569, 3590, 4260, 4430, 4830; Chemistry 1110-20-30; Civil Engineering 4430; Crafts, Interior Design and Housing 3256, 4155, 4156, 3125, 4310; Communications 1110; Computer Science 3410, 3411; Educational Curriculum and Instruction 3310; Economics 2110-20-30, 3110, 3340, 4150; Electrical Engineering 4850; Environmental Engineering 3000, 4700; Finance 3110, 3120-30, 4350-60, 4370; Food Systems Administration 3310; Geography 2400, 3000, 3430, 3520, 3530, 4720, 4740; Geology 3510, 3520; History 4670, 4740; Industrial Engineering 4150; Journalism 3710; Law 8490, Marketing 3110, 3120, 3210; Mechanical Engineering 4220; Office Administration 2750; Philosophy 1510-20; Physical Education 3090; Political Science 3410, 3411; Psychology 2500, 2530, 3150, 3210, 3430, 4230; Real Estate 2610, 3610, 4120, 4130; Sociology 3030, 3130, 4330, 3410; Statistics 2100, 3220, 3120, 3130; Zoology 3010-20-30;
- Anthropology 2520, 3610, 4600, 4650, 4740; Architecture 3110, 3113, 3115, 3120, 3125-26, 3130, 3135, 3141, 4110, 4115, 4120, 4125, 4130, 4135, 4137, 4140, 4150, 4160, 4170, 4175, 4185, 4188; Art 3710, 3711, 3720, 3730, 3750-55-57, 3765, 3775-76-77, 4875-76-77, 5855-56-57, 5770; Classics 4220; History 4670, 4740; Journalism 2210, 3120, 2220; Planning 4100; (Other electives may be accepted upon approval by the History/ Humanities Area Committee.)

ADMINISTRATION CONCENTRATION

- Accounting 2110-20, 2210; Architecture 4510, 4515, 4520, 4525, 4530, 4531, 4532, 4535, 4540, 4545, 4550, 4555, 4560, 4565; Business Administration 1110; Business Law 4110, 4120, 4130; Civil Engineering 4230, 4430; Economics 2110-20-30, 3210, 3211, 3340, 3410, 4210, 4130; Finance 3110, 3120-30, 3640; Industrial Engineering 4150, 5250, 5260, 5600; Insurance 3020; Industrial Management 3010, 3110, 3120, 4330, 4630; Journalism 3770, 3710-30-30, 3111, 3211, 4140, 4150; Office Administration 4510, 4540; Real Estate 2610, 3610, 3630, 4110, 4120, 4130; Statistics 2100; Transportation 3115, 4720.


2050 Historical Studies II (4) Concentrated examination of development of twentieth century design architecture, products and products as deconstructive or constructive to Industrial Revolution. Emergence of post-industrial era and contemporary design.


2076 Physical Systems III (4) Structural properties of building materials, behavior and response under loading and stress, section properties. Prereq: 1006 and second-year standing.


2086 Structural Analysis II (4) Behavior of wood, steel, and concrete in response to structural loading. Introduction to analysis, design, and member selection based upon specific task/application. Use of construction and building codes, handbooks and design tables. Prereq: 2012 and 2006.

2068 Analytical Studies II (4) Introduction to basic research methods and to environmental problem-solving; information and skills necessary for contemporary construction, manipulating and displaying (communicating) a wealth of diverse data for research and evaluation purposes. Course objective is to qualify students with concepts and techniques to utilize electronic data processing technologies as a research tool.


2101 Pre-modern Survey I (4) Classical Tradition in architecture: Greek and Roman Architecture. Renaissance and Neo-classical revivals.

2102 Pre-modern Survey II (4) Medieval and Byzantine Architecture.

3011 Architectural Design Lab I (8) Controlled exercises designed to demonstrate integration and application of design theory and methodologies into design process. Exercises directed to specified architectural issues such as site analysis, and integration of multiple complex architectural systems into comprehensive architectural resolutions.

3012 Architectural Design Lab II (8) Experimental exercises designed to demonstrate integration and application of design theory and methodologies into a creative design process. Exercises directed to aspects of architectural issues such as site analysis and planning, facility programming and program analysis of multiple complex architectural systems into comprehensive architectural resolutions.

3013 Professional Practice I (4) Survey of legal responsibilities of architect in servicing contractual arrangements; contract documents, contract administration, codes and zoning regulations, liability and insurance issues in building delivery. Prereq: Third-year standing.

3014 Professional Practice II (4) Principles and methods of economics and management; project production and management, costs and analysis, budgeting, programming and construction management. Prereq: 3013.

3015 Service Practicum (16) Employment for one quarter in office of a registered architect or other projects approved by the school. Prereq: 3011 and 3012.

3016 American Architecture (4) Architecture in United States since 1607; medieval, Neo-classical, and Greek Revival traditions; eclecticism.

3020 History of the City (4) Evolution of town planning theories, modern theory, city of today and tomorrow.

3070 Oriental Survey (4) Architecture of non-Western tradition.

3071 Contemporary Architecture (4) Styles and theories from 1865 to present; design and technology; definition of architecture.

3072 Latin American Survey (4) Native and colonial architecture in Central and South America.

3073 Indigenous Traditions (4) Vernacular building traditions in non-European civilizations.

3075-26 History of Architectural Technology I, II (4, 4) History of construction techniques, hardware, materials and systems; I: before 1850, II: 1850 to present.

3076 History of Architectural Theory (4) Philosophy of science, the emergence of technology, and theories of design since 1500.

3079 Tennessee Architecture (4) Immigrant traditions, regional developments, national styles, contemporary architecture.

3078 Architecture Since 1945 (4) New directions and views of the future.

3140 Studies of Architectural Writing (4) Survey of European architectural writers from Pugin to the present; the relation between literature and design. May be repeated. Maximum credit, 8 hours.

3701-02 Application of Computer in Architecture (4, 4) Survey of computer applications in the architectural profession. Computer graphics; use of commercial programs and systems; program planning and implementation. Prereq: 3701 for 3702.

3712 Mathematical Models in Architecture (4) Illustrates and develops application of mathematical methods in architectural science. Survey and classification of mathematical models of problems in architecture, including numerical methods and use of digital computer.

3901 Research Methods for Designers (4) General introduction to variety of research methods and techniques available to designer, and appropriate for uncovering basic user requirements during design process. Prereq: 2000.

3920 Environmental Design Education: Problems, Practice and Structures (4) Focus directed at surveying existing models of learning, educational taxonomies, curricula goals, objectives and implementation formats, and methods of program evaluation. Role of existing architectural professional practice and its relation to design education explored. Required for teaching assistants in architecture. Prereq: Consent of instructor.

3930 Behavioral Approaches to Environmental Design (4) Concerns with the course content of this course is the effect of the built environment on human behavior. Particular emphasis will be placed upon the role of environmental factors in human development, learning, adaptation, stress and satisfaction, recreation behavior, and life-cycle functions. Studio problems will explore the design of environments for children and environmental support of various types of physical disabilities for people of all ages. Two credits for lecture and four credits for lab. Prereq: Consent of instructor.

3940 Behavioral Approaches to the Design of Prosthetic Environments (5) Many standard features of functions, which are built-in and not adaptable to the everyday functioning of individuals with various types of physical disability; study of architectural barriers in relation to the physically handicapped constitutes the course lecture content. Studio problems explore design of barrier-free environmental features and design of disability-specific environments and behavioral supports. Two credits for lecture and four credits for lab. Prereq: 3930 for non-architecture students.

4110 Aesthetics in Architecture (4) Architecture among the arts; theory and philosophy of space, imagination, design and materials.

4150 Advanced Research Methods in Architectural History (4)

4170 Treatises (4) Vitruvius, Renaissance and Neo-classical treatises.

4125 Eastern European Architecture (4) Twentieth-century architecture in Russia, Czechoslovakia, Poland, Hungary, East Germany, Rumania, Bulgaria, Yugoslavia.

4130 Seminar in Medieval Architecture (4)


4137 Forms of Utopia (4) Ideals, spaces, and places; proposals and programs which have formed Utopian tradition; successes and failures of its architectural forms.

4140 Criticism Seminar (4) Theories, function, and techniques of architectural criticism.

4150 Advanced Reading (4) Advanced studies in special topics of architectural history.

4160 Architects in Social Criticism (4) Writings which illustrate technological, political, and anthropological assumptions of some 19th- and 20th-century architects.

4170 Introduction to Preservation and Restoration (4) History and theory of restoration and preservation.

4175 Technology of Preservation (4) History of technology and materials, methods analysis and dating, techniques of preservation.

4185 Recording Historic Buildings (4) Techniques for drawing and documenting historic architecture.

4195 Contemporary Preservation Practice (4) History and theory of contemporary practice, preservation law.

4311 Historic Preservation Laboratory (4) Directed studies for building of historic significance. Techniques of preservation; research of historic methods of construction; and studies of viable uses. Re-habilitation, restoration, and preservation techniques. May be repeated. Maximum credit, 12 hours.

4302 Foreign Studies Laboratory (16) Travel, research and laboratory projects conducted in various locations abroad. The programs may include service to lesser developed countries; research and design project related to program locations; exercising professional skills and criticism by distinguishing individuals in the host country. Programs will vary.
of component assembly, panel, and box systems; and wood, steel, concrete and plastic systems. Use of computers, structurally and architecturally. Prereq: 4743.

4752 Mechanical Innovations (4) New technologi- cal design and techniques for heating, ventilat- ing air conditioning, plumbing and electrical systems. Concepts of mechanical components at factory, and mechanical connections at the site; their application and use Coreq: 4751.

4753 Construction and Manufacturing Innovations (4) Comprehensive analysis of new technology and innovations in manufacturing and construction with emphasis on new transportation, erection, distribution, precasting equipment, unions, codes, costs, regulatory agencies, estimates, shop draw- ings, factory assembly lines and site construction methods. Understanding of industrial engineering, construction management, computers, CPM, fast- tracking, prefabrication, and industrialization. Prereq: 4751 and 4752.

4761-62 Systems Design Laboratory I, II (8, 8) A vertical multi-disciplinary design and research sys- tem laboratory and studio, integrating simul- taneously, undergraduates, graduates, profes- sionals, in- and out-of-field and extra-pro- fessionals. Total systems ("software" and "hardware") approach to individual and group problems. 4761: Defining, researching, probing and analyzing the problem, and the system process. Application of new ideas, approaches and concepts to design and sys- tems. 4762: Experimenting with new prototype forms, architecturally and with design systems, three dimensionally and in mock-ups, using new materials and techniques. Coordination of the total systems process. Prereq: 4751 and 4752.

4785 Thesis/Systems Laboratory (15) Inde- pendent problem undertaken by individual or groups which makes a significant contribution to the art and/or science of systems building, design and architecture. Prereq: Approval of the system building coordinator and the completion of the systems building core.


4780 Fire Protection in Structures (4) Fire protec- tion aspects of buildings and their occupants. Characteristics of fires; fire codes; building evacuation. Sprinkler and other fire protection systems; emergency power and lighting; fire resistant materials and construction.

4785 Sound, Noise and Vibration Control in Building (4) Proven sound and vibration control techniques. Specific methods, procedures, and ma- terials most effective in solving aural problems. Prereq: Audio & Speech Path. 4750 or Mechanical Engr. 4292.

4900 Aspects of Urban Environment (4) Interdisciplinary course in urban problems. Prereq: Consent of one of the instructors. (Same as Human Services 4900, Political Science 4900, Psychology 4900, and Real Estate 4900.)

4910 Architectural Photography (4) Use of photography as a design, research and presenta- tion medium. Emphasis on architectural photography using black and white media. Prereq: 4292.

4920 Advanced Architectural Photography (4) Application of architectural photography techniques with emphasis on color printing and processing. Prereq: Consent of instructor.

4940 Proxemics (4) Seminar for graduate students & upper division students. Introduction to proxemic research. Definition of proxemic variables. Proxetic notation analyses. Analysis of etic data and the ideographic analyses. Observations and methods of bias reduction. Members of seminar re- quired to design, conduct, and present original proxemic research. Prereq: 2000 or consent of instructor.


ACCELERATED CORE COURSE DESCRIPTIONS

4020 Accelerated Visual Studies (4) Identification and application of theories and methodologies of graphics analysis and communication principles; i.e., principles of visual coding and ordering applic- able to behavioral analysis. Descriptive and be- havioral properties of elements of visual environ- ment; Selected exercises shall demonstrate manipu- lation of both static and dynamic properties to pro- duce varied sensory responses and/or experiences. Prereq: Admission to accelerated core program. Co- req: 4022.

4021 Accelerated Basic Design and Analysis I (4) Investigation of elements and behavior of complex physical systems. Theories and meth- odoxies of optimization applicable to design de- cision-making and problem-solving are investi- gated through controlled and experimental design exercises. Prereq: 4020.

4022 Accelerated Analytical Studies I (4) General systems theory and scientific methods of analysis applicable to design decision-making processes and design methodologies. Contextually, study traces emergence of contemporary architectural profession through evolution of design theory, building technology, and processes of develop- mental change. Prereq: Admission to the ac- cel erated program Co-req: 4020.

4023 Accelerated Basic Design and Analysis II (4) Investigation of human response to varied configurations of built environments. Knowledge of response to human behavior and activity patterns applied through design process to create new en- vironmental forms subjected to performance eval- uation measured to anticipated response. Experi- mental design exercises will include varied problem types and scales. Exercises will incorporate scienti- fic research methods and design methodologies. Prereq: 4020 and 4022. Co-req: 4024.
College of Business Administration

John B. Ross, Dean
C. Warren Neel, Associate Dean
Francis A. Chamblin, Assistant Dean
for Graduate Programs
Liston M. Fox, Assistant Dean

The College of Business Administration seeks to prepare men and women for positions as executives and specialists in business. Seeing the business firm as operating in a dynamic social, political, and economic environment, the College has four functions with respect to its purpose: (a) to offer its students the firm base of liberal education consistent with that possessed by all educated men; (b) to present to its students business-oriented instruction in professional fields so that they may understand the business process as a whole and the function of specific areas of business; (c) to associate closely with other colleges of the University in order to enrich the understanding of its students by offering an opportunity to learn from psychology, sociology, and other areas related to the behavior of people; (d) to develop in its students the ability to see their four years in the college as the initial step to a lifetime commitment to personal growth and intellectual maturity through continuing education.

The College centers its teaching, subject matter, and research activity around two themes: the manager as a planner, decision-maker, implementer and controller of operations in a business firm; and the manager as an analyst of, an adapter to, the larger social, economic, and political environment in which the firm exists. The College has one goal: to have each student leave school with a reasonably articulate and coherent, though flexible and ever-developing, personal philosophy of business; an understanding of the scientific, ever-changing technological world; and a firm awareness of his social responsibility as a future executive and enlightened wielder of power.

The College of Business Administration has been a member of the American Assembly of Collegiate Schools of Business since 1941.

Transfer Admission

All students who have attempted 36 or more quarter hours of college level work must have a grade point average of at least 2.00 to be eligible to transfer into the College of Business Administration. This requirement applies both to students transferred from other institutions (including those of The University of Tennessee System) and to those transferring from other colleges and schools of The University of Tennessee, Knoxville.

The College of Business Administration stands ready to assist any student seeking a business education, regardless of credit hours attempted or earned, and regardless of his/her grade point average. All such students should be referred to the Office of the Dean for counseling and discussion.

Student Advising Center

The College of Business Administration maintains a Student Advising Center. The Center is staffed with full-time academic advisers to assist the freshman and sophomore students on an individual basis with their programs. Junior and senior students are assigned to advisers from the faculty of the student’s selected major. The objective of working with students individually is to assist them in their own particular needs for academic information and to prepare them to answer their own questions and concerns.

Center for Business and Economic Research

The staff of the Center for Business and Economic Research engages in studies of the business and economic environment in Tennessee, the Southeast, and the Nation. The Center serves the business community, state government, individuals, and the University through dissemination of information and aids the faculty in preparing research proposals. Staff members conduct research in regional economics, public finance, demography and related socio-economic problems. The Center publishes results of its research and that of others, in monograph form, so that significant developments in the various business disciplines can achieve widespread exposure. In addition, the Center staff does contract research on business and economic problems for governmental organizations and private industry. As periodicals, the Center publishes the Tennessee Statistical Abstract, the Tennessee Survey of Business, and the Tennessee Pocket Data Book.

The Center is a member of the Southeastern Income Conference and the Association for University Business and Economic Research.

Tennessee Executive Development Program

The Tennessee Executive Development Program (TEDP) is designed to provide extensive continuing educational opportunities for executives from firms and organizations in Tennessee, the South, and nationally. The major objective of the program is to prepare and develop executives for increasingly higher levels of management responsibility and to sharpen existing executive skills needed for comprehensive decision making and leadership. Other major aims of the TEDP are to teach the fundamentals of analytical thinking and the use of the decision tools, and to examine the economic, political, technological, and other environmental factors affecting the firm’s operations.

The TEDP limits enrollment to 32 participants who live on campus for a total of four weeks spread over a three-month period. The fall Executive Seminar brings participants and wives of all TEDP classes...
Requirements for All Curricula

A student must complete the curriculum outlined by the department in which he is majoring in order to receive a degree. Where no course number is specified or where a choice is allowed, the student will fulfill the requirement by selecting from specified courses. Where electives are provided, the courses taken must meet the approval of the advisor. Nondepartmental electives are considered as courses outside the student’s major department. No more than 42 hours are permitted in any one subject area.

A Management Science Option is available for students with facility and interests in mathematical applications to business. See page 72.

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.

BUSINESS CORE REQUIREMENTS

The following core courses are required in all business curricula: Accounting 2110-20, 2210; Business Administration 4430; Business Law 4110 and 4120; Economics 2110-20-30; Finance 3110-20-30; Industrial Management 3010, 3110; Marketing 3110-20; Office Administration 2750 or Computer Science 2410 (3150 for Management Science Option) and Statistics 2100 and three hours upper-division Statistics elective or as designated by the curriculum (3450-60 for Management Science Option).

ENGLISH REQUIREMENT

The English requirement can be fulfilled by English 1510-20 and hours selected from English 2510-20-30, 2540, 2560-70-80, 2590, 2660-70-80, Speech 2311, unless specifically required by a curriculum, may be used to satisfy four of the elective English hours required. English courses beyond 1000-level may be taken in any order. Students making a B average in freshman English are permitted to substitute for the 2000-level courses listed above any upper-division courses which the Department of English will allow them to take.

NATURAL SCIENCE REQUIREMENT

The Natural Science requirement can be fulfilled by an eight-hour sequence (any two eight-hour sequences for the Industrial Management and the Personnel Management curricula and any eight-hour sequence plus any additional four hours of natural science for the Business Education curriculum) in any of the following fields: Astronomy, Biology, Botany, Chemistry, Geology, or Physics.

SOCIAL SCIENCE REQUIREMENT

The social science requirement can be fulfilled by taking courses in the following fields: Anthropology, Classics, Geography, History, Human Services, Philosophy, Political Science, Psychology, Religious Studies, and Sociology.

COMPUTER SCIENCE REQUIREMENT

A computer programming course satisfies requirement; Computer Science 2410 is recommended.

Accounting

The curriculum provides preparation for professional accounting careers in public accounting, industry, and government. Graduates are eligible for the CPA examination in Tennessee.

Transfer students with 9 quarter hours of introductory accounting will receive 6 hours of credit in Accounting 2110-20 and 3 hours of lower-division accounting credit. These students must take as one of their technical electives an upper-division course approved by the Accounting Department advisor, and it must not be an accounting course.

Freshman

<table>
<thead>
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<th>Credit</th>
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<tbody>
<tr>
<td>English 1510-20</td>
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<tr>
<td>Mathematics 1540-50-60 or 1840-50-60</td>
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Sophomore

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Junior

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<td>Accounting 4630, 3430</td>
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<td>Finance 3110-20-30</td>
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<tr>
<td>Industrial Management 3010, 3110</td>
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<td>Marketing 3110-20</td>
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<tr>
<td>Statistics 3410</td>
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Senior

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<td>Accounting 4430, 4140</td>
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</table>

*See adjacent column.

**May be Accounting electives or other electives specified by Accounting Department advisor.

Banking

Students planning careers in management of commercial banks and branches, or as trust officers, investment or loan officers, or in mergers or industrial banks, the Federal Reserve System, international monetary institutions, or state and federal bank regulatory agencies may major in banking.

Freshman

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>English 1510-20</td>
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<tr>
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Sophomore

<table>
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<tr>
<td>Accounting 2110-20, 2210</td>
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</tbody>
</table>
**Business Education**

This program is offered in cooperation with the Department of Vocational-Technical Education in the College of Education. The program meets requirements for certification in business subjects as approved by the State Department of Education. At least a C average must be made in each endorsement area in business for which a student is to be recommended.

**Economics**

The Department of Economics offers specialized courses for those who desire to serve as economic analysts and specialists in business, education, government, and various international agencies. Areas of concentration are provided in theory, international trade and economic development, industrial organization, and labor. Students majoring in economics, particularly those desiring to teach, should plan, whenever possible, to take graduate work.

Students may also elect to major or minor in Economics in the College of Liberal Arts. See page for further information on the B.A. curriculum.

