Black Studies (195)

The concentration in Black studies and the minor in Black studies offer in-class, independent, and off-campus study to foster knowledge of the Black experience through a traditional academic approach as well as experiential learning. Black Studies 2010-20 are prerequisites to the concentration which consists of 36 hours from the Black Studies curriculum. A minimum of 24 hours must be in upper-division credit. Every student's program must include some individualized work under Black Studies 4102, 4103, and 4310, the nature of which should be negotiated with the program director. A maximum of 8 hours in 4102 and 4103 combined can be applied to a major and a maximum of 4 hours in 4102 and 4103 combined can be applied to a minor. In addition, courses from at least two other departments must be selected.

For further information consult the coordinator of the Black Studies Committee, Mr. Marvin Peek.

1510-20 Elementary Swahili (4, 4) Taped language program. Must be taken in sequence.
2010-20 Introduction to Black Studies (4, 4)
3140-50-60 Directed Readings in Black Studies (1, 1, 1) Designed for students who are interested in doing intensive reading in some area of Black studies which is defined by the student and the instructor. Prereq: 2010 (or 2020) and consent of instructor.
3330 Prejudice and Racism in the United States (4) (Same as Sociology 3330.)
3340 Sociology of Poverty and Inequality (4) (Same as Sociology 3340.)
3490 African Religions (4) (Same as Religious Studies and Anthropology 3490.)
3550 Religion and Racism in America (4) (Same as Religious Studies 3550.)
3660 Black Religion in America (4) (Same as Religious Studies 3660.)
3630-40 The Education of Black People (4, 4) Sequence will trace, analyze and interpret educational systems established for and by Blacks. Special emphasis will be given to colonial experience and the Washington-DoBois controversy in 3630; 3640 will deal with present urban educational problems of Blacks. Recent proposed remedies and solutions as integration, compensatory programs, decentralization, voucher systems; Black Studies and Freedom Schools will be discussed. Sociology 2010-20, History 1950-60 recommended. Prereq: Consent of instructor.
4101 Foreign Study (1-16) See page 187.
4102 Off-Campus Study (1-16) See page 187.
4103 Independent Study (1-16) See page 187.
4200 Senior Seminar on Pan-Africanism (4) Explores concepts and philosophers of Pan-Africanism and implications of this ideology for various societal institutions.
4300 Resource Materials in Black Studies (4) Introduction to basic references such as bibliographies, indices, and listings of audiovisuals in Afro-American history, African history, and children's literature. Prereq: 2010 or 2020 or consent of instructor.
4310 Research in Black Studies (4) Deals with Black experience and research process.
4500 Current Issues and Topics in Black Studies (3) (Same as Child and Family Studies 4810.)
4880 Afro-American Psychology (3) (Same as Psychology 4880.)

Approved Area Courses
Anthropology 3530 Peoples and Cultures of Africa (3)
Anthropology 3930 Biology of the Races of Man (3)
Art 2725 Black Art (4)
CFS 4310 The Afro-American Family (3)
English 2540 The Literature of Black America (4)
English 4610-20-30 Black Literature (3, 3, 3)
Geography 3830 Geography of Africa (3)
History 1950-60 Afro-American History: An Introduction (4, 4)
History 2950 Introduction to Afro-American History (3)
History 4950-60 The Negro in American History (3, 3)
Music 3350 Introduction to Afro-American Music (4)
Music 4270 Evolution of Jazz (3)
Political Science 3615-16 Black Africa: The Politics of Change and Stability (4, 4)
Political Science 3555 Minority Group Politics in the U.S. (4)
Psychology 4880 Afro-American Psychology (4)
Religious Studies 3550 Religion and Racism in America (4)
Religious Studies 3560 Black Religion in America (4)
Sociology 3330 Race, Class, and Power (4)
Sociology 3340 Sociology of Poverty and Inequality (4)
Sociology 4820 American Minority Ethnic Groups (4)
Speech 4582 Black Rhetoric (4)

Recommendations for