**General Business**

This major is intended for those who desire a broad business background without extensive concentration in any single business field. That end it includes advanced work beyond the introductory courses in accounting, economics, finance, personnel management, marketing, statistics, and transportation as specified below:

---

### Business Education

<table>
<thead>
<tr>
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<td>Marketing 3110-20</td>
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<td>Industrial Management 3010, 3110</td>
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<td>Economics 3110-20</td>
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<tr>
<td>Accounting Electives</td>
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<td>3</td>
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<tr>
<td>Office Administration 4430</td>
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<tr>
<td>Finance 4520</td>
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<tr>
<td>Finance and/or Nonbusiness Electives</td>
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<td>3</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tr>
<td>Freshman</td>
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<td>English 1510-20</td>
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<td>Anthropology Elective</td>
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<td>Philosophy Elective</td>
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<tr>
<td>English Literature Elective</td>
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<tr>
<td>Accounting 2110-20, 2210</td>
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<tr>
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<td>Psychology 2500</td>
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<td>Teaching Field</td>
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<tr>
<td>Health 3210, or Nutrition 1230</td>
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<td>Senior</td>
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<td>Statistics Upper-division Electives</td>
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<td>Education C &amp; 3010</td>
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</tbody>
</table>

**Finance**

Curricula in the Finance Department include those in finance, banking, insurance, and real estate and urban development. Areas of concentration in the finance curriculum include business finance and financial management, investments and security analysis, public finance and fiscal policy, and monetary theory and policy.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
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</table>

**General Business**

This major is intended for those who desire a broad business background without extensive concentration in any single business field. That end it includes advanced work beyond the introductory courses in accounting, economics, finance, personnel management, marketing, statistics, and transportation as specified below:

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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<td>Freshman</td>
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</tbody>
</table>

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1See page 68.

2Requires admission to teacher education.
### collegiate management

This major is designed for students interested in the field of business and manufacturing management. In general, the curriculum has been developed to include a judicious combination of technical and business courses in order to prepare the graduate for employment in an industrial enterprise. Job opportunities in this field include industrial purchasing, materials control, quality control, production control, methods analysis, and positions as foremen and/or production management trainees. Internships in industry are available under the Cooperative Program.

<table>
<thead>
<tr>
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<th>Credit</th>
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<tbody>
<tr>
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<tr>
<td>Finance 4900, 4990</td>
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<tr>
<td>Finance 4110, 4130</td>
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<td>6</td>
</tr>
<tr>
<td>Business and/or Nonbusiness Elective</td>
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</table>

**Logistics**

Business logistics is recommended for students who desire to prepare for employment in physical distribution management or planning with industrial or marketing organizations. The overall Transportation-Business Logistics program prepares students for the examination waiver program of the America Society of Traffic and Transportation. A number of scholarships for this curriculum are available.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
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</tr>
<tr>
<td>English 1510-20</td>
<td>4 4 4</td>
</tr>
<tr>
<td>Mathematics 1540-50-60</td>
<td>4 4 4</td>
</tr>
<tr>
<td>Economics 2110</td>
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</tr>
<tr>
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<tr>
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<tr>
<td>Speech 2311</td>
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<tr>
<td>English Elective</td>
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<td>Accounting 2110-20, 2210</td>
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<td>Statistics 2100</td>
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<td>Computer Science Elective</td>
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<td>Transportation 3110</td>
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<td>3 3</td>
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<tr>
<td>Economics 2120, 2130</td>
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</table>

### Marketing

This major is designed to prepare students for careers with companies engaged in the marketing of consumer and industrial goods and their distribution by manufacturers, wholesalers, and retailers. The curriculum trains students for positions in sales, advertising, promotion, research, and marketing management. The integrated sequence of courses enables students to obtain broad training in the analysis of marketing decision problems.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
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<td>Nonbusiness Elective</td>
<td>3 6 6</td>
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<tr>
<td>Accounting 2110-20</td>
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<td>Accounting 2210</td>
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<tr>
<td>Computer Science Elective</td>
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<td>Statistics 2100</td>
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<tr>
<td>Business Law 4110-20-30</td>
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<tr>
<td>Business Administration 4430</td>
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<td>Finance 4900, 4990</td>
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<tr>
<td>Business and/or Nonbusiness Elective</td>
<td>3 3</td>
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### Finance, Insurance, or Real Estate Electives

- College of Business Administration
- Hours: 3 3 3
- Credit: 3 3 3
- Accounting 2110-20, 2210: 3 3 3
- Marketing or Transportation Elective: 3 3
- Business and/or Nonbusiness Elective: 4 7 7
- TOTAL: 187 hours

### Insurances

The insurance major is for students planning careers in business risk management, insurance company and bureau administration, actuarial work, pension administration, life underwriting, estate planning, property-casualty agency management, insurance consulting, loss adjustment, and state regulation of insurance. Graduates are eligible to take the national examinations for the C.L.U. or C.P.C.U. designation.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
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<tr>
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<td>4 4 4</td>
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<tr>
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</table>
- TOTAL: 187 hours

### See page 68.

### See page 72.

### Recommended.
Office Administration

Students entering the field of office administration may choose a specialized secretarial program or prepare for supervisory, administrative or managerial positions in the office. Students following the office administration major may meet teacher certification requirements by taking the appropriate education courses in consultation with the faculty advisor.

OFFICE ADMINISTRATION-SECRETARIAL

Junior

<table>
<thead>
<tr>
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Senior

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OFFICE ADMINISTRATION-GENERAL

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Junior

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<th>Subject</th>
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<th>II</th>
<th>III</th>
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</table>

Total: 187 hours

TWO-YEAR SECRETARIAL PROGRAM

The two-year program in office administration is offered to high school graduates who want to prepare for secretarial work but who do not plan to complete four years of University training and earn a degree. All courses taken in this program have full University credit and may be applied toward a degree.

A certificate may be awarded to students who have completed the program with an overall average of at least 2.0, an average of 2.2 in office administration, and within the first 120 hours of credit. Information regarding the recommended sequence of courses may be obtained from the office of the department head.

This "short course" is planned for six quarters of work and may be started at the beginning of any quarter.

Subject

| Office Administration 2120-2130 | 6 | - | - | - | - |
| Office Administration 2310-2320 | 15 | - | - | - | - |
| English 1510-20 | 8 | - | - | - | - |
| English literature | 8 | - | - | - | - |
| Business Administration 1100 (General Business) | 3 | - | - | - | - |
| Office Administration 3120 (Office Machines) | 3 | - | - | - | - |
| Office Administration 2340 | 3 | - | - | - | - |

Total: 90 hours

Note: Previous training in shorthand or typewriting may exempt a student from the beginning courses in these subjects. If no typewriting has been taken, a prerequisite of Office Administration 2110 is necessary.

Personnel Management

This major is designed for students who wish to prepare for employment in industrial personnel administration. Job opportunities range from the general personnel work in small companies to specialized fields such as employment, wage and salary administration, job evaluation, training, and labor relations in larger enterprises.

Public Administration

This major is intended for students who wish to prepare for management positions in the public service. In general, it presents a combination of general education together with studies in governmental and business administration. It is designed to give initial preparation for such governmental employment as organization and methods work, budgeting work, and personnel management.
### Real Estate and Urban Development

This major is designed for students who are interested in the many fields of business and government where real estate is of significance. Such fields include real estate brokerage, appraising, taxation, law, property management, real estate development, real estate lending and mortgage banking, construction, government loan guarantees, and insurance.

<table>
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<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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<td>Statistics 2100</td>
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<td>Nonbusiness Electives</td>
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<tr>
<td>TOTAL: 187 hours</td>
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### Statistics

A major in statistics is recommended for students interested in positions involving process control and quantitative research in business, industry, and government.

<table>
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<th>Hours</th>
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</table>

### Management Science Option

The increasing use of electronic computers and modern management methods by industry and the business community has created a rapidly growing demand for persons capable of using mathematics, statistics, and computer methods for the use of quantitative techniques in solving management problems. In response to this growing demand, the College of Business Administration has established a Management Science Option which is available to qualified students who wish to prepare themselves for careers involving this type of work.

The Management Science Option is designed for students who have demonstrated a high level of ability in mathematics and who are interested in applying this ability toward solving management problems. The Management Science Option is available to students majoring in an accounting, general business, industrial management, logistics, marketing, personnel management, statistics, and transportation.

### Accounting M.S.O.

Transfer students with 9 quarter hours of introductory accounting will receive 6 hours of credit in Accounting 2110-20 and 3 hours of lower-division accounting credit. These students must take as one of their technical electives an upper-division course approved by the Accounting Department adviser, and it must not be an accounting course.

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<th>Course</th>
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1. See page 68.
2. See page 68.
3. Includes senior level Transportation courses (not to exceed 12 hours) and/or Upper-division business courses.
### Finance M.S.O.

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### General Business M.S.O.

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### Personnel Management M.S.O.

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**Freshman**
- English 1510-20 4 - 4
- Mathematics 1840-50-60 4 - 4
- Natural Science Electives 4 - 4
- Industrial Management 4100-20 4 - 4

**Sophomore**
- English Electives 4 - 4
- Accounting 2110-20, 2210 3 - 3
- Mathematics 2840-50-60 4 - 4
- Economics 2120-30 3 - 3
- Management Science 2120-20 3 - 3

**Junior**
- Computer Science 3150 3 - 3
- Statistics 3450-60, 3550 3 - 3
- Psychology 2500 3 - 3
- Accounting 3220 3 - 3
- Industrial Management 3010, 3110 3 - 3
- Financial Management 4120-20 3 - 3
- Marketing 3110-20 3 - 3
- Industrial Management Upper-division Electives 3 - 3

**Senior**
- Economics 3410 3 - 3
- Business Law 4110-20 3 - 3
- Business Administration 4430 3 - 3
- Industrial Engineering 3210 3 - 3
- Industrial Management 4520-30 3 - 3
- Economics 4110-20 3 - 3
- Industrial Management Upper-division Electives 3 - 3
- Nonbusiness Electives 3 - 3

**Electives**
- 3 - 3

**Total** 187 hours

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### Transportation M.S.O.

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**Freshman**
- English 1510-20 4 - 4
- Mathematics 1840-50-60 4 - 4
- Natural Science Electives 4 - 4
- Industrial Management 4100-20 4 - 4

**Sophomore**
- English Electives 4 - 4
- Accounting 2311 3 - 3
- English Elective 2 - 2
- Social Science Electives 4 - 4
- Economics 2110 3 - 3

**Junior**
- Finance 3110, 3120-30 3 - 3
- Marketing 3110-20 3 - 3
- Industrial Management 3010, 3110 3 - 3
- Computer Science 3150 3 - 3
- Transportation 3115-20 3 - 3
- Transportation Upper-division Electives 3 - 3

**Senior**
- Business Law 4110-20 3 - 3
- Business Administration 4430 3 - 3
- Industrial Management 4610-20 3 - 3
- Transportation 4720, 4620, 4920 3 - 3
- Business Elective 9 - 6

**Electives**
- 6 - 6

**Total** 187 hours

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### Graduate Studies

The College of Business Administration offers advanced programs in economics leading to the Master of Arts, the Master of Science, the Master of Arts in College Teaching, and the Doctor of Philosophy degrees. The Master of Business Administration degree program is offered in the fields of accounting, economics, finance, governmental financial administration, industrial management, management science, marketing, real estate and urban development, and statistics.

and logistics. The Doctor of Business Administration degree program is offered in the fields of accounting, finance, management, marketing, and transportation and logistics. Advanced programs in management science lead to the M.S. and the Ph.D. degrees. The M.S. degree in statistics is also available. The M.S. and the Ph.D. degrees are granted in industrial and organizational psychology jointly with the Department of Psychology. See the Graduate School Catalog for detailed information.

Students applying for the MBA and DBA programs are required to take the Graduate Management Admission Test (GMAT). Applicants for the M.A., M.A.C.T., M.S., and Ph.D. programs may take either the GMAT or the Graduate Record Examination (GRE). Applicants whose native language is other than English must submit results of the Test of English as a Foreign Language (TOEFL). Scheduled dates and locations for taking these examinations may be obtained from Educational Testing Service, P.O. Box 966, Princeton, New Jersey 08540, and from most colleges and universities.

An applicant must file his application with the Graduate School of the University and request that transcripts of all college-level work be compiled and resubmitted. A time limit of three years will be applied to the admission test be sent to the Graduate School. A decision on admission cannot be made until these documents are available. Most doctoral programs require letters of recommendation from three individuals. Applications, transcripts, and admission test scores should be submitted three months prior to desired entry date.

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### Departments of Instruction

Numbers in parentheses following the course titles indicate quarter hours credit offered.

### Accounting

Professors:

Associate Professors:
- B.D. Fisher, L.L.M. George Washington; G.E. Nichols, Ph.D., Louisiana State, CPA; I.A. Posey, M.S., CPA.
- B.J. Schwieger, D.B.A. Indiana, CPA; W.L. Stagle, M.S. Tennessee, CPA; R.L. Townsend, Ph.D., Texas, CPA; F.E. Watkins, Jr. ( Acting Head) Ph.D., Louisiana State, CPA.

Assistant Professors:
- P.J. Harmelink, Ph.D., Iowa; W.H. Hawthorne, Ph.D., Pennsylvania; H.C. Herring, III, Ph.D. Alabama; C.A. Jacobs, Ph.D, Georgia, CPA; P.I. Kintzele, D.B.A. Indiana, CPA; M.C. Lettinger, M.S. Tennessee, CPA; L.E. Rittenburg, Ph.D., Minnesota; N.E. Shurr, J.D. Ohio State; C. Weatherhock, Ph.D., Wisconsin, CPA.

### Accounting (009)

**UNDERGRADUATE**

2110-20 Fundamentals of Accounting (3, 3) Introductory course in business accounting and practice with emphasis on preparation, reporting, and analysis of financial information. Prereq.
5050-60 Introduction to Financial Accounting (3, 3)
5110 Seminar in Accounting Theory (3)
5120 Seminar in Advanced Auditing (3)
5130 Seminar in Current Accounting Topics (3)
5210 Seminar in Advanced Cost Accounting (3)
5420 Seminar in Advanced Taxation (3)
5510 Governmental Accounting (3)
5630 Accounting Systems and EDP Concepts and Control (3)
5640 Seminar in Management Information Systems (3)
5810 Accounting for Control (3)
5820 Corporate Reporting Problems (3)
6000 Doctoral Dissertation and Research
6110-20-30 Doctoral Seminar in Accounting (3, 3, 3)

Business Law (216)

UNDERGRADUATE


4120 Law of Business Organizations and Regulation (3) General principles of law, as these pertain to business partnerships and corporations, affect taxation, and treat with agencies regulating business. Prereq: 4110.

4130 Administrative Regulation of Business (3) Analyzes nature and extent business operations are controlled by administrative agencies operating at federal, state, and local levels. Includes nature of administrative agencies, jurisdiction, administrative procedure, and significant laws administered by such agencies. Prereq: 4120.

GRADUATE

5050 Legal Environment of Business (3)

Economics (283)

Professors: J.R. Moore (Head), Ph.D. Cornell; R.L. Bowiby, Ph.D. Texas; J.A. Clay, Ph.D. Texas; J.R. Feiwel, Ph.D. McGill (Canada); J.F. Holly, Ph.D. Clark; H.E. Jensen, Ph.D. Texas; F.-Y. Lee, Ph.D. Michigan State; W.C. Neale, Ph.D. London (England); F.B. Ward (Emeritus), Ph.D. Pennsylvania; R.H. Wolf, Ph.D. Vanderbilt.


Assistant Professors: N.O. Alper, M.A. Pittsburgh; H.-S. Chang, Ph.D. Vanderbilt; R.J. Gaston, Ph.D. California (Los Angeles); R.D. Gustiey, Ph.D. Syracuse; H.W. Herzog, Jr., Ph.D. Maryland; A.M. Schottmann, Ph.D. Washington (Missouri); K.L. Vaughn, Ph.D. Duke.

The courses in the Department of Economics are grouped into four broad fields, i.e., Theory, International Trade and Economic Development, Industrial Organization, and Labor and Human Resources. The courses are numbered according to the following plan: (1) The first digit of the course number indicates the academic standing of the students who are taking it, i.e., 1 for Sophomore, 3 for Junior, 4 for Senior, and 5 and 6 for Graduate. (2) The second digit indicates the field in which the course falls, i.e., 1 for Theory, 2 for International Trade and Economic Development, 3 for Industrial Organization, and 4 for Labor and Human Resources.

The requirements for a major in economics include the following courses: (1) 2110, 2120, and 2130 (or 2118, 2128, 2138); (2) the introductory course in each of the fields, i.e., 3110 (or 3111-3112), 3120, 3210 (or 3220), 3340, and 3341. Majors who plan to enter graduate school are advised to select 3111-3112; (3) 18 additional hours from courses in the Department of Economics (15 hours for students who complete 3111-3112) For courses in other departments and colleges required of economics majors, see page 69.

Economic Theory

2110-20-30 Introductory Economics (3, 3, 3) 2110—Macro and micro theory. 2120—Macroeconomics and the international economy. 2130—Microeconomics and policy. Prereq: 2110 for both 2120 and 2130. Third quarter standing required for admission to 2110.

2118-28-38 Honors: Introductory Economics (3, 3, 3) Honors course designed for students of superior ability and interest. Entrance into 2118 requires a "B" average; selected third quarter freshmen will be accepted on basis of high school record. American College Testing Program scores, and grade record during first two quarters. Grade of "B" in 2118 is necessary for entrance into 2128. An "A" or "B" in 2128 automatically gives credit for 2138 also, with same grade. Students making a "C" or "D" in 2128 must take 2130 in order to receive nine hours credit.

3110 Intermediate Micro Theory (3) Allocation of resources and price determination; market demand, production, cost, and supply; distribution. Prereq: 2110, 2130.


Intermediate Macro Theory (3) Aggregate demand, output, and level of employment; price level, inflation and deflation; economic growth. Prereq: 2110, 2120.

4000 Special Topics (3) Student-generated course offered at convenience of department upon student initiative. Subject matter and contents determined by students and instructor with approval of department. Prereq: determined by departmental decision. May be repeated for credit.

4110 Managerial Economics (3) Application of economic theory to business decision making; emphasis on profit objectives, measurement and forecasting demand and costs, and capital budgeting. Prereq: 2110-20-30. (Same as Water Resources Development 4110).

4130 Business Cycles (3) Fluctuations in income, employment, prices, and output in the economic system; subjects discussed are historical facts concerning booms and depressions, statistical methods for analyzing business fluctuations, theoretical explanations of cycles, and policies that have been proposed to combat them. Prereq: 3120 or consent of instructor.

4150 History of Economic Thought (3) Development of economic thought, tools of analysis, and economics as a social science, together with analysis of socio-economic conditions which influenced this development. Period covered: 1776 through 1936. Prereq: 2110, 2120, 2130 and consent of instructor.

4170-90 Introduction to Mathematical Economics (3, 3) Application of mathematical methods in theoretical study of micro and macro economic phenomena. Designed for undergraduate students who have limited training in analytic geometry and calculus. Must be taken in sequence. Prereq: Economics 3110 and Mathematics 1810-20, or equivalent.

International Trade and Economic Development

The three-quarter sequence described below (Economics 3210, 3220, 4230) provides an integrated approach to the problems of international economic theory and policy and the problems associated with economic development on both the domestic and international levels.


3230 Regional Economics (3) Theory and policy of regional economic development. Prereq: 3220.

4230 Problems in International Trade and Economic Development (3) Problems or problem areas of current importance in fields both of international economics and economic development. Prereq: 3210 or 3220.

4240 Economic Development of the United States (3) Historical developments in agriculture, industry, communications, transportation, banking and trade and their effect on governmental economic policy. Prereq: 2110-20.

4250 Economic Development of Europe (3) Beginnings of capitalism in medieval Europe, expansion of Europe and dominance of mercantilism in early modern times, mechanization of industry, changes in agricultural organization, and growing importance of commerce in the nineteenth century world wars and their economic consequences. Prereq: 2110-20.

4260 Economics of Resources (3) Descriptions, needs, and allocation of resources. Benefits and costs of development and use of resources in industrial society.

Industrial Organization

The three-quarter sequence described below (Economics 3340, 4340 and 4350) provides a study of the problems arising out of the concentration of economic power in the American economy and of the alternative government policies in dealing with them.

3340 Government and Business (3) Microeconomic objectives and alternative public policies for their achievement; prevention of monopoly and concentration through the antitrust laws; direct regulation of business performance. Prereq: 2130.

3430 Government and Business (3) Regulatory problems such as competitive practices, disclosure, and consumer protection; patent policy; legalized concerted action; public enterprise as a substitute for private enterprise; government-business relations. Prereq: 3340.

4350 Industrial Organization Analysis (3) Monopoly and competition in the United States economy; market structure, business behavior, and economic performance and their interrelationships. Prereq: 2130.

Economics of Labor and Human Resources

The courses below provide an overall view of the increasingly important area of labor relations and human resources. The main problems discussed are economics of the labor market, trade unionism, collective bargaining, and government policies with respect to labor and human resources.

3410 Principles of Labor Economics I (3) Supply of and demand for labor; wage determination under collective bargaining; consideration of unemployment, inflation, and poverty as labor problems. Prereq: 2110-20.


4430 Labor Legislation (3) Economic background and effects of governmental regulation of labor relations, with emphasis on detailed examination of National Labor Relations Act as amended. Prereq: 3420.


GRADUATE

See page 74 for information on graduate programs.

Economic Theory

5050 Introduction to Economic Analysis (3)

5060 Introduction to Economic Problems and Policies (3)

5070-80 The Firm and its Environment (3, 3)

5111-12 Microeconomic Theory (3, 3)

5121-22 Macroeconomic Theory (3, 3)

5150 History of Economic Thought (3)

5180-90 Mathematical Methods in Economics (3, 3)

5510 Quantitative Methods in Economic Research (3)

5520 Introduction to Econometrics (3)

5810 Financial Markets and Intermediaries (3)

5820 Monetary Theory and Policy (3)

5830 Commercial Bank Management (3)

6111 Seminar in Advanced Microeconomic Theory (3)

6121 Seminar in Advanced Macroeconomic Theory (3)

6150-60 History of Economic Doctrines (3, 3)

6170-80-90 Econometric Methods (3, 3, 3)

International Trade and Development

5210-20 Seminar in International Trade and Economic Development (3, 3)

5250-60 Economic History of Europe and the United States (3, 3)

5610 Location and Regional Development Theory (3)

5620 Regional and Interregional Social Accounting (3)

6211-12, 6221-22 Seminar in International Economics (3, 3, 3, 3)

6331-32, 6241-42 Seminar in Economic Development (3, 3, 3, 3)

6250 Seminar in European Economic History (3)

6260 Seminar in American Economic History (3)

6270 Seminar in Economic History of the Third World (3)

6610 Seminar in Regional Analysis (3)

Industrial Organization

5340 Seminar in Private Enterprise and Public Policy (3)

6351-52 Seminar in Industrial Organization (3, 3)

6361-62 Seminar in Industrial Organization (3, 3)

Economics of Central Planning Economies

5310 Economic Systems (3)

6331 Theory and Practice of Economic Planning (3)

Economics of Labor and Manpower

5410 Seminar in Wage Determination (3)

5420 Seminar in Labor Economics (3)

6411-12, 6421-22 Seminar in Labor Economics (3, 3, 3, 3)

Other Economics Courses

5000 Thesis

5011-12 Problems in Lieu of Thesis (3, 3)

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

6000 Doctoral Dissertation and Research

Finance


Assistant Professors: A.L. Auxier, Ph.D. Iowa; H.B. Banton, Ill. M.S. Auburn; W.C. Goodby, Ph.D. Wisconsin; M. Lindahl-Stevens, M.S. Illinois; R.E. Shively, Ph.D. California (Los Angeles); R.A. Witter, Ph.D. North Carolina.

Prerequisites: Accounting 2110-20, 2210 Economics 2110-20-30, and Statistics 2110 for all courses offered in the Finance Department except Insurance 3200.

**Finance (349)**

**UNDERGRADUATE**

3110 Money and Banking (3) Nature and functions of money and credit; analysis of monetary and credit systems; money creating role of commercial banks and the Federal Reserve Systems.

3120-30 Business Finance (3, 3) Principles of financial management. Analysis of demand for funds, internal and external supplies of funds, and their costs to the firm. 3120 is prerequisite for 3130.

4110-20 Investment Analysis (3, 3) Theory of investment; value index, fundamental security analysis, and valuation of specific types of securities. Prereq: 3120-30; 4110 is prerequisite for 4120; Statistics 3220.

4130 Investment Portfolio Management (3) Analysis of investment objectives; portfolio management policies applicable to individual and institutional investors. Prereq: 3120-30 or consent of instructor.

4150-60 Evolution and Function of Financial institutions (3, 3) Financial system of the United States; emphasis on historical role and functions of financial institutions.

4350-60 Public Finance (3, 3) Public expenditures, federal and state revenue systems, financial administration, budgeting and public debt management.

4370 State and Local Finance (3) Emphasis on revenue systems and division of tax sources.


4510 Monetary Theory and Policy (3) Role of money in the economy. Emphasis upon factors that affect demand for and supply of money. Evaluation of current policy.

4520 Commercial Banking (3) Operations of commercial banks, emphasis on asset and liability management. Prereq: 3110.


4660 Problems in Financial Management (3) Financial decision making, a case approach. Prereq: 3120-30; Statistics 3220.

4800 Business Executive in Residence (3) Develops practical areas of finance curriculum. Leading financial executives, bankers, insurance executives, and realtors will conduct classes. May be repeated to maximum of 6 hrs. credit. Prereq: Consent of department.

4990 Senior Seminar (3) Intensive investigation of specific topic in students area of concentration. Taken last quarter of senior year. Required of all students majoring in finance, insurance, or real estate.

**GRADUATE**

See page 74 for information on graduate programs.

5000 Thesis

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**College of Business Administration**

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4120 Urban Growth and Land Use (3) Analysis of urban growth processes and land use patterns. Prereq: 3610.

4130 Problems of Urban Development (3) Current problems of land use and urban developments. Prereq: 3610.

4900 Aspects of Urban Environment I (3) Interdisciplinary course in urban problems. Prereq: Consent of one of the instructors. (Same as Architecture 4900, Human Services 4900, Political Science 4900, and Psychology 4900).

**GRADUATE**

5110 Urban Economic Analysis (3)

5120 Real Estate Analysis (3)

5130 Housing and Urban Land Markets (3)

5140 Real Estate Investment and Taxation Analysis (3)

**Industrial And Personnel Management**

Professors: A.H. Keally (Head), M.B.A. Pennsylvania; R.W. Boling, Ph.D. Stanford; H.W. Henry, Ph.D. Michigan; J.M. Larsen, Jr., Ph.D. Purdue; S.K. Reed, Ph.D. Edinburgh (Scotland); S.C. Vance, Ph.D. Pennsylvania; (Wm. B. Stokely Professor of Management); G.H. Whitlock* Ph.D. Tennessee

Associate Professors: R.D. Arve, Ph.D. Minnesota; F.A. Chamblin, M.B.A. Indiana; H.B. Banton, Ill. M.S. Texas; M.E. Gordon, Ph.D. California (Berkeley); R.C. Maddox, Ph.D. Texas; C.W. Neel, Ph.D. Alabama.

Assistant Professors: J.A. Bachmann, Ph.D. Virginia Polytechnic Institute; R.L. Diproy, Ph.D. Purdue; O.S. Fowler, Ph.D. Georgia; D.A. Hake, Ph.D. Tennessee; W.B. Henderson, Ph.D. Purdue; W.W. Williams, B.S. Pennsylvania State.

**Industrial Management (566)**

Nine quarter hours of general economics including Economics 2110-20 or the equivalent are prerequisite to all courses in personnel and industrial management.

3010 Principles of Management (3) Analysis of basic management functions of planning, organizing and controlling.

3110 Production Management (3) Analysis of production function. Prereq: Statistics 2100 or 3450. Not available for Industrial Management majors.

3111 Operations Management (3) Analysis and synthesis of concepts and techniques for decision-making in the operations function. Integration of the operations function with other business functions. Prereq: Management Science 2110-20. Cannot be taken for credit by students who have credit for IM 3110.


4320 Organization of Industrial Enterprises (3) Organization of production function. Prereq: 3110-20 or approval of instructor.

4330 Operative Supervision (3) Production supervision with emphasis on "human" problems. Prereq: 3110-20.

4410 Operations Control (3) Analysis of the operations control function. Techniques, forecasting, material and capacity requirements planning, integration of scheduling and operations

*Alumni Distinguished Service Professor.
Management Science Programs

Associate Professors: C.E. Bell (Chairman), Ph.D. Yale, R.S. Garfinkel, Ph.D. Hopkins.

Assistant Professor: R.E. Rosenthal, Ph.D. Georgia Tech.

Management Science (627)

UNDERGRADUATE

2110-20 Decision Models (3, 3) Introduction to the use of quantitative techniques in the decision-making process. Prereq: Mathematics 1560, Statistics 2100, and Computer Science 2410 or Office Administration 2750.

GRADUATE

5000 Thesis

5100 Introduction to Management Science Techniques (3)

5310-20-30 Management Science Methods (3, 3, 3)

5340 Application of Management Science Methods (3)

5510 Optimization Theory and Techniques (3)

5610 Markov Chain Models (3)

5620 Queuing Theory (3)

5810 Special Topics in Management Science (3)

5910 Management Science Problems (1-6)

6000 Doctoral Research and Dissertation

6110-20-30 Models for Production Systems (3, 3, 3)

6810 Special Topics (3)

6910-20-30 Management Science Seminar (3, 3, 3)

Marketing and Transportation

Professors:


Associate Professors:


Assistant Professors:


Marketing (632)

Nine quarter hours in general economics, including Economics 2110-20 or the equivalent are prerequisite to all courses in marketing.


3120 Marketing Management (3) Analysis of marketing management. Identifying market opportunities, planning marketing programs, and implementing competitive strategies. Prereq: 3110.

3210 Marketing Systems (3) Macromarketing systems approach from viewpoint of decision-maker. Examination of inputs, outputs, organizations, and goals of marketing systems. Consideration of comparative marketing systems. Prereq: 3110.

4140 Marketing Communications-I (3) Examination of firm's personal communications function. Managing the sales force, including personal selling concepts. Particular emphasis on role of sales organization in marketing program. Prereq: 3110-20.


4310 Retailing Management (3) Structure and environment of retailing and its relationship to other parts of the economy. Research and decision making in selected areas of store management. Prereq: 3110-20.

4440 Environmental Issues in Marketing (3) Environmental forces which serve as constraints on business decision maker. Emphasis is placed upon current issues and social and ethical implications of marketing decisions. Prereq: 3110-20.

4510 Marketing Information Planning (3) Planning and obtaining information for marketing decision making. Information needs, data collection process, methods of analysis, and interpretation procedures are integrated to serve decision maker. Prereq: 3110-20; Statistics 4310, or 4320 or 4450.

4520 Applied Marketing Research (3) Quantitative techniques, behavior concepts, and marketing research methodology in study of consumer purchasing, sales forecasting, and other marketing problems. Prereq: 4510.

4650 Market Opportunity Analysis (3) Developing understanding of various approaches available for evaluating opportunity that may exist within a market. Emphasis on relationship between analysis of markets and marketing decision making. Topics covered will include basic consumer behavior concepts, alternative sources of market information, information analysis techniques, interpretation of market information, and forecasting. Prereq: 3110-20, 4510.

4710 Marketing Decisions and Strategies (3) Pragmatic orientation to application of advanced, analytical concepts and skills within marketing environment. Emphasis on integration of knowledge from the component areas of marketing into cohesive, well-organized marketing program. Prereq: 24 hours of marketing including 4510 and 4650 or permission of instructor. Course should be taken as close to graduation as possible.

4818-28 Honors: Marketing (3, 3) Marketing trends and developments. Advanced marketing theory and application. Can be substituted by eligible students for other courses in marketing with consent of department. Prereq: Permission of department.

GRADUATE

See page 74 for information on graduate programs.

5000 Thesis

5050 Survey of Marketing (3)

5200 Marketing Management (3)

5220 Promotion Management and Strategy (3)

5230 Analysis and Design of Marketing Systems (3)

5300 Marketing Research (3)
College of Business Administration

Students with one year of high school shorthand receive no credit for 2310 and should begin with 2320; students with two years receive no credit for 2310, Prereq: 2140 or 2320-30, grade of C in previous shorthand course. 5 hrs per week.

2750 Electronic Data Processing (3) Computer programming with special emphasis on business applications. Prereq: Mathematics 1560 or 1860 or equivalent.

3210 Office Equipment Problems (3) Operation of and comparative data on duplicating processes, dictating, and transcription equipment; adding and calculating machines; determining costs of machine operation. Prereq: 2140. 2 hrs and 2 two-hr labs.

4310 Business Letter Writing (3) Principles, practices and mechanics of modern business letters; principles applied by solving letter-writing problems.

4320 Business Report Writing (3) Principles and mechanics of report writing, tabular and graphic presentation, basic instructions in formal research reports and thesis writing, and sources of business information.

4410-20 Advanced Shorthand and Transcription (3) Improvement of ability to take dictation and transcribe machine copy; emphasis on skill necessary to meet occupational standards. Prereq: 2330, 3 two-hr periods.

4430 Supervised Office Experience (3) Orientation to office positions for general office work; telephoning techniques, sources of information required by secretary, record keeping, and office etiquette. Prereq: 3210, 4310, 2 three-hr periods.

4510 Office Management (3) Function of office; office building; psychological factors; office environment; furniture and equipment; machines and supplies; selection of employees; compensation and incentive plans; job analysis, and supervision.

4520 Office Systems (3) Routines and procedures for correspondence and mailing; filing systems; oral communications; office planning and layout; systems of control.

4540 Problems in Office Management (3) Work simplification; cost control and reduction; development of standards; use and preparation of office manuals. Prereq: 3210, 4320 or approval of instructor.

4551-61 Problems in Office Management: Systems Analysis (3, 3) Prereq: 3210, 4350, 4550 or equivalent.

4552-62 Problems in Office Management: Form Design (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4553-63 Problems in Office Management: Records (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4554-64 Problems in Office Management: Mechanization (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4555-65 Problems in Office Management: Correspondence (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4556-66 Problems in Office Management: Supervision (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4557-87 Problems in Office Management: Work Simplification (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4558-68 Problems in Office Management: Training (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4559-69 Problems in Office Management: Work Measurement (3, 3) Prereq: 3210, 4320, 4520 or equivalent.

4710 Punched Card Methods (3) Card designing, key punching, sorting, 219 punching, and preparation of reports; application to problems in fields of accounting, statistics, personnel, economics, psychology, education, and other areas of research. 3 hrs and 2 two-hr labs.
College of Business Administration

4720 Punched Card Application (3) Problems on tabulator and collator, introduction to programming, system design, and preparation of procedure manuals and flow charts. Prereq: 4710 or equivalent.

GRADUATE

5011 Problems In Lieu of Thesis (3)

5050 Data Processing in Business (3)

Statistics (962)

Professors: C.C. Thigpen (Head), Ph.D. Virginia Polytechnic; D.S. Chambers, M.B.A. Texas; R.A. McLean, Ph.D. Purdue.

Associate Professors: H.A. Lasater, Ph.D. Rutgers; J.W. Philpot, Ph.D. Virginia Polytechnic; R.D. Sanders, Ph.D. Texas; D.J. Wheeler, Ph.D. Southern Methodist.

Assistant Professors: W.H. Olsen, Ph.D. Virginia Polytechnic; G.B. Ranney, M.E.S. North Carolina State (Raleigh); M.S. Younger, Ph.D. Virginia Polytechnic.

2100 Probability and Statistics (3) Elementary theory of probability; frequency and density functions; expected values and variances; fundamental concepts of statistical inference. Cannot be taken for credit by students who have credit for 3450. Prereq: Mathematics 1560 or 1850.

3220 Analysis of Time Series (3) Some statistical methods applicable to analysis of trends and time series; graphic presentation and analysis, index numbers, curve fitting, correlation, trend, analysis, seasonal and cyclical variation. Prereq: 2100 or 3450.

3310 Industrial Statistics (3) Shewhart Control Charts, acceptance sampling by attributes. Military Standard sampling plans. Special applications of control charts, acceptance sampling theory and procedures. Prereq: 2100 or 3450.

3410 Sampling Methods (3) Expository treatment of the basic ideas of scientific sampling illustratively developed. Emphasis on sampling methods for accounting and marketing research. Prereq: Statistics 2100 or 3450.

3450 Statistics for Engineering (3) Survey of statistical methods with special application for engineering students; frequency distributions, selected sampling distributions, some tests of significance. Cannot be taken for credit concurrently with 2100. Prereq: Mathematics 2840.

3460 Statistics for Engineering (3) Continuation of 3450 with emphasis on chi-square statistic, analysis of variance, and multiple regression analysis. Prereq: 3450; Mathematics 2850.

3550 Random Processes and Probability Models (3) Functions of random variables, multivariate distributions, conditional expectations, waiting time distributions; Poisson processes, life-testing, queuing, Markov processes. Introductory theory with applications. Prereq: 3450; Mathematics 2850.

4250 Non-Parametric Methods (3) Measures of association, two-sample tests, analysis of variance with ranked data, paired and multiple comparisons in preference testing, questionnaire evaluation. Prereq: 2100 or 3450.

4310 Regression and Correlation (3) Linear regression and correlation, polynomial and multiple regression, multiple and partial correlation. Prereq: 2100 or 3450.

4410 Design of Experiments (3) Principles and procedures for experimental design. Randomization, choice of size and number of experimental units, utilization of blocking arrangements, interpretation of experimental data. Prereq: 2100 or 3450.

4750 Statistical Problems in Business (3) Case study course of statistical problems in variety of business areas. Prereq: Fifteen hours in Statistics and permission of instructor.

GRADUATE

Prerequisites for a major: Mathematics 2840-50-60, Statistics 3450 or equivalent.

5000 Thesis

5050-70 Statistical Analysis for the Behavior Sciences (3, 3, 3)

5110 Introduction to Probability Theory (3)

5120-30 Theory of Statistical Inference (3)

5140 Theory of Least Squares (3)

5210 Stochastic Processes I (3)

5211 Elementary Statistics (3)

5311 Fundamental Concepts of Probability Theory (3)

5312 Statistical Methods (3)

5420 Intermediate Analysis of Variance (3)

5610 Special Topics in Statistics (3)

6060 Applied Multivariate Analysis (3)

6070 Factor Analysis (3)

6110 Multivariate Analysis (3)

6210 Stochastic Processes II (3)

Interdepartmental Business Administration (205)

UNDERGRADUATE

1110 Business Administration (3) Introduction to business. Not open to students with more than 3 credit hours of economics.

4430 Business Policy (3) Analysis of business problems and managerial decision making through case study method and written reports. Prereq: Core requirements except business law (see page 65) and senior standing.

4610 Seminar in Small Business Assistance (3) Application of classroom learning to problems of small business in the community. Student is given opportunity to apply business concepts and develop analytical skills. Upon completion of selected readings relevant to small or minority enterprise, students are assigned a project on basis of interest, ability, and experience. Students work in teams under supervision of a participating professor within the College of Business Administration. Approval for enrollment must be secured from instructor in advance. May be repeated to maximum of 9 hrs. credit.

4990-91-92 Institutional and Organizational Research (3, 3, 3) Design, implementation, and evaluation of cross-disciplinary research on organizational and institutional change. Enrollment requires membership on the Standing Committee on improvement of Learning and Teaching in the College of Business Administration. Prereq: Recommendation of student's department head and approval of selection board of Standing Committee.

GRADUATE

See page 74 for information on graduate programs.

5310 Business Policy (3)

5410 Business and Its Societal Environment (3)

5610 Seminar in Applied Business Analysis (3)

5900 Academic Practicum (3)

6900 Research Methodology (3)
College of Communications

Donald G. Hileman, Dean
B. Kelly Leiter, Assistant Dean

Communication has become increasingly significant in today’s complex society. The growth of specialization, the widening gaps among segments of society, and the inescapable nature of world conflict point up the need for a greater understanding of communication processes and for the education of young men and women capable of perceptive understanding of the communications media.

The College of Communications offers programs designed to acquaint students with the nature of communication and to prepare them for professional work in a variety of communications fields. The College is composed of the School of Journalism and the Departments of Advertising and Broadcasting. The curricula of these three academic divisions have a common base of courses beyond which choices will permit the student to develop his special interests.

The American Council on Education for Journalism has accredited the News-Editorial and the Advertising programs. The College is a member of the American Association of Schools and Departments of Journalism and the Association for Professional Broadcasting Education.

Admission Requirements

Admission requirements are stated on page 15. Communications majors must demonstrate ability to use a typewriter proficiently before beginning their professional courses at the 2000 level. Students transferring into the College, either from another institution or another college in the University of Tennessee, must have at least a 2.0 average.

Majors must complete English 1510-20 with a minimum grade of C in each course before enrolling in any 2000-level (or higher) course in the College.

Majors will not be admitted to upper division (3000 and 4000) courses in the College unless they have an average of at least 2.3 in lower division courses in the College. By major these courses include: Advertising — Communications 1110, Journalism 2210, Advertising 3000; Broadcasting — Communications 1110, Journalism 2210, Broadcasting 2750; Advertising 3000; Journalism — Communications 1110, Journalism, 2210-20-30.

Curriculum

The College curriculum offers academic majors in Advertising, Broadcasting, and Journalism. Through core introductory courses, students receive a basic view of the nature of communications.

The freedom of electives provided within the programs permits students to develop specialized interests in a variety of fields. In consultation with an adviser, they may plan individual programs leading to newspaper, magazine, radio, television, public relations, or advertising work. They may prepare for careers in agricultural or industrial journalism. They may select related courses to develop a specialty in writing news of science, government, and business. Others may elect courses to prepare themselves as writers on foods, fashions, and home interests, or they may combine training in communications with work in secretarial science.

Students in other divisions of the University may take certain courses for training in effective communication or for an understanding of the social role of the mass media.

Students who have completed the basic courses in the College may earn three quarter hours of practicum credit. Approval of the adviser and the departmental chairman must be obtained before such work is begun.

Upper Division

Permission of instructor is prerequisite for all 3000 and 4000 level courses, with the exception of Advertising 3000, in the College of Communications.

Course Load

The maximum number of hours which can be taken by an undergraduate without special permission is 19 hours. Permission to take 20 or more hours must be obtained from either the Dean or Assistant Dean of the College.

Cooperative Program

The College, in cooperation with the University-wide Undergraduate Cooperative Education Program, has developed a cooperative program with the media, advertising and public relations agencies, and the communications departments of business organizations where interested students might combine their education with a productive work experience. At present, only a limited number of such opportunities are available. Although other arrangements can be made, a student will enter the program only after he has had one or two quarters at the University. He will alternate with another student working full time for his employer for one quarter, etc. The typical program is arranged for a five-year period, with the student spending the final three quarters of his senior year on campus.

The Cooperative Program gives the student an opportunity to gain practical experience, develops a sense of responsibility and cooperation, creates greater interest and incentive in his studies, enables him to earn part of his expenses, and may lead to permanent employment after graduation.

Information concerning this program may be obtained by writing to the Undergraduate Cooperative Education Program, Division of Continuing Education, 415 Communications and Extension Building, The University of Tennessee, Knoxville, Tennessee 37916.
### Equipment and Facilities

The Communications and Extension-Building provides extensive facilities for communications instruction. The College has laboratories with special equipment for instruction in writing, editing, photography, advertising, and broadcasting. In addition, advanced students gain experience through summer internships or through the University's general program of publishing and broadcasting. The Office of Public Relations, campus publications such as the *Daily Beacon*, and the University radio station provide practice for communications majors. The Tennessee Association of Broadcaster, Tennessee Press Association, and Tennessee High School Press Association, all centered at the University, present opportunities for special work and study.

### Requirements for Graduation

The Bachelor of Science in Communications is awarded to majors who complete a program of 194 hours prescribed under departmental requirements listed below. At least 140 of these hours must be taken in courses other than the major and related communications fields. At least 27 of the hours in the major must be taken at The University of Tennessee, Knoxville. Normally, no more than 22 transfer credits in the major will be applied to the 194 hours. Journalism 2210 is the only course in the major that may be taken by correspondence.

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.

### Undergraduate Curriculum

#### Advertising

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>Advertising 4000</td>
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<tr>
<td>Journalism 3310</td>
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<tr>
<td>Psychology 3150</td>
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<td><em>Professional Courses</em></td>
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<td><em>General Electives</em></td>
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<tr>
<td>Marketing 4210</td>
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**Senior**

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<tr>
<td>Advertising 4360</td>
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<td>Advertising 4460-70</td>
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<td>Computer Science 2410</td>
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<td><em>Professional Courses</em></td>
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<td><em>Social Science or Humanities Electives</em></td>
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**TOTAL: 194 hours**

#### MANAGEMENT SEQUENCE

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<tbody>
<tr>
<td>Junior Broadcasting 3650, 3360</td>
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<td>Broadcasting 4020, 4021, 4030</td>
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<td>Journalism 3110, 3410</td>
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<td>Advertising 4360</td>
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<td>Industrial Management 3010</td>
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<td>Accounting 2110</td>
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**Senior**

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<td>Broadcasting 4670, 4680</td>
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<td>Business Law 4110</td>
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<td>Communications Electives</td>
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<tr>
<td>Speech Electives</td>
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**Upper Division Social Science and/or Business**

**TOTAL: 194 hours**

#### PRODUCTION/PERFORMANCE SEQUENCE

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**Senior**

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<td>Speech and Theatre 2031 and 3651 or 3661 or 3671 (8 hours)</td>
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**TOTAL: 194 hours**

#### Broadcasting

**LOWER DIVISION CURRICULUM**

(Required of all broadcasting majors)

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<td><em>History 1510-20</em></td>
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<td><em>Foreign Language Electives</em></td>
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<td>Sociology 1510</td>
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<td>Communications 1110</td>
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<td>Economics 2120-20</td>
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<td>Mathematics 1540-50</td>
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**Junior**

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<tr>
<td>Advertising 3000</td>
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<tr>
<td>Advertising 3800</td>
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<tr>
<td>Advertising 3860</td>
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</tbody>
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**Senior**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broadcasting 4010, 4610, 4670</td>
<td>9</td>
</tr>
<tr>
<td>Journalism 4410</td>
<td>3</td>
</tr>
<tr>
<td>Communications Electives</td>
<td>9</td>
</tr>
<tr>
<td>Speech Electives</td>
<td>6</td>
</tr>
<tr>
<td><em>Social Science or Science Electives</em></td>
<td>12</td>
</tr>
<tr>
<td><em>General Electives</em></td>
<td>8</td>
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</tbody>
</table>

**TOTAL: 194 hours**

#### NEWS AND PUBLIC AFFAIRS SEQUENCE

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>Junior Broadcasting 3610, 3670</td>
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</tr>
<tr>
<td>Broadcasting 4020 or 4021, 4030</td>
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</tr>
<tr>
<td>Journalism 2220, 3110, 3410</td>
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</tr>
<tr>
<td>Geography 3510</td>
<td>4</td>
</tr>
<tr>
<td>Music 1210</td>
<td>4</td>
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<tr>
<td><em>Social Science and/or Humanities Electives</em></td>
<td>12</td>
</tr>
<tr>
<td><em>General Electives</em></td>
<td>6</td>
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**Senior**

<table>
<thead>
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<td>12</td>
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<tr>
<td><em>General Electives</em></td>
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**TOTAL: 194 hours**

#### Journalism

**LOWER DIVISION CURRICULUM**

(Required of all Journalism majors)

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>Freshman English 1510-20</td>
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<tr>
<td>History 1510-20</td>
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<tr>
<td>Natural Science Electives</td>
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<tr>
<td><em>History 1510-20</em></td>
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<tr>
<td><em>Foreign Language Electives</em></td>
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<tr>
<td>Sociology 1510</td>
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<tr>
<td>Communications 1110</td>
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<tr>
<td>Economics 2120-20</td>
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<tr>
<td>Sophomore Sociology 1520</td>
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<tr>
<td>Speech 2311</td>
<td>3</td>
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<tr>
<td>Economics 2120</td>
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<tr>
<td><em>English Literature Electives</em></td>
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<tr>
<td>Mathematics 1540-50</td>
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<tr>
<td>Marketing 3110-20</td>
<td>6</td>
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<tr>
<td>Psychology 2500, 2520</td>
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<td>Journalism 2210</td>
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<td>Art 2516</td>
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**Junior**

<table>
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<tr>
<th>Course Code</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Political Science 2510-20</td>
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<tr>
<td>Anthropology Elective</td>
<td>4</td>
</tr>
<tr>
<td>Advertising 3000</td>
<td>3</td>
</tr>
<tr>
<td>Advertising 3800</td>
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<tr>
<td>Advertising 3860</td>
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<td>8</td>
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</tbody>
</table>

**TOTAL: 194 hours**
Another area of specialization — and courses to develop it — may be selected with the adviser's help and approval.

*Students lacking a high school unit of American history must also take History 2510-20.
*Not required of students with 2 years of high school foreign language credit. They may substitute 8 hours of liberal arts electives from the following: Anthropology 2510-20; Geography 1810-20 or 2110-20; Mathematics 1540-50; Economics 2110-20; or Philosophy 1510-20.

NEWS-EDITORIAL SEQUENCE

**Junior**
- Hours Credit
  - Advertising 3000
  - Journalism 3110
  - Sociology 310
  - Psychology 2500
  - Speech 2311
  - Journalism 2210-20

**Senior**
- Journalism 4410
- Journalism 4510-20
- Sociology 310
- Psychology 2500
- Speech 2011
- *Courses from specialization area

**Junior**
- Hours Credit
  - Journalism 3710-20
  - Journalism 3120
  - Advertising 3000
  - Psychology 2500
  - Speech 2011
  - *Courses from specialization area

**Senior**
- Journalism 4510-20
- Sociology 310
- Political Science 4530
- Marketing 3110
- *Courses from specialization area

**Option A**, for students primarily interested in writing:
- Required: Journalism 3120, 3560 or 4130, 4310.
- Elective: Journalism 3510-20, 3560, 4130.

**Option B**, for students primarily interested in editing:
- Required: Journalism 3310, 3220, 4420.
- Elective: Journalism 3510-20, 3810, 3910, 4130.

**Option C**, Any approved combination of Options A and B (including the required courses of one group) for students interested in both writing and editing.

**PUBLIC RELATIONS SEQUENCE**

**Junior**
- Hours Credit
  - Journalism 3710-20
  - Journalism 3130 or 3910
  - Advertising 3000
  - Sociology 310
  - Psychology 2500
  - Speech 2011
  - *Courses from specialization area

**Senior**
- Journalism 4510-20 or 4990
- or Advertising 4470
- Journalism 3410, 4410
- Broadcasting 3650
- Political Science 4535
- Marketing 3110
- *Courses from specialization area

**Total**: 194 hours

*Special Area Options:

a) **Urban or Governmental Public Relations**
- Required: Sociology 4320, Political Science 4340
- Elective: Finance 4370, 4530-60; Sociology 4330, 4510-30; Political Science 4610-20, 3655, 3557; Psychology 4900; Office Administration 4310-20

b) **Educational Public Relations**
- Required: Sociology 4410; Educ. C & I 3020
- Elective: Sociology 4520-30; Educ. C & I 2100-20; Educational Psychology 5040; Office Administration 4310-20

c) **Industrial or Corporate Public Relations**
- Required: Psychology 4460; Industrial Management 3010; Marketing 4140
- Elective: Sociology 4620; Business Law 4110-20; Economics 3410; Office Administration 4310-20

**Advertising (012)**

**Professors:**
- R. Joel (Head), M.A. Wisconsin; D.G. Hileman, Ph.D. Illinois; J.R. Lynn, Ph.D. Southern Illinois.

**Associate Professors:**

**UNDERGRADUATE**

**3000 Advertising Principles (3)**
- Advertising in business and society. Types and functions of advertising. Fundamentals of broadcast and publications advertising. Stress on communications aspects of advertising. Prereq: Sophomore standing or higher.

**3630 Advertising Copy and Layout (4)**
- Ideas and their translation into persuasive words and pictures. Principles and techniques of copy and layout. Lecture and labs. Prereq: 3000 or Marketing 4150.

**3650 Basic Advertising Research (3)**
- Use of research in solving media, creative, and managerial problems in advertising. Introduction to secondary information sources and primary research methodology. Prereq: 3000 or Marketing 4150.

**3740 Retail Advertising and Promotion (3)**
- Planning of retail advertising and promotion; practice in retail copy and layout; selecting media; research; Prereq: 3000 or Marketing 4150.

**4000 Advanced Advertising Copy and Layout (4)**
- Creative strategy and execution of advertisements for mass media. Preparation and creation for advertisers. Lecture and labs. Prereq: 3630.

**4360 Advertising Media (3)**
- Media markets, and audiences. Evaluation of media in relationship to communication needs of advertisers. Prereq: 3000 or Marketing 4150.

**4460 Advertising Cases and Problems (3)**

**4470 Advertising Campaigns (3)**

**4510-20 Practicum (1, 1, 1)**
- Prereq: 3000. Satisfactory — No Credit.

**GRADUATE**

**5310-20 Advertising Studies and Practices (3, 3, 3)**

**5350 Advanced Advertising Research (3)**

**5510-20 Creative Projects (3, 3, 3)**

**5970 Independent Study (3)**

**Broadcasting (202)**

**Professor:**
- D.W. Holt (Head), Ph.D. Northwestern.

**Associate Professors:**

**Assistant Professor:**
- F.A. Lester, M.A. Tennessee, Certificate, NBC Television Institute, Northwestern.

**UNDERGRADUATE**

**2750 Introduction to Broadcasting (3)**
- Theory, history, regulation, and economic aspects of broadcasting industry and its functions in society.

**3360 Television and Radio Advertising (3)**
- Principles of successful radio-television advertising; emphasis on media research, rate structure, programing, creativity; television commercials.

**3610 Radio-Television News (3)**
- Theory and technique of writing news and feature stories for broadcast media. Editing and rewriting press association dispatches, gathering local news, recording inter-
views, and preparing newscasts and feature programs. 2 hrs and 1 lab. Prereq: Journalism 2220 or consent of instructor.

3650 Radio-Television Writing (3) Theory and technique of writing broadcasting scripts except news and dramas. Special events, interviews, musical scripts, radio talks, documentaries, and promotion material.

3670 Television Film News (3) Theory and techniques of making films for television. Film processing and editing techniques. Emphasis on news and documentary broadcasts. 2 hrs and 1 lab.

4010 Speech for Broadcasting (3) Fundamental broadcast conditions affecting the announcer; pronunciation and oral interpretation of General American speech; Spanish, Italian, German and French pronunciation. Prereq: Strongly recommended but not mandatory, Speech 2310, 3050.

4020 Radio Production (3) Study of radio production methods. Prereq: 2200. Familiarization with production tools and techniques. Group and individual production activities. Prereq: 2750 or consent of instructor.

4021 Advanced Radio Production (3) Application of the theories, techniques, and tools of radio production to create programming of a professional level of sophistication and quality. Prereq: 4020 or consent of instructor.

4030 Television Production (3) Overview of elements of television production: cameras, sound, lighting, film, video, editing, recording, optics, and studio control centers. Presented with the layman and professional broadcast student in mind. Prereq: 4020 or consent of instructor.

4040 Advanced Television Production (3) A seminar in program origination, producing, directing, and providing experience to the professional broadcast student. Prereq: 4030 or consent of instructor.

4510-20-30 Practicum (1, 1, 1) Prereq: Consent of instructor. Satisfactory — No Credit.

4610 Broadcast News Operation (3) Theory and practice in covering local news and public affairs events for radio and television. Gathering and production of news broadcast copy, use of tools of broadcast newscaster. 2 hrs and 1 lab. Prereq: 3610 and 3670 or permission of instructor.

4670 Radio-Television Management (3) Business policies and practices of networks and stations. Departmental functions, cost and income figures, sales techniques, promotion, advertising agencies, and governmental regulations. Lectures by commercial broadcasters. Prereq: 2750 or consent of instructor.

4680 Broadcast Sales Management (3) Problems and practices of television and radio sales, case studies in sales development, pricing, promotion, and other areas of sales management. Prereq: 2750 or consent of instructor.

GRADUATE

5410 Educational Broadcasting (3)

5510-20-30 Creative Projects (3, 3, 3)

5610 Public Affairs Broadcasting (3)

5620 Broadcast Law and Regulations (3)

5630 Broadcast Documentary Writing (3)

5650 Radio-Television Program Development (3)

5970 Independent Study (3)

School of Communications (594)

Professors:
D.C. Cade (Director), Ph.D. Iowa; J.B. Haskins, Ph.D. Minnesota; J.E. Kashoven, M.A. Louisiana State; J.M. Lain, M.A. Iowa; B.K. Leiter, Ph.D. Southern Illinois; W.C. Tucker (Emeritus) M.A., West Virginia.

Associate Professors:
J.A. Crook, Ph.D. Iowa State; S.L. Puett, M.S. Tennessee; E.F. Shaw, Ph.D. Stanford; F.B. Thornburg, Jr., M.A. Florida.

Assistant Professor:
J.N. Adamson, M.S. Tennessee.

UNDERGRADUATE

2210 Writing for Mass Media (3) Principles and practice of writing for major types of mass communication. Emphasis is on news. Prereq: English 1510-20 and, for majors in the college, Communications 1110.

2220 Reporting (4) Methods of gathering and writing facts for major types of news media. Emphasis on news and features. 3 hrs and 1 lab. Prereq: 2210.

2230 Editing for Mass Media (3) Copyreading methods and practice in editing types of copy for print and broadcast media. 2 hrs and 1 lab. Prereq: 2220.

2990 Applied Mass Communications (3) Principles and practices of newswriting, reporting and editing for mass media. Intensive accelerated laboratory course for students admitted to graduate program who have had no previous journalism or broadcast training or professional experience.

3110 Communications History (3) Development of newspapers, magazines, and broadcasting in America. Biographies of major journalists.

3120 Writing Feature Articles (3) Instruction and practice in writing feature articles for newspapers, trade journals, and magazines. Market analysis and free-lance selling. Prereq: 2210 or consent of instructor.

3220 News Editing and Display (3) Instruction and practice in making up newspapers and magazines. Advanced work in copywriting, rewriting, and headlining. Picture editing. 1 hr and 2 labs. Prereq: 2230.

3310 Graphic Arts in Journalism (3) Printing equipment and production methods. Typography, letterpress, offset, gravure, engraving, stereotyping, proofreading, copyfitting, and current developments in mechanical processes.

3410 Communications Law (3) Statutory law and judicial precedents affecting mass communications media. Libel, contempt of court, invasion of privacy, copyright, broadcasting, advertising, and postal regulations.

3510-20-30 Practicum in Journalism, I, II, III (1, 1, 1) Supervised experience in newsgathering and writing. Prereq: 2220.

3560 Investigative and Specialized Reporting (3) Investigative and interpretive reporting of complex or specialized subjects to place news in perspective or to clarify situations. Emphasis on writing for publication. Prereq: 2220.

3710 Public Relations (3) Theories and principles of public relations. Emphasis on persuasion and public opinion, the public relations process, publicity organization, techniques, and tools. Propaganda analysis.

3720 Public Relations: Advanced (3) Application of public relations principles to business and industry, government, institutions and organizations, trades and professions. Prereq: 3710.

3810 Specialized Publications (3) Business and industrial publications. Individual projects on newspapers and magazines in fields of agriculture, business and industry, engineering, home economics. Prereq: 2230 or consent of instructor.

3910 Basic Photography (3) Principles, policies, and procedures of using pictures as an editorial medium. Press and reflex cameras and flash photography. Darkroom techniques in developing, enlarging, printing. 1 hr and 2 labs. Emprq: Consent of instructor.

4130 Editorial Writing (3) Analysis of editorial policies, practices, pages. Writing of editorials, columns, letters, and interpretive articles. Prereq: Senior standing.

4310 Reporting Public Affairs (3) Reporting news of courts, politics, government, finance, labor, and social agencies. 2 hrs and 1 lab. Prereq: 2230 and senior standing.


4420 Newspaper Management (3) Daily and weekly business operations. Developments in newspaper management.

4510-20-30 Practicum in Journalism, IV, V, VI (1, 1, 1) Supervised experience in news writing and editing. Prereq: 2510.

4810 Journalism in the High School (3) Functions and methods of publications. Staff organization, writing and editing techniques, editorial problems, and business management.

4910 News and Feature Photography (3) Advanced principles and methods in black-and-white photography. Emphasis on news and feature photographs and picture stories. Prereq: 3910 or permission of instructor.

4950 International Communications (3) Communication of news and opinion among nations and under varying types of political and economic systems: world news organizations; the press as a factor in international affairs; barriers to the flow of information; comparison of world press systems.

4990 Problems in Research (3) Independent work course for seniors. Intensive study of some phase of the major field, investigative procedures, report writing.

GRADUATE

5210 Government and the Press (3)

5220 Public Opinion and Mass Media (3)

5510-20-30 Writing and Editing Projects (3, 3, 3)

5560 Magazine Article Writing (3)

5710 Studies in Public Relations Communication (3)

5810 Magazine Editing and Production (3)

5950 Communications and International Development (3)

5970 Independent Study (3)
Division of Continuing Education

Joseph P. Goddard, Dean
William D. Barton, Assistant Dean

The Division of Continuing Education at Knoxville extends the academic programs and services for all colleges and schools of the Knoxville campus to the people in the area served by The University of Tennessee, Knoxville. In addition, the Division cooperates with all other campuses of The University of Tennessee in extending academic programs and services to all citizens of the state.

Conferences and Institutes
Director:
F.A. Thurman, B.A. Tennessee
Associate Director:
R.H. Rader, M.S. Tennessee
Assistant Director:
C.B. Goodin, B.S. Carson-Newman

Conferences, institutes, short courses and workshops from one day to two weeks or more in length are planned and administered by this department and the related academic departments in cooperation with business, industrial, and professional organizations.

Each program is specifically designed for the needs of the group being served and may be held on the University campuses or at any other place in the state where adequate facilities and sufficient interest exist.

Off-Campus Programs
Director:
W.L. Russell, Jr., Ed.D. Tennessee
Assistant Director:
T.R. Ayres, B.S. Tennessee

The Department of Off-Campus Programs is a service oriented administrative unit. The students toward whom that service is directed are the part-time adult students who live some distance from the UTK campus and who take part or all their courses at off-campus locations.

University Evening School (Knoxville and Oak Ridge)
Director:
S.C. Bills, Ed.D. Tennessee
Assistant Director:
J.C. Sekula, Ph.D. Tennessee
Assistant Professor (full-time only):
G.M. Fisher, M.S. Tennessee
Instructors (full-time only):
A.J. MacCabe, M.S. SUNY at Albany;
C.B. Mamantov, B.S. Louisiana State

The University Evening School with the cooperation of academic colleges and departments administers credit classes and support activities for those students attending in the late afternoon and evening. Programs are offered enabling working adults to pursue their educational interests and goals.

Workshops and Non-Credit Programs
Director:
D.N. Bean, Ed.D. Tennessee
Assistant Directors:
R.S. Gordon, M.S. Tennessee;
A.R. Thompson, B.A. Knoxville College.

The Department of Workshops and Non-Credit Programs coordinates credit workshops offered through various academic units of the University. Additionally, this department administers the non-credit courses offered both on and off campus. Non-credit courses provide opportunities for remedial, in-service, and leisure-type educational programming for the Knoxville community.

Certain non-credit courses are approved for veteran's training. For specific information, contact the Department of Workshops and non-credit programs.
College of Education

James D. McComas, Dean
William H. Coffield, Associate Dean for Administration and Graduate Studies
E. Dale Doak, Associate Dean for Undergraduate Studies

Teacher education is historically a major function of The University of Tennessee. Beginning in 1903, when the first courses for teachers were offered, the University has increasingly fulfilled its responsibility to provide schools with competent teachers and service personnel and to improve the teaching profession by continually upgrading its membership. The College of Education was established in 1926, and all teacher preparation programs at The University of Tennessee are now coordinated within its seven departments and its School of Health, Physical Education, and Recreation.

The College of Education holds membership in the American Association of Colleges for Teacher Education. All certification and degree programs through the doctoral level are fully accredited by the National Council for Accreditation of Teacher Education, the Southern Association of Colleges and Schools, and the Tennessee State Department of Education.

The faculty of the College of Education is committed to performing three major functions: (1) to provide professional preparation for teachers, administrators, and school service personnel at undergraduate and graduate levels; (2) to collaborate with school personnel, educational agencies, professional groups, and others interested in the evaluation and improvement of educational opportunities programs, and services; and (3) to promote and conduct experimental and research studies in education.

The teacher preparation programs represent utilization of University-wide resources and cooperation of all appropriate units. Certain requirements are of basic importance: a broad cultural background in the arts and sciences (general education), mastery of professional knowledge and skills, and thorough preparation in specific teaching fields. Through a carefully planned program of combined academic and direct experiences, the prospective teacher acquires a depth and breadth of knowledge and understanding superior to that of the typical college graduate—superior in cultural and citizenship appreciation as well as in professional and scholarly accomplishment.

The Claxton Education Building contains many modern and functional facilities for the professional training of teachers. Classrooms, laboratories, seminar rooms, faculty and administrative offices, the instructional materials center, the Bureau of Educational Research and Service, the School Planning Laboratory, and facilities for special activities such as observation and experimentation are located in this air-conditioned building.

Special Services
Bureau of Educational Research and Service. Four major types of activities—research, development, educational services, and publications—are channeled through the Bureau of Educational Research and Service (BERS), located in Claxton Education Building. The research activities relate to the development of research proposals, conducting research, and assisting others in development of research proposals in the College of Education. Developmental activities relate to change efforts in curricular content and instructional methodology. Educational services include a wide list of activities such as inservice educational programs, consultant services, educational services and administrative training programs. Official publications of the College of Education are developed through the Bureau. A limited number of graduate student assistantships are available. The Educational Opportunities Planning Center, the Research Coordinating Unit, and the School Planning Laboratory are integral parts of the Bureau of Educational Research and Service.

EDUCATIONAL OPPORTUNITIES PLANNING CENTER
The Educational Opportunities Planning Center (EOPC) works with school districts in the Tennessee-Kentucky area to help meet their desegregation-related needs by assisting with needs assessment and by helping develop plans to meet the needs. A new component was added during the 1975-76 year to deal with sex discrimination in the school systems of Tennessee and Kentucky. Staff follow through with inservice training of local district personnel, with such training directed toward solutions of curricular, human relations, and other types of problems created or compounded by school desegregation and sex discrimination. Ongoing evaluation of locally installed practices and ongoing cooperative evaluation of the progress of local programs are additional major efforts. This program is funded by the U.S. Office of Education.

RESEARCH COORDINATING UNIT
The Research Coordinating Unit (RCU), located on campus at Alumni Hall, is available for use by students, faculty, administrators, and all vocational educators in the state of Tennessee.

The primary objectives of the RCU are to collect and disseminate information, coordinate research, stimulate research, and conduct research in selected areas. The RCU has a library with the complete series of ERIC Documents stored on microfiche. Microfiche reader-printers are available in the library and portable readers may be checked out.
overnight. Computer searches of the ERIC files are also available for a nominal fee.

SCHOOL PLANNING LABORATORY
The School Planning Laboratory (SPL), located in Claxton Education Building, assists school systems and colleges in the state and in the southeastern region with problems arising from relocation of existing facilities and planning of new facilities. Course work peculiar to the field of school planning is offered through the Department of Educational Administration and Supervision. Graduate student assistantships are available each year through the Laboratory.

The Reading Center. A commitment to the concept of teaching, research, and service as the role of the University involves the Reading Center in a variety of activities. An extensive program of diagnostic and remedial reading services to children is closely tied to graduate course work and practicums in reading methodology. Effective reading and study classes are offered for the benefit of the University student body. Service functions of the Center include extensive inservice and consultation services for public school reading program improvement. The Center also maintains a remedial reading materials center and assists in the coordination of an ERC/CRIER Regional Information Center in reading. For further information write the Director, Reading Center, 1912 Terrace Avenue, Knoxville, Tennessee 37916.

Teacher Placement Service. The College of Education, cooperating with the University Placement Service, assists qualified students and alumni in securing positions. School and college administrators are cordially invited to make full use of these services in their efforts to employ competent personnel.

General Information
Admission to the College
For transfer into the College of Education after completion of the freshman year, a minimum grade average of 2.0 (C) is required.

Course Load—Permission for more than 20 hours in a quarter must be obtained from the Associate Dean for Undergraduate Programs. A normal course load in the College of Education consists of full-time teaching or other positions may not enroll for more than six quarter hours credit per quarter. Approval for enrollment in excess of this amount must be secured from the Dean.

Admission to Teacher Education
All students who desire teacher certification, whether enrolled in the College of Education or other colleges, are required to apply for admission to the Teacher Education Program. Formal application for admission to the Teacher Education Program should be made during the second or third quarter of the sophomore year. Application forms may be obtained in the Office of the Associate Dean for Undergraduate Programs or the College of Education. Special note: Students must be admitted to the Teacher Education Program at least one quarter before taking 3010, 3030 and certain other courses in the College.

Student procedures for applying for admission to the Teacher Education Program are: (1) Obtain an application form in the Dean’s office during registration time at the beginning of the quarter. Speech and hearing tests are usually administered on registration days. (2) Proceed to the Speech and Hearing Center (at the corner of Yale and Stadium Drive) on one of the dates between the hours of 9 a.m. and 4 p.m. and complete the speech and hearing tests. Leave the application form (scan sheet) with the test administrator.

The College of Education will be informed of the speech and hearing test results. Those applicants having satisfactory speech and hearing test results, a grade point average of 2.20 or above at the termination of the previous quarter (if admitted to the University prior to Fall, 1966, a 2.00 GPA is sufficient), and their academic advisor’s consent will be informed of their acceptance by a letter from the Associate Dean for Undergraduate Programs sometime during the quarter. Students not qualifying for acceptance will also be informed of their status by letter. The academic advisor’s consent and confirmation of the grade point average is obtained by the Dean’s office and does not entail action by the student. If a student takes the speech and hearing test and does not have the required grade point average at the time, but subsequently reaches the required grade point average to the required level, it will be necessary to return to the Associate Dean’s office and reapply for admission to the Teacher Education Program. You will not be admitted automatically upon raising your grade point average to the required level.

The following criteria must be met by all students applying for admission to the teacher education program:

Scholastic Achievement—a cumulative grade point average of 2.2 (a 2.0 GPA if admitted to the University prior to Fall Quarter, 1966).

Physical Fitness—satisfactory ratings in general health, speech, hearing, and sight.

Personal-Social/ETHICAL CONDUCT FOR TEACHING—satisfactory ratings from faculty advisors.

Admission to Student Teaching
Application for student teaching must be filed no later than January 1 of the academic year preceding the actual experience. For example, if student teaching during the 1976-77 academic year he must make application by January 1, 1976. Application forms may be obtained in the Office of the Director of Student Teaching, 212 Claxton Education Building.

Students majoring in Special Education—Speech and Hearing and in Special Education—Hearing Impaired are required to make application for Clinical Practice or Student Teaching in the Department of Special Education and Rehabilitation and in the Office of the Director of Student Teaching.

Before admission to the student teaching quarter, the student must have fulfilled the following requirements:

1. Full admission to the Teacher Education Program no later than the quarter preceding student teaching (i.e., all conditions relative to admission satisfied).
2. Completion of the professional core courses (Education 3010, 3020, 3030 and Educational Psychology 2430 or 3810).
3. Completion of at least 90 percent of course work in the endorsement area(s).
4. Completion of the special methods courses at The University of Tennessee.
5. Completion of the Student Teaching Seminar and the September experience (non-credit).
6. Senior standing and a minimum grade point average of 2.0 on work completed at The University of Tennessee.

The fifteen-hour student teaching experience is evaluated on a pass-fail basis and the hours are included in the University policy requiring a 2.0 in the last 45 hours work. The most important criterion in placing student teachers in the public schools is the value of the experience for preparing for teaching. The University cannot guarantee the geographic locale desired by the student though effort will be made to follow the student’s wishes. The University maintains student teaching centers in East Tennessee communities, some of which are considerable distance from Knoxville. Married students will be placed as near their homes as possible in order to preserve family life.

Substitutions
It is sometimes necessary and advisable for students to substitute other courses for those required in a particular curriculum. This is particularly true of students who transfer to The University of Tennessee, College of Education from another college or university. The general test of whether a substitution would be appropriate is “does the course you wish to substitute meet the spirit of the course requirement?” That is, “is the content similar or perhaps more appropriate to your needs?”

To initiate a substitution request the student should visit with his adviser first. If they agree that the substitution is an appropriate one, the substitution request form should be forwarded to the office of the Associate Dean for Undergraduate Programs, Claxton Education Building 212. Approved petitions are forwarded to the Dean of Admissions for further approval, and for filing with the Undergraduate Council.

Recommendation For Certification
The application for a professional teacher’s certificate should be completed early in the final quarter before graduation. Application forms may be obtained in the Admissions Office, Administration Building, and 212 Claxton Education Building.

Tennessee State regulations stipulate that the applicant for a professional certificate must be recommended by the teacher-training institution. The Dean of the College of Education is the official designated to recommend University of Tennessee graduates for teacher certification. To receive this recommendation, the applicant must fulfill the following requirements:

1. A minimum cumulative grade point average of 2.0.
2. Satisfactory performance of the student teaching experience.
3. A minimum grade point average of 2.0 in his teaching field(s).
4. Completion of a methods course in each area of endorsement.
5. Fulfillment of all special recommendations of the Committee on Standards and Admissions.
Graduate Programs
The College of Education, through the Graduate School, offers programs leading to the Master of Science degree, the Master of Education degree, the Master of Arts in College Teaching degree, the Master of Public Health degree, the Specialist in Education (advanced graduate) degree, the Doctor of Education, and the Doctor of Philosophy degrees. For further information, see the Graduate School Catalog.

Undergraduate Curricula
The College offers courses of study leading to the Bachelor of Science in Education and to eligibility for teacher certification in Tennessee and in those states which grant reciprocity privileges to graduates of institutions accredited by the National Council for Accreditation of Teacher Education (NCATE).

A core of studies provides the foundation for specialization in all teacher education curricula. In addition, approved concentrations must be completed in subject fields specifically related to the public school curriculum. A choice is to be made among programs leading to recommendation for certification at one of three levels: elementary (kindergarten-9), secondary (grades 7-12), or special subjects in grades 1-12.

Courses in Library Science are available to students who are interested in beginning positions in any library or in preparation for further graduate study in professional librarianship. The minimum requirements for full-time librarianship in any size school in Tennessee can be met through completion of the basic library service courses (3510, 3520, 3530, 4140, 4150, 4270, 4330, 4750). Endorsement as a librarian requires 27 quarter hours in library science; or endorsement as a teacher-librarian requires 18 quarter hours in library science. At the undergraduate level, only a minor in library science is available. Students in the College will select an appropriate curriculum from those outlined under the undergraduate curriculum section. Students interested in this program should consult with a member of the faculty of the Graduate School of Library and Information Science.

Students should work closely with faculty advisers in planning programs of study. The chosen curriculum must be followed as outlined to assure graduation and certification, and any proposed substitution for a required course should be filed for approval before the end of the junior year.

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.

I. Curriculum for Elementary Teachers (K-9)

Communications (12 hours)
- English 1510-20 (4, 4); Speech 2001 (4) or 2011 (4) or any Speech elective

Health and Physical Education (18 hours)
- P.E. 4450 (3), School Health 3810 (3), Psychology 2500 (4), P.E. and Health electives (8 hours) must include minimum of 3 hours in each area

Humanities (12 hours)
- Literature 8 hours; the remaining four hours must be chosen from foreign language (above introductory level), philosophy, religious studies, Art 1815 or 1825, or Music 1210 or 1220

Mathematics (9 hours)
- Mathematics 2110, 2120, 2130

Natural Science (20 hours)
- 8 or 12 hours in Biological Science. Recommended series are Biology 1210, 1220 (1230), or Botany 1110, 1120. 8 or 12 hours in Physical Science. Recommended series are Physics 1410, 1420, (1430) or Geology 1510-20 or Astronomy 2110, 2120, (2130) or Chemistry 1110, 1120, 1130

Social Studies (21-20 hours)
- History (4 hours) - it is recommended that the course be taken at the sophomore level.
- Electives (14-16 hours) from anthropology, economics, geography, political science, and sociology. Minimum of 3 areas required.

CORE PROFESSIONAL COURSES: 9 hours
- Educ. C 1 & 3010, 3020, 3030

ELECTIVE EDUCATION COURSES: 36 hours
- Educ. C 1 & 1 (Methods): 3260, 3270, 3280

TOTAL MINIMUM REQUIRED: 191 hours

II. Curriculum for Secondary Education (7-12)

GENERAL EDUCATION: 69 hours
- Communication (7 hours)
- English 1510-20 and Speech 231

Health and Physical Education (9 hours)
- Inclusion at least 3 hours from School Health or Public Health or Nutrition (P.E. must be represented)

Humanities (16 hours)
Any 4 hours from English 2510-20, 30-40, 60-70, 80-90, plus 12 hours of electives from anthropology, art, English literature, French, History, Library and Information Science 3510-20-30, foreign language (beyond introductory level), history (upper-division), music, philosophy, or religious studies. (NOTE: At least three fields must be represented.)
Mathematics (4 hours)*
Natural Science (12 hours)
A biological science, a physical science, or a combination of the two.
Psychology (4 hours)
Psychology 2550
Social Studies (12 hours)
Two fields should be represented from anthropology, economics, geography, history, human services, political science, and sociology.

CORE PROFESSIONAL EDUCATION — 9 hours
Educ C & I 3101, 3203, 3040

SPECIALIZED PROFESSIONAL EDUCATION — 33 hours
Educational Psychology 3810: 6 hours of appropriate methods courses; Educ C & I 3521-22-23, 4710-20, and 6 hours of electives selected from the College of Education. NOTE: An appropriate specialization methods course must be taken in each subject and/or area in which endorsement is sought:

English
Educ C & I 3657 and 3658
Foreign Language
Educ C & I 3652 and 3653
Mathematics
Educ C & I 3751 and 3752
Science
Educ C & I 3654 and 4654
Social Studies*
Educ C & I 3653 and additional methods course

TEACHING SUBJECT AREAS AND ELECTIVES — 72 hours
See outline of the programs below.

TOTAL MINIMUM REQUIRED — 183 hours

PROGRAMS AVAILABLE
Program majors leading to graduation and certification for high school teaching range from the broad fields, comprehensive majors, to the subject major and minor combination programs.

*Requires admission to Teacher Education Program.
Includes History, Economics, Geography, Sociology, Political Science, Psychology.
Mathematics 2022 recommended for students who will take rid of 4 hours.
Requires admission to Teacher Education Program.
At least one must be taken concurrently with a special methods course.

A. English Education
English with a Minor
45 quarter hours in English, including three in English language (4410, 4420, 4430). Nine of the 45 hours may be in speech, provided the student is not minor in speech.
27 hours in some other subject which constitutes a minor. (If a student who elects to minor in a foreign language does not have two entrance credits in a foreign language from high school, he must take 66 hours in a foreign language.)
Students enrolled in this program must take two English methods courses: Education 3657 and 3658.

B. Foreign Language Education
1. Foreign Language Area
a. 16 quarter hours in one language with no less than 18 quarter hours of upper division courses.
b. 27 quarter hours in another language with no less than 18 quarter hours of upper division courses.
c. 9 hours of general and applied linguistics.
2. Foreign Language Major and Minor
45 quarter hours (9 less quarter hours if 2 entrance credits from high school) and one language with no less than 27 quarter hours of upper division courses.
27 quarter hours in another subject.

C. Mathematics Education
1. Area Majors in Mathematics
a. Mathematics and Physical Sciences (75 hours)
(1) Mathematics* (27 quarter hours) must include at least a one-year sequence in calculus or analytic geometry and calculus, and at least 12 quarter hours in courses numbered 3050 or above with at least one course selected from each of the following categories:
(a) Algebra: Mathematics 3090, 3120, 3720, 4150, 4160, 4170
(b) Analysis: Mathematics 3100, 3110, 4510, 4520, 4530
(c) Geometry: Mathematics 3130, 3230, 3240, 3310
(d) Probability: Mathematics 3050, 3060, 4650, 4660, 4670
(2) Physical Sciences — 12 quarter hours in each of the following: chemistry, geology, physics**
(3) Electives — 12 additional quarter hours in physical sciences and/or mathematics
(4) A student may not receive credit for both Mathematics 1540 and Mathematics 1500. A maximum of 16 quarter hours credit may be obtained in mathematics from courses numbered below 2000.
Endorsements: Mathematics
*Excluding Math 1202, 2110, 2120, 2130.
**Excluding Physics 1410, 1420, 1430.
Excluding Chemistry 1510, 1520, 1530.
Plant and animal science courses required.

D. Psychology Education
1. A concentration and endorsement in Psychology shall require a minimum of 30 quarter hours: 12 hours upper division distributed as follows:
Core
Psychology 2110, 2130
Psychology 3120
Psychology 3150
Psychology 3160
Psychology 3210
Electives — 15 hours selected from:
Psychology 2120, 3129, 3220, 3319-29-39,
*Psychology 2120-30 or Botany 1110, 1410, 4610, 4610, 4800, 4900; Psychology or Ed. Psych 4640,
Ed. Psych. 4130, 4800, 4880, 4910.
2. Two minors (18-27 hours for a total of 45 quarter hours) each with a minimum of 6 hours upper division.
At least one of the above minor areas must meet Tennessee minimum endorsement requirements for the subject area.

E. Science Education
1. Area Majors in Science
a. Biological Science (72 hours minimum)
One year sequence in two of the following:
* Biology 1210-20-30 or Botany 1110-20-40
Biology 2110-20-30 Microbiology 2010
Biology 2010 Biology Electives — Approved electives must be selected from one or more of the following: botany, zoology, microbiology, or biochemistry.
Minimum requirement in Biological Sciences consists of 60 hours (12 hours in Chemistry required below 2000).
Endorsements: Biology and General Science*
Life or biological science
b. Earth and Environmental Sciences (72 hours minimum)
Includes 12 hrs Biological Science required, and 12 hrs Science Electives selected from Astronomy, Chemistry (excluding 1410 series), Geological Sciences, and Physics.
Geology-18 hours
Astronomy - 8 hours
Geology (in area of physical geography - 4 hours
Courses in meteorology or climatology - 4 hours Courses in cartography, conservation of natural resources, oceanography, or soil science - 6 hours
Endorsements: General Science* (Biological, earth, or physical science)
c. Physical Science
Basic requirement of 12 hours in each of four of the following subjects:
* Biology 1110-20-40
Biology 2110-20-30 Chemistry series (excluding 1510 series)
Physics (excluding 1410 series)
Mathematics (excluding 1020, 2020, 2100-20-30)
Approved Science Electives - 24 hours of minimum, including a total of six quarter hours of course work in one subject area, other than Math.
Endorsements: General Science* (Biological or Physical Science)

*Requires admission to Teacher Education Program.
**Includes History, Economics, Geography, Sociology, Political Science, Psychology.
Mathematics 2022 recommended for students who will take 4 hours.
Requires admission to Teacher Education Program.
At least one must be taken concurrently with a special methods course.

A. English Education
English with a Minor

B. Foreign Language Education

C. Mathematics Education

D. Psychology Education

E. Science Education

*Requires admission to Teacher Education Program.
eign language beyond introductory level, upper division history, philosophy, or religious studies. Mathematics (4 hours)

**Natural Science (11-12 hours)**

Three courses from the Biological and/or Physical Sciences, to include Physics 1810.

Psychology (4 hours)

Psychology 2500 (4)

**Social Studies (12 hours)**

Any 12 hours, to include at least two areas.

**CORE PROFESSIONAL EDUCATION**

9 hours Ed. C & 3101*, 2020; 3020*

**SPECIALIZED PROFESSIONAL EDUCATION**


**Concentration in Vocal Music (Piano or Organ Principal)**


**Concentration in Elementary Music Education (Piano or Organ Principal)**


**Concentration in Instrumental Music**


**Elementary Physical Education**

P.E. 1000; 3510; 3540; 3550; 3560; 3570; 3660; 3670; 3680; 3320; 4110; 4150; 3330; 4420; 3620; and 6 hours of P.E. activity electives.

**Cogsci Courses**

24 hours CFS 3210 and 21 hours to be used for endorsement, minor, or free electives. (None of the 21 hours may be taken in lower division physical education).

**TOTAL MINIMUM REQUIRED**

196 hours

**MINOR IN ELEMENTARY PHYSICAL EDUCATION**

OPEN ONLY TO STUDENTS WITH A CONCENTRATION IN SECONDARY PHYSICAL EDUCATION:

P.E. 3540; 3550; 3560; 3570; 3660; 3670; 3680; 4150; 3560.

*Requires admission to Teacher Education Program.

**B. Concentration in Secondary Physical Education (7-12)**

**GENERAL EDUCATION**

89 hours English 1510-20; Speech elective; Chemistry (1510-20 suggested); Physics 1410, Zoology 2930-30 and 4940; Mathematics elective; School Health 3210; Humanities electives (15 hours) selected from: English literature; anthropology; art; foreign language; music; philosophy; religion; dance appreciation; related arts and crafts. Social Studies elective (21 hours) selected from: History; anthropology; economics; geography; political science; sociology; geology; psychology. Psychology 2500, Physical Education Activities (6 hours): P.E. 1020, 1022 or 1022, 1032, 1022, 2002, 2032.

**PROFESSIONAL EDUCATION**

32 hours Education C & 1301*; 20-30*; Educ. Psy. 3810; Educ. C & 1302*; Educ. elective (3 hours); Physical Education 3260 (Practicum, field experience - 2 hours).

**SPECIALIZED PROFESSIONAL EDUCATION**

48 hours Education P.E. 1000; 3220; 4110; 4120; 3220 or 3170; 4310; 4440 or 4550; 3330; 4410 or 3010; 3160; 3240; and 13 hours electives from any upper division P.E. course.

**27 quarter hours minimum required for certification in any single area.**

**F. Social Studies Education**

PROGRAM I

Broad fields Social Science (Major 72 hours)

Certification includes Economics, Geogra- phy, History, Political Science and Sociology.

a. 28 quarter hours in history, including 1510- 20 and 2510-20, and 12 hours in world and/ or American history.

b. 8 quarter hours in each of the following: geogra- phy, Political science, and sociology.

c. 4 quarter hours in anthropology.

d. 9 quarter hours in economics, including 1710-20 and 32 elective.

e. 7-8 additional quarter hours in the above- listed or related fields.

Program II

Specific subject major (45 hours plus 27 hours for a minor.)

**Minors**

A minor is defined as 27 quarter hours in a single subject area; i.e., biology, history, French, psychology, speech, etc. A minor does not meet certification requirements in all cases.

**III. Art and Music Education**

**A. Art Education**

**GENERAL EDUCATION**

67-69 hours Communications (11-12 hours)

Eng. 1510-20 (4, 4) and 3-4 hours in Speech.

Health and Physical Education (9 hours)

Activities course in physical education plus School Health 3510.

**Humanities** (15-16 hours)

Art 1810-20 and 1825, one literature course, one and an elective from anthropology, psychology, foreign language above freshmen level, American history, library service, religion, or music.

**Mathematics** (4 hours)

**Natural Sciences** (4 hours)

Any 12 hours from the biological and/or physical sciences.

**Psychology** (4 hours)

Psychology 2500 (4)

**Social Studies** (12 hours)

Any 12 hours from at least two areas.

**CORE PROFESSIONAL EDUCATION**

9 hours Ed. C & 3101*, 3020, 3030*

**SPECIALIZED PROFESSIONAL EDUCATION**

24 hours appropriate methods course(s) and student teaching: Ed. C & 4710*, 4720*, Psych. 2430 or 3810; and a senior elective in the College of Education.

**TEACHING AREAS AND ELECTIVES**

64 hours

A. Major (60 hours)

Art Ed. 2100, 2120, 3920, 3210, 4120, 4130, 4150, 4160.

Art 1115, 1125, 1135. Plus twelve quarter hours in a single studio area and twelve additional hours distributed over three other studio areas.

B. Minor (24 hours)

May be taken in any area offering a minor.

**TOTAL MINIMUM REQUIRED**

187 hours

**B. Music Education**

**GENERAL EDUCATION**

65-67 hours Communications (11-12 hours)

Eng. 1510-20 (4) and 3-4 hours in Speech.

Health and Physical Education (9 hours)

Activities courses in physical education plus School Health 3510.

**Humanities** (14 hours)

Music 2320-30, literature course, and one elective from art, anthropology, literature, for-
ELECTIVES 27 hours Hours to be used for minor, endorsement, or enrichment. (Note: Not more than 27 hours may be taken in lower division physical education)

TOTAL MINIMUM REQUIRED 196-197 hours

*Requires admission to Teacher Education Program

C. Minor in Dance (27 hours).

P.E. 2040-50-60; 3010; 3020 or 3030; 3050; 3060; 3070; 3090; 3151; 4010; 4060; 4330 or 4340-50; 4550.

TOTAL MINIMUM REQUIRED 196 hours

D. Concentration in Recreation

GENERAL EDUCATION 97 hours

Natural Science (16 hours minimum)

4 hours selected from: Chemistry, Physics, Geology, Astronomy, or Geography 3530.

4 hours selected from: Biology or Botany, Zoology, the areas of Anatomy or Physiology.

At least 8 additional hours selected from any or a combination of the above.

Mathematics 3-4 hours


Social Science (18 hours minimum)

Sociology 1510 and 4530.

At least 9 additional hours selected from Sociology 3520, 3530, 4510, 4330, 4830, or Rural Sociology 3420 or Human Services 2690, 4900, 3300 or Political Science 2530, 2020, 2510-20, 3565-66, 4910.

Behavioral Sciences (16 hours minimum)

Psychology 2500.

At least 12 additional hours selected from: Psychology 2520, 3120, 3550, 3650, 4550, 4610 or Educational Psychology and Guidance 2430, 2510, 2520, 4130, 4800, or Child and Family Studies 2110, 3210, 3220, 4260, 4610, 4810.

Communications (15 hours minimum)

English 1510-20, Speech 2311.

At least 3 additional hours selected from Speech 2351, 3021, Communications 1110, Journalism 2210, 3710, Educ C & I 4750.

Health and Safety (3 hours minimum)

School Health 3210 or Safety 3520.

Humanities (16 hours minimum)

At least 4 hours selected from: English 2000-level and above.

At least 3 hours selected from History 2000-level and above, History 2510-20, 2350, 2950, Anthropology 2530, Geography 3660, Classics 2810, 2820, 2910-20, 3210-20, 3510-20, 3560, 3570, 3680, 4510, Psychology 2520, 3315, 3630, 3910, 2550, Religious Studies 2510, 2520, 2530, 2540.

Cultural Arts (12 hours minimum)

4 courses from at least 2 of the following arts:

Music 1210-20, 4241-51, 4260, 4270, 4320.


Art 2715, 1815-25.

P.E. 3090, 2070 (Dance).

PROFESSIONAL RECREATION EDUCATION 22-30 hours

Recreation 1100, 3140, 3140, 3200, 4130, 4200, 3880, 4500.

FIELD STUDY 18-33 hours

Counseling 3200, 3000, 4000.

SKILLS AREAS 18-24 hours

Student selects two of the following skill areas and completes at least 3 courses (9-12 hours) in each.

Art: Art 1115-25-35, 2115, 2215, 2315, 2515, Art Education 2100, 2110, 2120.


Dance: Physical Education 4310, 3010-20-30, 3040, 3100, 4320.

Dramatics: Theatre 1510, 1520-30, 2111, 2211-2712-2722-2727.

Music: Music Education 4410, 2100, 1010-20-30, Music 1500 through 1958 series, membership in choral or instrumental group.

Outdoor Recreation and Camping: Physical Education 3710, Forestry 4440, Educ C & I 4380.

Sports: Physical Education 2 (2 team sports, 3 individual sports).

Free Electives (to be added to above requirements to total minimum of 190 hours for the degree).

TOTAL MINIMUM REQUIRED 192 hours

E. Concentration in Public Health

GENERAL EDUCATION 85 hours

Communications (12 hours)

English 1510-20 (4, 4) and Speech 2311 (4).

Health and Physical Education (11 hours)

Public Health 3030.

Public Health 3210.

Physical Education Electives (4) or

Humanities (16 hours)

English - any 4 hours from literature (4, 4) or Anthropology 2530 (4), Philosophy or Religious Studies Elective (4), or Art or Music Elective (4).

Mathematics (4 hours)

Natural Science (20 hours)

Chemistry or Physics Sequence (4, 4, 4).

Biology 1210-20 (4, 4) or Zoology 2920-30 (4, 4).

Psychology (4 hours)

Psychology 2500 (4).

Social Studies (24 hours)

Economics 2110 (3).

Geography 2110 (4) or Political Science 2510 (4) or 2520 (4).

History 1510-20 (4, 4) or 2510-20 (4, 4).

Sociology 1510 (4).

CORE PROFESSIONAL EDUCATION 9 hours

Ed. C & I 3101-20-30 (3, 3, 3).

SPECIALIZED PROFESSIONAL EDUCATION 24 hours

Education C & I 4750 (3).

Education C & I 4770 (8) and 4720 (6).

Educational Psychology 3810 (3).

School Health 3650 (3).

TEACHING AREAS AND ELECTIVES 72 hours

Choose any 12 hours:

School Health 3410 (3), 3420 (3), 3620 (3), 4710 (3), 4810-20 (1, 1).

Choose any 12 hours:

Public Health 3310 (3), 3320 (3), 3350 (3), 4120 (3), 4220 (3), 4310 (3), 4420 (3), 4730 (3-6), 4840-50-60 (1, 1, 1).

Biology 1230 (4).

Microbiology 2010 (4).

Psychology 3150 (5).

Sociology 1520 (4).

Nutrition 1230 (3).

Electives (19).

Special Note: If some of the specific courses cited above are graded or changed, they may be substituted with an equivalent course.

TOTAL MINIMUM REQUIRED 190 hours

*Requires admission to Teacher Education Program.

V. Special Education*

GENERAL EDUCATION 82-85 hours

Communications (11-12 hours)

English 1510-20 (4, 4) and 3-4 hours in Speech.

Health and Physical Education (9 hours)

Activities courses in physical education plus School Health 3510.

Humanities (15-16 hours)

Any four hours from literature, plus 11-12 hours of electives from anthropology, art, literature, Library and Information Science 3510-20-30, foreign language beyond introductory level, upper division history, music, philosophy, or religious studies. (Note: at least three fields must be represented.)

Mathematics (4 hours)

Natural Science (20 hours)

Any combination from the biological and physical sciences or 12 hours from one (biological or physical) and 8 hours from the other.

Psychology (4 hours)

Psychology 2500 (4 hours).

Social Studies (19-20 hours)

History 1510-20 (4, 4) or 2510-20 (4, 4) plus a minimum of 11-12 hours from three of the following: anthropology, economics, geography, political science, sociology.

CORE PROFESSIONAL EDUCATION 9 hours

Ed. C & I 3101*, 3020, 3030*.

SPECIALIZED PROFESSIONAL EDUCATION 24 hours

(Required methods course(s) and student teaching: Ed. C & I 14701*, 4720*, Ed. Psych 2430 or 3810, and a senior elective in the College of Education.)

TEACHING AREAS AND ELECTIVES 72 hours

(Hours will vary according to program and endorsements.

*Requires admission to Teacher Education Program.

A. Concentration in Educable Mentally

Retarded (Elementary)

a. Special Education and Rehabilitation 3333, 3520, 4110-20, 4350, 4350, 4810, 4811, 4922, and 9 quarter hours Special Education and Rehabilitation 3520, 3530, 3810.

b. Education 3260, 3280, Education.
Reading elective, Education Arithmetic elective, Education elective; c. Music Education, Art Education elective, Physical Education or Health elective; d. Educational Psychology 2430 or Psychology 3550, Educational Psychology Diagnostic Measurement elective; e. 12 quarter hours from the following: Psychology 2530, 3210, 3220, 4250, Educational Psychology 3450, Educational Psychology 3650, or Educational Psychology 4790, 4800, 3730; f. Requirements for a minor in a subject area must be met (minimum of 24 hours); g. Education (C & I) 4720 and Special Education Elective 4724 and one methods course in minor field.

TOTAL MINIMUM REQUIRED: Total hours required for endorsement in the various special education programs appear on curriculum sheets available from the faculty advisor.

**Recommended electives**

E. Concentration in Emotionally Disturbed (Elementary)

GENERAL EDUCATION: 91 hours

Communications (12 hours)

English 1510 and 1520; Speech 1211 or 2121 or 2311

Health and Physical Education (14 hours)

School Health 3160; Physical Ed. 3450; P.E. and Health electives (must include a minimum of 3 hours in each area)

Humanities (12 hours)

Literature (6 hours); Elective chosen from Philosophy, Religious Studies, or foreign language above freshman level, or course from Art 1815 series, or from Music 1210 series

Mathematics (9 hours)

Mathematics 2110-20-30

Natural Science (20 hours)

8-12 hours Biological Science: Botany 1110-20-40 or Biology 1210-20-30

8-12 hours Physical Science: Physics 1410-20-30 or Geology 1510-20 (or Astronomy 2110-20-30 or Chemistry 1110-20-30)

Social Studies (20 hours)

History (4 hours chosen from 1510-20, 1610, 1950, 2510-20 (or appropriate alternative); Electives (15-16 hours) from three of the following: Anthropology, Economics, Geography, Political Science, Human Services, or Sociology

Psychology (4 hours)

Psychology 2500

CORE PROFESSIONAL COURSES: 9 hours

Educ. C & I 3010*, 3020, 3030*

SPECIALIZED PROFESSIONAL EDUCATION: 105 hours

a. Ed. Psy. 2430 and 4640 (6 hrs.)

b. Art Ed. 2100-2101, Music Ed. 3110-3110, Educ. C & I 3510* (15 hrs.)


d. Special Ed. and Rehab. 3330, 4610, 4620, 4630, 4640 (18 hrs.)


f. Student Teaching (30 hours)

Ed. C & I 4810*; 4820*; Spec. Ed. 4924

TOTAL HOURS FOR GRADUATION: 205 hours

*Requires admission to Education Teacher Program

**Recommended electives**

F. Concentration in the Hearing Impaired

a. Specialization in Early Childhood Development (Secondary)

General Education: 81-85 hours

Communications (12 hours)

English 1510, 1520; Speech 1211 or 2311

Health and Physical Education (10 hours)

School Health 3110, Physical Education 3450, Physical Education Electives

Psychology 2500 (4 hours)

Humanities (11 hours)

English Literature

11-12 hours electives (choose 2 areas); American History, Anthropology, Art, History, Philosophy, foreign language (above introductory level); Religious Studies, Music, Library and Information Science

Mathematics 2100-20-30

Natural Science (20 hours)

School Health 3110-20-30, Geology 1510-20, Astronomy 2110-20-30, Chemistry 1110-20-30

Social Studies (11-12 hours)

History 1510-20 or 2510-20

Choose 3 areas: Anthropology, Economics; Geography, Political Science, Sociology

Core Professional Education: 9 hours

Education C & I 3010*, 3020, 3030*

Specialized Professional Education and Major: 65 hours

Audiology and Speech Pathology electives (3050 recommended): 3310, 4710 (or Special Education 4240), 4719, 4830 (or 5950), Special Education 3333, 4190, 4200, 4210, 4220, 4230, 4250, 4280, 4290, 4360, 4370, 4870, 4871, Special Education elective, and Pre-Student Teaching Seminar.

Area of Specialization: 30-36 hours

CFS 4110 or 4500; choose 27-36 hours from the following: CFS 3110, 3120, 3130, 3210 & Respiratory Therapy 2430, 3610, 4110, 4230, 4350, 4420, 4610, 4620, 4630, electives; Ed. C & I 4450, 4451, Special Education 5620

Total Minimum Required: 185 hours

b. Specialization in Elementary Education

General Education: 84 hours

Communications (12 hours)

English 1510, 1520, Speech 1211

Health and Physical Education (15 hours)

Physical Education 3450; School Health 3160, 3170; Physical Education electives

Psychology 2500 (4 hours)

Humanities (12 hours)

Literature (8); elective from Philosophy, Art, Religious Studies, or Music

Mathematics 2110 (3 hours)

Natural Sciences (20 hours)

8-12 hours in Biological Science (choose one series) Biology 1210-20-30; Botany 1110-20-30

8-12 hours in Physical Science Physics 1410-20-30, Geology 1510-20-30, Astronomy 2110-20-30, Chemistry 1110-20-30

Social Studies (12 hours)

History (4); elective from Geography, Political Science, Sociology

Core Professional Courses: 9 hours

Ed. C & I 3010*, 3020, 3030*

Elementary Education: 18 hours

Ed. C & I 3260*, 3270*, 3280*, 3350*, 3720*, 3281*

Specialized Courses: 12 hours

Educational Psychology 2430, Art Education 2100, Music Education 2100, Educ. C & I 3510

Area of Concentration: 65 hours

Audiology and Speech Pathology elective (3050 recommended): 3310, 4710 or Special Education 4240, 4719, 4830 (or 5950), Special Education 3333, 4190, 4200, 4210, 4220, 4230, 4250, 4280, 4290, 4360, 4370 (or Ed. C & I 3511-12), 4870, 4871, Special Education elective, and Pre-Student Teaching Seminar

Total Minimum Required: 188 hours

c. Specialization in Secondary Education

General Education: 82-84 hours

Communications (12 hours)

English 1510, 1520; Speech 1211

Health and Physical Education (9 hours)

School Health 3510 and Physical Education Electives

Humanities (15-16 hours)

Literature (9); elective from two of the following: Anthropology, Art, History, Philosophy, foreign language (above introductory level); Religious Studies, Music, Library and Information Science

Mathematics 2110-20-30

Natural Sciences (20 hours)

Phys Ed. 4150 and 4500; choose 17-20 hours from the following: School Health 3160, 3170; Physical Education electives

Social Studies (15 hours)

History (6); elective from Geography, Political Science, Sociology

Core Professional Courses: 9 hours

Ed. C & I 3010*, 3020, 3030*

Elementary Education: 18 hours

Ed. C & I 3260*, 3270*, 3280*, 3350*, 3720*, 3281*

Specialized Courses: 12 hours

Educational Psychology 2430, Art Education 2100, Music Education 2100, Educ. C & I 3510

Area of Concentration: 65 hours

Audiology and Speech Pathology elective (3050 recommended): 3310, 4710 or Special Education 4240, 4719, 4830 (or 5950), Special Education 3333, 4190, 4200, 4210, 4220, 4230, 4250, 4280, 4290, 4360, 4370 (or Ed. C & I 3511-3512), 4870, 4871, Special Education elective, and Pre-Student Teaching Seminar

Total Minimum Required: 188 hours

*Requires admission to Teacher Education Program

**Recommended electives**
Health and Physical Education (9 hours)  
Activities courses recommended plus Health and Physical Education electives (both areas must be represented)  

Humanities (15-16 hours)  
English (4 hours from 2000-level literature)  
Elections representing two areas from the following: Anthropology, Art, English (literature), foreign language (above introductory level), History (upper division), Library and Information Science 3510-20, Music, Philosophy, and Religious Studies  
Mathematics elective (4 hours)  
Natural Science (20 hours)  
12 hours from one sequence and 8 hours from the other biological and physical science  
Psychology 2500 (4 hours)  
Social Studies (18 hours)  
History 1510-20 or 2510-20  
Choose 3 areas from Anthropology, Economics, Geography, Political Science, Sociology  
Core Professional Courses  
Educ. C & I 3101*, 3200, 3300*  
Specialized Professional Education  
Educational Psychology 3810 and appropriate methods coursework for major area  

Deaf Education Courses  
65 hours Audiology and Speech Pathology elective (3050 recommended); 3310, 4710 (or Special Education 4240); 4719, 4930 (or 5950); Special Education 3333, 4190, 4200, 4210, 4220, 4230, 4250, 4260, 4290, 4360, 4370 (or Educ. C & I 3521-22-23), 4670, 4671; Special Education elective, and Pre-Student Teaching Seminar.  

Major areas  
NOTE: 30 quarter hours are required for graduates in the educational Deaf Certification.  

10-hour Deaf Education Electives  
School Health 3510; Physical Education 3450 and Physical Education electives  

Psychology 2500 (4 hours)  

Humanities (15-16 hours)  

English Literature (12 hours)  
12 hours electives - choose 2 areas: Anthropology, Art History, Philosophy, foreign language (above introductory level), Religious Studies, Music, Library and Information Science  

Mathematics 2110 (3 hours)  

Natural Sciences (20 hours)  
6-12 hours in Biological Science; Astronomy 2120-20; Botany 1110-20  

Psychology 2500-25 (4 hours)  

Social Studies (18 hours)  

Core Professional Courses  
Educ. C & I 3101*, 3200, 3300*  

Specialized Professional Education and Major  
65 hours Audiology & Speech Pathology elective (3050 recommended); 3310, 4710 (or Special Ed. 4240), 4719, 4930 (or 5950); Special Education 3333, 4190, 4200, 4210, 4220, 4230, 4250, 4260, 4290, 4360, 4370, 4870, 4871, Special Education elective, and Pre-Student Teaching Seminar.  

Area of Specialization  
30 hours Selected from the following courses: Special Education 3110; 3120, 3530, 4110, 4120, 4130, 4150, 4160, 4440, 4610, 4620, 4840, 5400, 5401, 5620, and Special Education electives.  

Total Minimum Required  
186 hours  

*Requires admission to Teacher Education Program.  

G. Concentration in Speech and Hearing  
GENERAL EDUCATION  
84 hours  
COMMUNICATIONS (12 hours)  
English 1510-20, Speech 2311  

VI. Vocational-Technical Education  
A. Business Education  

See curricula for Secondary Education 7-12 p. 88 for General Education and Professional Education requirements.  

63 quarter hours in business and economics to meet five business endorsement areas approved by the department advisor. A statement of requirements and alternative programs may be obtained from the chairman of Business Education.  

B. Distributive Education  

GENERAL EDUCATION 85 hours  
Communications (12 hours)  

English 1510-20 and speech elective  

Health and Physical Education (9 hours)  
School Health 3510 and Health and P.E. electives.  

Mathematics (8 hours)  

Humanities 16 hours  

Natural Science (12 hours)  

Psychology (7-8 hours)  

Social Studies (20 hours)  

Core Professional Education  

Core Professional Education  

C. Industrial Education  

GENERAL EDUCATION 82-85 hours  

Communications (11-12 hours)  

English 1510-20, 3410, and 3420, and 3-4 hours in Speech Health and Physical Education (9 hours)  

Activities courses in physical education plus Social Health 3510-20.  

Humanities (15-16 hours)  

Any 4 hours from literature; plus 11-12 hours of electives from anthropology, art, literature, Library and Information Science 3510-20, foreign language beyond introductory level, upper division history, music, philosophy, or religious studies. (NOTE: at least three fields must be represented).  

Mathematics (4 hours)  

Any combination from the biological and physical sciences with 12 hours from one area (biological or physical) and 8 hours from the other.  

Psychology 4310, 4315, 4320, 4325, 4360, 4370, 4371, 4380.  

Social Studies (19-20 hours)  

History 1510-20 (4, 4) or 2510-20 (4, 4) plus a minimum of 11-12 hours from three of the following: anthropology, economics, geography, political science, and sociology  

CORE PROFESSIONAL EDUCATION 9 hours  

Ed. C & I 3101*, 3200, 3300*  

SPECIALIZED PROFESSIONAL EDUCATION 27 hours  

Ed. Psych. 3810; and a senior elective in the College of Education.  

NOTE: An appropriate special methods
course must be taken in each subject area and/or area in which endorsement for teaching is sought.

TEACHING AREAS AND ELECTIVES
a. 45 quarter hours in Industrial Education
b. 27 quarter hours in related fields
For Industrial Arts endorsement the requirements are as follows:

GENERAL EDUCATION
COMMUNICATIONS (11 hours)
English (8 hrs.), Speech (3 hrs.)
Health and Physical Education (9 hours)
Health and P.E. Electives (Both areas must be represented)
Humanities (15 hours)
Literature Elective (4 hrs.), Art or Art Ed. (6 hrs.)
Additional hours taken from the following: history (upper division), philosophy, anthropology, foreign language (beyond introductory level), music or religious studies.
Mathematics (3 hours)
Natural Science (12 hours)
Psychology (4 hours)
Psychology 2500

SOCIAL SCIENCES
Studied in (12 hours)
Two areas from the following must be represented: history, anthropology, economics, geography, political science, sociology.

PROFESSIONAL EDUCATION
36 hours

TEACHING AREAS
39 hours
Ind. Educ. 6120, 6142, 6161, 6211, 6214, 2652, 2660, 3640, 3651, 3656, 4652, 4670, 4671.

OPTIONS
21 hours
Option I - Outside Minor (21 hours)
or
Option II - Industrial Arts Sequence (21 hours)
1. Power and Energy Sequence
   Ind. Educ. 6160, 6130, 2611, 2631, 3612, 3632, 4632.
   2. Visual Communications Sequence
   Ind. Educ. 3621, 4621, 4690, Journalism 3310, 3910, Broadcasting 4030, three hours visual communications electives.

ELECTIVES
24 hours
TOTAL MINIMUM REQUIRED
186 hours

D. Agricultural Education
See page 47 for this program.

E. Home Economics Education
See page 144 for this program.

Departments of Instruction
Numbers in parentheses following the course titles indicate quarter hours.

Art and Music Education

Professors:

Associate Professors:

Assistant Professors:

Music Education (707)

UNDERGRADUATE

The curricula in music education provide for five areas of concentrations: vocal music (voice principal); vocal music (piano or organ principal); elementary music education (voice principal); elementary music education (piano or organ principal); and instrumental music.

1010-20 Choral Laboratory (1, 1) Choral conducting: methods and materials, required of all Music Education majors. Prereq: approval of instructor.

1511 Field Experience in Teaching Music (1) Field experiences in which students perform tasks related to teaching and to teacher roles. Satisfactory-No Credit. May be repeated for credit.

2100 Introduction to Art Education in the Schools (3) Art grades through 12; growth and development, objectives, motivation, evaluation. Experiences with school media. 1 hr. and 2 labs.

2110 Drawing, Painting, and Design Activities in Elementary School (3) Prereq: 2100, 1 hr. and 2 labs.

2120 Drawing, Painting, and Design Activities in Junior and Senior High School (3) Prereq: 2100 1 hr. and 2 labs.

3110 Crafts in the Elementary School (3) Prereq: 2100, 1 hr. and 2 labs.

3210 Art in Secondary School Program (3) Program planning; materials and equipment; relation to other school experiences. Classroom observation. Prereq: nine quarter hours in art education. 1 hr. and 2 labs.

3511 Field Experiences in Teaching Art (1) Field experiences in which students perform tasks related to teaching and to teacher roles. Satisfactory-No Credit. May be repeated for credit.

3920 Clay in School Program (3) Exploring methods of hand-built forms, glazing and firing procedures. Prereq: 2100. 1 hr. and 2 labs.

3930 Textiles in School Program (3) Exploration of processes of weaving, stitching, batik, and silk screen. Prereq: 2100. 1 hr. and 2 labs.

4120 Designing of Teaching Aids for Art in School Program (3) Design and preparation of charts, exhibitions, slides, films, and other teaching aids for art grades through 12. Prereq: 2101. 1 hr. and 2 labs.

4130 Three-Dimensional Design in School Program (3) Exploration of wood, wire, metal, plastics, and other sculptural materials. Prereq: 2100 or consent of instructor. 1 hr. and 2 labs.

4150 Lettering, Posters, and Displays in the School Program (3) Design and layout; techniques and procedures. Prereq: 2100 or consent of instructor. 1 hr. and 2 labs.

4160 Appreciation of the Arts in School Program (3) Prereq: 2100 or consent of instructor. 1 hr. and 2 labs.

4210 Art in Special Education (3) Techniques and materials for exceptional children. 1 hr. and 2 labs.

4350-60-70 Problems in Art Teaching (3, 3, 3)
Prereq: Consent of Instructor.

4410 The Administration and Organization of Recreational Arts and Crafts Programs (3) Purpose of art activity in recreation; scope of activities, organizational procedures, resources, and co-ordination required in community arts and crafts programs.

GRADUATE

5000 Thesis

5210 Organization, Administration, and Supervision of Art in the School Program (3)

5310 Art of Education (3)

5320 Program Development in Art Education (3)

5850-60-70 Problems in Art Education (3, 3, 3)
Continuing and Higher Education (261)


GRADUATE

5000 Thesis
5060 Adult Education: A General Survey (3)
5110 Seminar in College Teaching (3)
5330 Theory and Research in Human Learning (3)
5360-70 Problems in Continuing and Higher Education (3, 3)
5440 American Higher Education (3)
5450 Instruction in Higher Education (3)
5460 Adult Development (3)
5510 Governance of Colleges and Universities (3)
5550 Fiscal Problems in Higher Education (3)
5660 Program Planning in Continuing and Higher Education (3)
5860 The Community-Junior College (3)
5955-65-75 Practicum in Continuing Education Higher Education (3, 3, 3)
6490 Seminar in Continuing and Higher Education (3, 3, 3)
6450 Community Education for Adults (3)

(See also course listings under the Departments of Curriculum and Instruction, Educational Administration and Supervision, and Educational Psychology and Guidance.)

Curriculum and Instruction (301)


UNDERGRADUATE

Undergraduate programs in the Department of Curriculum and Instruction provide the general professional courses for the preparation of education of teachers in elementary and secondary schools.

1410 Efficient Reading and Study Skills (1) improvement of reading and study skills. Satisfactory-No credit.

2010-20-30 Field Study in Education (3, 3, 3) Problems of teachers in active service in the fields of methods of teaching, curriculum materials, school-community relationships, and school organizations.

3010 History and Philosophy of Education (3) Role of philosophy in education; realism, Neo-Thomism, pragmatism, and other contemporary movements; major trends, history and modern applications. Prereq: admission to Teacher Education. Undergraduate credit only.

3200 Principles and Organization of Education (3) Relevance of current educational concepts; educational institutions; organizational patterns; financing of public education; professionalization of teaching. Undergraduate credit only.

3300 Social Foundations and Curriculum (3) Culture and society and their influences on curriculum; principles, problems, and procedures of subject matter selection, sequence, grade placement, and time allotment; curriculum issues; State curriculum policies and practices. Prereq: admission to Teacher Education. Undergraduate credit only.

3100 Curriculum I (6) Prereq: Ed. Psych. 1000, Psychology 2110, Ed. Psych. 2510, or consent of instructor. Satisfactory-no credit.

3110 Curriculum II (3) Prereq: Ed. Psych. 1000, Psychology 2110, Ed. Psych. 2510, Ed. C&I 3100 or consent of instructor.

3510 Analysis of Teaching (3) Use of interaction analysis to describe and classify verbal interactions between teacher and student; related nonverbal behavior techniques. Prereq: consent of instructor.

3810 Microteaching (3) Emphasis upon the development of instructional skills. Students teach a series of lessons to small groups of students in elementary or secondary schools. Lessons are videotaped, and the students and instructor evaluate the teaching behaviors recorded on the tape. Prereq: consent of instructor.

3260 Teaching Language Arts in the Elementary School (3) Methods and materials in teaching writing, spelling, and language. Undergraduate credit only. Should be taken prior to or concurrently with C&I 3280. Prereq: Educational Psychology 2430 or equivalent, admission to Teacher Education.

3270 Teaching Social Studies in the Elementary School (3) Methods and materials. Undergraduate credit only. Prereq: Educational Psychology 2430 or equivalent, admission to Teacher Education.

3280 Teaching Developmental Reading in the Elementary School (3) Sequences designed to enable preservice teachers to develop skills and understandings necessary for operation of successful developmental reading program in the elementary school. Prereq: Ed. Psych. 2430 or equivalent and admission to Teacher Education.

3281 Teaching Developmental Reading in the Elementary School (3) Second course in sequence designed to teach content and skills of teaching reading in the elementary school. Prereq: 3280.
3310 History of Education (3)
3320 History of Education in the United States (3)
3350 Teaching Arithmetic in the Elementary School (3) Goals, methods, materials, and evaluation. Undergraduate credit only. Prereq: Educational Psychology 310; Mathematics 2110-20, 2120-30, admission to Teacher Education.
3510 Books and Related Materials for Children (3) (Same as Library and Information Science 3510)
3511-12-13 Field Experiences in Teaching: Elementary (1, 1, 1) Field experiences in which students perform tasks related to teaching and to teacher roles. May be taken separately or concurrently by consent of instructor. Must be taken before student teaching. Prereq: Education C & I 2430 or equivalent; 3512-13—admission to Teacher Education. Satisfactory-No Credit.
3520 Books and Related Materials for Young People (3) (Same as Library and Information Science 3520)
3521-22-23 Field Experiences in Teaching: Secondary (1, 1, 1) Field experiences in which students perform tasks related to teaching and to teacher roles. May be taken separately or concurrently. By consent of instructor. Satisfactory-No Credit.
3531-32-33 Field Experiences in Teaching: Social Foundations of Schooling (1, 1, 1) For description, see 3521-22-23. Satisfactory-No Credit.
3561 Teaching of Speech and Drama, Grades 7-12 (3) For description, see 3563.
3562 Teaching of Modern Foreign Languages: Oral Communication Skills, Grades 7-12 (3) For description, see Educ. C & I 3563. This course and Educ. C & I 3562 are required for certification in foreign languages. Must be taken concurrently with 3563.
3563 Teaching of Modern Foreign Languages: Reading, Literature, Grammar and Composition, Grades 7-12 (3) For description, see Educ. C & I 3563. This course and Educ. C & I 3562 are required for certification in foreign languages. Must be taken concurrently with 3562.
3565 The Teaching of Social Studies, Grades 7-12 (3) Purposes, techniques, materials, and evaluation; directed observation in public schools; preparation of teaching plans and materials. Undergraduate credit only. Prereq: Educational Psychology 310 or equivalent.
3564 The Teaching of Science, Grades 7-12 (3) For description, see 3563.
3566 The Teaching of Latin, Grades 7-12 (3) For description, see 3563. (Same as Classics 4210.)
3567 Teaching Language, Composition and Speaking, Grades 7-12 (3) For description, see 3563. Both this course and Educ. C & I 3568 are required for certification in English.
3568 Teaching Reading, Literature, and Listening, Grades 7-12 (3) For description, see 3563. Both this course and Educ. C & I 3568 are required for certification in English.
3720 Teaching Science in the Elementary School (3) Methods and materials, undergraduate credit only. Prereq: Educ. Psych 2430 or equivalent, admission to Teacher Education.
3751 Teaching of Mathematics: Numerical and Algebraic Concepts, Grades 7-12 (3) For description, see Educ. C & I 3563. Both this course and 3752 are required for certification in Mathematics.
3752 Teaching of Mathematics: Geometry and Analysis, Grades 7-12 (3) For description, see Educ. C & I 3563. Both this course and 3752 are required for certification in Mathematics.
4000 Mathematics Laboratories in the Elementary School (3) Introduction for elementary school teachers or prospective teachers dealing with activity-oriented mathematics laboratory materials and pedagogical strategies for increasing enthusiasm, interest, and achievement in mathematics. The essence of laboratory concept of learning mathematics is fostering of inquiry, problem solving, and self-motivation to seek answers to posed questions.
4010 International Education: Europe and the Americas (3) Historical, philosophical and sociological foundations; special reference to England, USSR, France and Germany.
4110 Philosophies of Education in Cultural Perspective (3) Education in relation to liberal, conservative, radical and current trends in thought in American culture.
4150 School Library Administration (3) (Same as Library and Information Science 4150.)
4200 Creative Thinking and Expression in the Elementary School (3) Designed to give students opportunity to examine development of creative potential across academic curriculum of the elementary school. The student will hopefully develop techniques and strategies as well as an understanding of creativity in relation to child development and self-actualization.
4210 Curriculum in Elementary School Social Studies (3) Survey of current curricular approaches and trends in elementary school social studies. Prereq: teaching experience or student teaching.
4215 Teaching Elementary School Science (3) Methods and materials used in teaching of science in elementary school. Developmental and diagnostic/corrective programs. Not open to students with recent course or background in teaching of elementary school science.
4216 Teaching Elementary School Mathematics (3) Methods and materials used in teaching of mathematics in elementary school. Developmental and diagnostic/corrective programs. Not open to students with recent course or background in teaching of elementary school mathematics.
4217 Teaching Elementary School Language Arts (3) Methods and materials used in teaching of language arts. Development of functional relationships with other curriculum areas, diagnostic procedures, and corrective work. Not open to students with recent course or background in teaching of elementary school language arts.
4250 Initiating the Activities Program (3) Prereq: Educational Psychology 2430, six quarter hours of methods of teaching in the elementary school, and junior or senior standing.
4260 Philosophy of Education: Introductory Studies (3) Truth, knowledge, and evaluation in relation to work of the child. Prereq: Educational Psychology 2430 or 3810, or equivalent.
4261 Educational Classics (3) Discussion of selected writings on education from Plato to Dewey.
4280 Diagnosis and Correction of Classroom Reading Problems (3) Prereq: 3280 or equivalent.
4300 Developmental Reading in the Secondary School (3)
4301 Teaching Developmental Reading (3) Methods and materials used in teaching of reading in the elementary school. Course includes development of functional relationships with other curriculum areas, diagnostic procedures and remedial work. Not open to students with recent course or background in the teaching of reading.
4302 Teaching Reading to Linguistically Different Learner (3) Language characteristics and special reading problems attendant with linguistically different learner. Prereq: undergraduate reading course or 5300.
4340 The Junior High School and Middle School (3) To identify and analyze distinguishing characteristics of the Junior High and Middle School Curriculums.
4350-60-70 Problems in Teaching English (3, 3, 3)
4351-61-71 Problems in Teaching Mathematics (3, 3, 3)
4352-62-72 Problems in Teaching Social Studies (3, 3, 3)
4850 Advanced Teaching in the Elementary School (6) For students with some credit in student teaching. Prereq: 18 hours in education and senior standing. Undergraduate credit only. Satisfactory-No Credit.

4860 Programmed Learning (3) Theories of learning as related to technology of programmed instruction; techniques and applications of programming. 2 lectures and 1 lab. Prereq: Psychology 3210, Educational Psychology 3730, or permission of instructor. (Same as Psychology 4860.)

GRADUATE

Graduate instruction in the Department of Curriculum and Instruction provides opportunities to improve the effectiveness of educational service in a number of areas.

5000 Thesis

5040 Seminar in Elementary School Language Arts (3)
5100 History of European Education (3)
5110 History of Education (3)
5120 Principles of Education (3)
5140 Comparative Philosophies of Education (3)
5141 Pragmatism in Education (3)
5142 Existentialism in Education (3)
5143 Supervised Readings in Philosophy of Education (3)
5150-60-70 Seminar (1, 1, 1)
5180-90-5200 Educational Specialist Research and Thesis (3, 3, 3)
5210 Seminar in International Education: Asia and Africa (3)
5211 Instructional Strategies in Elementary School Social Studies (3)
5220 Seminar in Comparative Education: The Americas (3)
5250 Secondary School Instruction (3)
5270 The Elementary School Curriculum (3)
5280 Teaching Language Arts in the Elementary School (3)
5281 Teaching Social Studies in the Elementary School (3)
5282 Teaching Science in the Elementary School (3)
5283 Programs and Materials in Teaching Elementary Science (3)
5284 Seminar in Teaching Elementary Science (3)
5290 The Teaching of Mathematics in the Elementary School (3)
5291 Programs and Materials in Elementary School Language Arts (3)
5292 Seminar in Research and Theory in Teaching Mathematics in the Elementary School (3)
5302 Psychology of Reading (3)
5304 Programs and Materials for Reading Instruction (3)
5305 Trends and Issues in Reading Teaching (3)
5350 Curriculum Development and Evaluation (3)
5360-70 Curriculum Development in the Local School (3, 3)
5380 Diagnosis of Remedial Reading Problems (3)
5381 Remediation of Remedial Reading Problems (3)
5382 Developmental Reading Practicum (3)
5383 Remedial Reading Practicum (3)
5390 Organization and Administration of Reading Programs (3)
5410 The High School Curriculum (3)
5530 Curriculum Laboratory for High Schools (3)
5580 Curriculum Planning and Development (3)
5610 Educational Statistics (3)
5620 Problems in Direction and Supervision of Student Teaching (3)
5630 Practicum in the Individualization of Instruction (3)
5640 Newer Trends in Elementary Education (3)
5650-60 Curriculum Laboratory for Elementary Schools (3, 3)
5670 Curriculum Laboratory for Early Childhood Education (3)
5681 Production and Use of Audio-Visual Materials (3)
5710 Techniques of Research in Education (3)
5720 Classroom Observation and Analysis (3)
5800 Seminar in Cooperative Curriculum Research (3)
5820 Seminar in the Teaching of Mathematics (3)
5825 Teaching Mathematics in the Middle and Junior High School (3)
5830 Seminar in Mathematics Education (3)
5835 Teaching Mathematics in the Senior High School and Community/Junior College (3)
5841 Trends and Issues in Early Childhood (3)
5842 Problems in Education: Early Childhood (3)
5843 Seminar in Early Childhood Education (3)
5844 Mathematics in Early Childhood Education (3)
5845 Social Studies and Science in Early Childhood Education (3)
5846 Language Arts in Early Childhood Education (3)
5850-60-70 Problems in Education: English (3, 3, 3)
5851-61-71 Problems in Education: Mathematics (3, 3, 3)
5852-62-72 Problems in Education: Social Studies (3, 3, 3)
5853-63-73 Problems in Education: Science (3, 3, 3)
5854-64-74 Problems in Education: Language Arts (3, 3, 3)
5855-65-75 Problems in Education: General Curriculum (3, 3, 3)
5856 Problems in Education: Instructional Materials (3)
5866-76 Problems in Education: Instructional Materials (3, 3)
5877-67-77 Problems in Education: Foreign Languages (3, 3, 3)
5856-69-79 Problems in Education: Conservation (3, 3, 3)
5900 Seminar in the Teaching of English in the Secondary School (3)
5901 Linguistics and the Teacher of English (3)
5902 Teaching Composition in the High School (3)
5903 Teaching Fiction in the Secondary School (3)

5904 Teaching the Mass Media in the English Classroom (3)
5905 Teaching English in the Community/Junior College (3)
5906 Teaching Poetry in Grades 7-12 (3)
5907 Teaching Drama in Grades 7-12 (3)
5908 Developing Speaking and Listening Skills in Grades 7-12 (3)
5909 Instructional Theory and Design (3)
5910-20-30 Problems in Lieu of Thesis (3, 3, 3)
5950 Reflective Thinking: The Method of Education (3)
5960 Teaching Natural Science (3)
5961 Seminar in Science and Environmental Education (3)
5970 Teaching the Social Studies (3)
5980 Projects, Programs, and Materials in Social Studies (3)
6000 Doctoral Research and Dissertation
6010 Studies in English Education (3)
6015 Seminar in Teaching the Social Studies (3)
6030 Research and Theory in Teaching Reading (3)
6031 Seminar in Reading and Language Arts (3)
6040 Seminar in Curriculum and Instruction (1, 1, 1)
6060 Philosophy of Methodology in the Elementary School (3)
6070 Advanced Seminar in International Education (3)
6080 Advanced Seminar in Philosophy of Education (3)
6081 Phenomenology and Education (3)
6082 Philosophical Analysis and Education (3)
6150 Education as Social Policy (3)
6210 Seminar in Elementary School Social Studies Research (3)
6230 Programs for Curriculum Improvement (3)
6250 Seminar in History of Education (3)
6282 Advanced Studies in Elementary School Science (3)
6350 The Professional Education of Teachers (3)
6400 The Dynamics of Educational Change (3)
6500 Advanced Studies in Early Childhood Education (3)
6510 Advanced Studies in Elementary School Language Arts (3)
6710 Advanced Educational Statistics (3)
6720 Interpretation of Data (3)
6730 Theory and Evaluation in Curriculum Planning (3)
6731 Studies in Curriculum Theory and the Structure of Knowledge (3)
6740 Curriculum Workshops in Instructional Improvement (3)
6750-60-70 Problems in Curriculum and Instruction (3, 3, 3)
6830 Studies in Mathematics Education (3)
6850 Principles of Educational Leadership (3)
2430 Child Study (3) Child growth and development; study of individual children. Prereq: Psychology 2110. 3 hrs and 1 period.

2510 Child and Adolescent Study (4) Encompasses study of principles of behavior, intervention techniques, principles of child and adolescent development, special categories of children, child in relation to family, and community, and methods of studying children. Prereq: Educational Psychology 1000 and Psychology 2110 or permission of instructor.

2520 Study of Self and Self-Concept (4) Study of (1) student understanding of how the self develops; that prospective teacher can better understand pupils and (2) student's increased understanding of himself. Prereq: Educational Psychology 1000, Psychology 2110, and Educational Psychology 2510 or permission of instructor.

3000 Field Experience (1) Field experiences in working with children and youth and their teachers. Students will perform various teaching tasks and be given opportunity to act in teaching roles. May be repeated for a total of six credit hours.

3110 Classroom Behavior Management (4) Student will develop understanding of behavior management procedures and skill in utilizing behavior management procedures in shaping pupil classroom behaviors. Prereq: Psychology 2110. 3550 Child Psychology (4) (Same as Psychology 3550).

3730 Educational Psychology (3) Increasing effectiveness of learning. Prereq: Psychology 2110-20 or equivalent.

3810 Educational Psychology: Adolescence (3) Prereq: Psychology 2110.

4110 Psychology of Sex Role Development (3) Examination, from both a theoretical and research base, of factors which contribute to sex role development with attention to changes in sex role definition in society and role of education in these changes. Aimed at the undergraduate or graduate student with minimal background in behavioral sciences.

4130 Mental Health (3)

4350-60-70 Problems in Educational Psychology and Guidance (3, 3, 3)

4440 General Evaluation Procedures for Public Schools (3) Prereq: 2430 or equivalent.

4551-52-53-54-55-56 Student Leadership Workshop (1, 1, 1, 1, 1, 1) Series of small group and individualized experiences to develop knowledge and skills required of students in leadership roles. Section designed for resident assistants, student government leaders, student activities, and other student organizations. Prereq: Permission of instructor. Satisfactory-No Credit.

4640 Standardized Testing (3) Use and interpretation of standardized group instruments in assessment of intelligence, aptitude, achievement, vocational interests and personality adjustment.

4650 The Construction of Classroom Tests (3) Concerned with teacher-made classroom tests: instructional objectives, principles of test construction, item analysis, evaluating a test's reliability and validity, interpretation of test scores, relationship between testing and grading.

4700 Assesment Training - Theory and Application (3) Exploration of theoretical and experimental bases of interpersonal behavior which enables a person to be self-assessive.

4760 Advanced Child Study (3) Prereq: 2430 or 3810 or permission of instructor.

4800 Psychology of the Disadvantaged Child (3) Significant behavioral differences and causes; appropriate intervention approaches.

4890 Differential Psychology (3) (Same as Psychology 4890).

4910 Diagnostic and Corrective Teaching (3)

GRADUATE

5000 Thesis

5040 Guidance and Pupil Personnel Services in Education (3)

5050 Children and Adolescents (3)

5060 Group Approaches with Students (3)

5070 Seminar in Elementary School Guidance (3)

5099 Field Work in School Psychology (2)

5100 Developmental Psychology (3)

5110 Psychology of Women (3)

5111-12-13 Seminar in Current Issues in School Psychology (1, 1, 1)

5140-50-60 Psychoeducational Assessment (3, 3, 3)

5149-59-69 Practicum in School Psychology I (2, 2, 2)

5180-90-5200 Educational Specialist Research and Thesis (3, 3, 3)

5210 Interpretation and Evaluation of Research Reports in Educational Psychology (3)

5220 Interpretation and Evaluation of Research Reports in Educational Psychology (3)

5319 Field Work in School Psychology: Level I (2)

5320 Advanced Classroom Behavior Modification (3)

5330 Theory and Research in Human Learning (3)

5331 Current Developments in Human Learning (3)

5340 Group Dynamics (3)

5350 Educational Applications of Cognitive Theories (3)

5550 Student Personnel in Higher Education (3)

5560 The College Student (3)

5570 Case Studies in College Student Personnel (3)

5720 Evaluation in Education (3)

5750 Verbal Behavior and Classroom Learning (3)

5780 Career Development: Theory and Research (3)

5840 Student Appraisal (3)

5850-60-70 Problems in Educational Psychology and Guidance (1-6, 1-6, 1-6)

5880 Occupational and Educational Information (3)

5890 Counseling Techniques and Theories (3)

5897 Pre-Practicum (3)

5910-20-30 Problems in Lieu of Thesis (3, 3, 3)

5940 Practicum (3)

5945 Group Counseling Practicum (3)

5950-60-70 Consultation in Human Development Settings (3, 3, 3)

5959-69-79 Practicum in School Psychology II (2, 2, 2)

5980 Organization and Administration of Counselor Programs (3)

5990 Practicum in College Student Personnel (3)

6000 Doctoral Research and Dissertation

6040 Seminar in Educational Psychology and Guidance (No credit)

6110 Application of Research Design in Educational Psychology and Guidance (3)

6120 Application of Experimental Research Design in Educational Psychology and Guidance (3)

6319 Field Work in School Psychology: Level II (2)

6610-20-30 Seminar in Advanced Educational Psychology (3, 3, 3)

6650-60-70 Systems Approaches in Psychological Services (3, 3, 3)

6659-69-79 Practicum in School Psychology III (2, 2, 2)

6750-60-70 Problems in Psychology and Guidance (3, 3, 3)

6810 Seminar in Counseling (3)

6941-42-43 Practicum in Guidance, Counseling and Personnel Services (3, 3, 3)

6944-45-46 Teaching Practicum in Educational Psychology and Guidance (3, 3, 3)

6950 Counseling Supervision (3)

School of Health, Physical Education, and Recreation

Madge M. Phillips, Director

At the undergraduate level, professional preparation programs are offered for teachers of health, physical education, dance, and/or recreation and for administrators of public health or recreation programs. For information on graduate programs leading to the Master of Science, the Master of Public Health, Educational Specialist, the Doctor of Education, or the Doctor of Philosophy degrees, see the Graduate School Catalog. The School of Health, Physical Education, and Recreation also provides activities programs for all students in physical education and service courses in Health and Safety.

Health and Safety Education


Associate Professors: J.D. Gorski, Ph.D. California, C.B. Hamilton, Dr. P.H. Oklahoma.

Assistant Professors: I.A. Ahmad, Ph.D. Oregon; A.J. Pickett, M.S. Columbia; A.F. Thompson, Ph.D. Michigan.

Instructors: J.S. Ellison, M.A. Hawaii; V.W. Presly, M.S. Tennessee.

School Health (898)

UNDERGRADUATE

3000 Foundations of Health Science (3) (Same as Public Health 3000)

3210 First Aid and Emergency Care (4) (Same as Public Health 3210)

3410 School Health Instruction (3) Selection of health content in school curriculum.

3420 School Health Services (3) Development, maintenance, and protection of health of students including examination, screening, special services, communicable disease control, emergency care, and school health records.

3510 The School in Community Health (3) Role of teacher in community health education; school's
Educational Administration and Supervision (292)

Professors:
- D.H. Stollar (Head), Ph.D. Ohio State;
- L.W. Hughes, Ph.D. Ohio State;

Associate Professors:

Assistant Professors:
- G.W. Harris, Jr., Ph.D. Michigan; P.M. Hudson, Ed.D. Stanford.

1U.T. at Nashville.

5000 Thesis
5100 Internship in Educational Administration (3)
5130 Introduction to Educational Administration (3)
5180-90-5200 Educational Specialist Research and Thesis (3, 3, 3)
5220 Philosophy and Theory in Educational Administration (3)
5230 Seminar in the Behavioral Sciences for Educational Administration (3)
5290 The Politics of Education (3)
5310 School Administration in a Multi-Ethnic Society (3)
5420 District Level Administration (3)
5430 Building Level Administration (3)
5440 Introduction to Law, Finance, and Business Management at the Building Level (3)
5450 Organization of the School Program (3)
5470 Introduction to School Facility Planning (3)
5480 Introduction to Supervision and Personnel Administration (3)
5490 Administration of Community Education (3)
5530 Introduction to Educational Planning (3)
5560 Analysis and Interpretation of Research for Educational Administrators (3)
5580 Seminar in Communication Skills for Educational Administrators (3)
5711-21-31 Problems in Educational Administration and Supervision: School Operation (3, 3, 3)
5712-22-32 Problems in Educational Administration and Supervision: Higher Education (3, 3, 3)
5713-23-33 Problems in Educational Administration and Supervision: State School Administration (3, 3, 3)
5714-24-34 Problems in Educational Administration and Supervision: Preparation Programs (3, 3, 3)
5715-25-35 Problems in Educational Administration and Supervision: Community Education (3, 3, 3)
5720 Seminar in Urban School Administration (3)
5730 School Business Management (3)
5740 School Law (3)
5751-61-71 Problems in Educational Administration and Supervision: Theory (3, 3, 3)

5752-62-72 Problems in Educational Administration and Supervision: Finance (3, 3, 3)
5753-63-73 Problems in Educational Administration and Supervision: Transportation (3, 3, 3)
5754-64-74 Problems in Educational Administration and Supervision: Business management (3, 3, 3)
5755-65-75 Problems in Educational Administration and Supervision: Personnel (3, 3, 3)
5756-66-76 Problems in Educational Administration and Supervision: School Plant (3, 3, 3)
5757-67-77 Problems in Educational Administration and Supervision: Organization and Structure (3, 3, 3)
5758-68-78 Problems in Educational Administration and Supervision: School Law (3, 3, 3)
5759-69-79 Problems in Educational Administration and Supervision: Supervision (3, 3, 3)
5770 Maintenance of School Plants (3)
5780 Supervision (3)
5790 School Board-Supervisor Relationships (3)
5810 Survey Research Methods (3)
5830 Contemporary Economics and Educational Finance (3)
5890 Decision Making and Decision Theory in Educational Organizations (3)
5910-20-30 Problems in Lieu of Thesis (3, 3, 3)
5980 Administration in Higher Education (3)
5981 Specialized Seminar in Educational Administration and Supervision: School Operation (3)
5982 Specialized Seminar in Educational Administration and Supervision: Higher Education (3)
5983 Specialized Seminar in Educational Administration and Supervision: State School Administration (3)
5984 Specialized Seminar in Educational Administration and Supervision: Preparation Programs (3)
5991 Specialized Seminar in Educational Administration and Supervision: Theory (3)
5992 Specialized Seminar in Educational Administration and Supervision: Finance (3)

5994 Specialized Seminar in Education Administration and Supervision: Business Management (3)
5995 Specialized Seminar in Education Administration and Supervision: Personnel (3)
5998 Specialized Seminar in Education Administration and Supervision: School Law (3)
6000 Doctoral Research and Dissertation
6040 Seminar in Educational Administration and Supervision (1, 1, 1)
6100 Internship in Educational Administration (3)
6210 Modern Trends in the Theory and Practice of Educational Administrators and Supervisors (3)
6220 Programs for the Professional Preparation of Educational Administration and Supervision (3)
6480 School Personnel Administration (3)
6480 Special Topics in School Personnel Administration (3)
6530 Futuristic Educational Planning Methods (3)
6550 State-Federal Relations in Education (3)
6560 Legal Foundations of Public Education (3)
6580 Seminar in Managing Conflict (3)
6750-60-70 Independent Studies in Educational Administration and Supervision (3, 3, 3)
6800 Administration of Complex Educational Organizations (3)
6870 Advanced Study in School Facility Planning (3)
6990 Specialized Doctoral Seminar in Politics of Education (3)
6996 Specialized Seminar: School Plant (3)
6997 Specialized Seminar in Organization and Structure (3)
6999 Specialized Seminar: Supervision (3)

Educational Psychology and Guidance (311)

Professors:

Associate Professors:

Assistant Professors:

1Memphis Center.

UNDERGRADUATE
1000 The Educational Environment and Career Chores (3) Exploration of occupations based upon analysis of self and occupational requirements; development of commitment to teaching and understanding of teaching-learning problems in the classroom. Prereq: consent of instructor. Satisfactory-No Credit.
2000 Field Experience (1) Field experiences in working with children and youth and their teachers. Students will perform various teaching tasks and be given opportunity to act in teaching roles. May be repeated for a total of six credit hours.
responsibility in promoting healthful living and the place of existing media and agencies in program. Not open to health and physical education majors.

3610 Methods in Elementary Health Instruction (3) Preparation and presentation of health topics. Teaching method is emphasized and student participation stressed. Required for elementary teachers. Prereq: 3510 or Public Health 1110 or Nutrition 1230.

3620 The Teaching of Sex Education (3) Trends, content, methods, and materials.

3650 Methods in Secondary Health Instruction (3) Preparation and presentation of health topics. Teaching method is emphasized and student participation is stressed. Prereq: 3410.

4710 Workshop in School Health Education (3-6) For advanced students, teachers, school administrators, nurses and other para-medical school personnel. Lectures, demonstrations, films, field trips, and supervised research in special health problems. May be repeated for credit.

4810-20-30 Problems in School Health Education (1, 1, 1) Individual identification and study of current problems in school health education. Extensive reading of literature required.

GRADUATE

5000 Thesis

5010 Problems and Practices in School Health (3)

5110 Curriculum Construction in School Health Instruction (3)

5520 Evaluation in School Health Instruction (3)

5530 School Health Program Surveys (3)

5620 School Health Administration and Supervision (3)

5630-40 Workshop in School Health Education (3, 3)

5720-30-40 Graduate Workshop in Health Education (3-6, 3-6, 3-6)

5810-20-30 Problems in School Health Education (1-3, 1-3, 1-3)

6000 Doctoral Research and Dissertation

6030 Critical Analysis of Writing and Research in Health Education (3)

6050-60 Seminar in Health Education (3, 3)

Public Health (839)

UNDERGRADUATE

1110 Principles in Personal Health (3) To develop ability to approach health scientifically and to develop justified confidence in judgments affecting personal health.

2040 Seminar in Human Sexuality (2) Problems and responsibilities of being male and female. Satisfactory-No Credit.

2050 Seminar in Drug Use and Abuse (2) Intensive look at problems related to use and abuse of drugs. Satisfactory-No Credit.

3000 Foundations of Health Science (3) In-depth study of content areas relating to personal health and contemporary health problems, i.e., mood modifying products, consumer health, international health, personal health practices, reciprocal relationships involving man, disease and environment. (Same as School Health 3000.)

3210 First Aid and Emergency Care (4) Theory and practice of first aid and emergency care. Instruction in self-help. Course leads to Red Cross Certification in Advanced First Aid and Emergency Care. (Applicant must be at least 18 years of age for certification.) (Same as School Health 3210.)

3310 Communicable and Non-communicable Diseases (3) Modern concepts of diseases; etiology of common communicable and chronic disease problems including prevention and control. Prereq:

One year of biological science and one course in bacteriology.

3320 Sanitation (3) History of sanitary awakening; disease-producing relationships and controls of water, sewage, refuse, milk, meat and other foods, air, insects, pests, and sanitation of homes, schools, public pools, industrial plants, markets, restaurants, camps, and public bathing places. Healthful school living as affected by buildings and grounds, lighting, acoustics, thermal control, and safety provisions. Prereq: One year biological science, one course in microbiology. 2 hrs and 1 lab.

3330 Introduction to Public Health (3) Philosophy, organization, and functions of federal, state, and local, official and voluntary public health agencies. Includes periodic field trips.

4120 Community Health Problems—Alcoholism (3) Explores problems of alcoholism regarding overall health of community. Emphasis placed on factors making alcoholism a serious public health problem. Various types of educational programs to control the disease covered.

4130 Community Health Problems—Suicide (3) Explores problems of suicide regarding overall health of community.

4140 Community Health Problems—Death Education (3) Exploration of ramifications of death and dying as related to personal and community health.

4210 Urban and Industrial Health (3) Health problems created by a burgeoning population and the megalopolis; industrial health problems of concern to management, supervisor, and industrial worker, control of occupational diseases, poisons, accidents, and other conditions incidental to industry.

4220 Communications for Better Health (3) Selective study of communications in Health enterprise. Consideration in logical progression the problems of transmitting current and new information to practitioners, communications among members of modern health teams, among health agencies, and use of mass media for transmitting health information.

4410 Consumer Health and Safety Education (3) Survey of major consumer health and safety problems; selecting, purchasing, and financing of safety and medical services.

4411 Instructor's Advanced First Aid and Emergency Care (3) Designed to teach First Aid. Satisfactory completion qualifies one for American National Red Cross Certification as an Advanced First Aid and Emergency Care Instructor. (A requirement for this certification is that an applicant must be at least 21 years of age.) Prereq: 3210 or valid Advanced First Aid and Emergency Care Certificate.

4420 Drug Abuse Education (3) Drug abuse problem and suspected causes; pharmacology of drugs and effects on society and methods of drug abuse education.

4700-10-20 Field Practice in Public Health (3, 3, 3) Field practice in public health under supervision of public health profession. Satisfactory-No Credit.

4730 Workshop in Public Health Education (3-6) For teachers, nurses, case workers, sanitarians, and other voluntary and public health agency personnel; emphasizes the problem solving approach through small group interaction, case method, and critical incident technique. May be repeated for credit.

4840-50-60 Problems in Public Health Education (1, 1, 1) Individual identification and study of current problems in public health education. Extensive reading of literature required.

GRADUATE

5010-20-30 Workshop in Public Health (3-6, 3-6, 3-6)

5070-80-90 Field Practice and Seminar in Public Health Education (5, 5, 5)

5110 Environmental Health (5)

5120-30 Occupational Health and Safety (5, 5)

5140 Ergonomics and Work in Occupational Health and Safety (3)

5210 Ecosystem of Public Health Education (5)

5220 Health and Sickness in the Focus of Public Health Education (2)

5410 Epidemiology (3)

5420 Administration of Public Health (3)

5430 Vital and Medical Statistics (4)

5440 Methods and Materials in Public Health Education (4)

5540 Factors in Problem Solving for Community Health (5)

5550 The Public Health Educator in Community Organization and Development (4)

5560 Functions and Roles of the Public Health Educator (3)

5580 Physical Activity and Health (5)

5705 Advanced Professional Health Education: Health Planning I (3-5)

5710 Advanced Professional Health Education: Health Planning II (3-5)

5715 Advanced Professional Health Education: Health Planning III (3-5)

5730 Dental Health Education (3-5)

5735 Emergency Medical Services (3-5)

5745 Family Health Unit (3-5)

5750 Health and Medical Care Legislation and Law (3-5)

5755 Health Facilities Administration (3-5)

5760 Health Services Administration (3-5)

5785 Occupational Health Unit (3-5)

5790 Self-Care Unit (3-5)

5795 The Training of Paramedical Personnel (3-5)

5840-50-60 Problems in Public Health Education (1-3, 1-3, 1-3)

6000 Doctoral Research and Dissertation

6030 Critical Analysis of Writing and Research in Health Education (3)

6050-60 Seminar in Health Education (3, 3)

6210 Health Aspects of Gerontology (3)

6220 Seminar on the Nation's Health (3)

6230 International Health (3)

Safety (880)

UNDERGRADUATE

3520 Principles of General Safety (3) Deals with principles, practices and procedures in general safety. Covers safety problems in school traffic, recreation, industry, home, and other public areas.


4410 Driver and Traffic Safety Education (5) Preparation of teachers of driver education in schools and colleges. Students are required to teach at least one non-driver. Valid driver's license required, 3 hrs and 2 labs.

4420 Advanced Driver and Traffic Safety Education (5) Development of competency in teaching of driver education through use of simulation, multimedia and multiple-car driving range. Emphasis placed on teaching skills and supervision. Prereq: 4410.

4430 Sports Safety (5) Accident prevention and injury control in sports activities; philosophy of sports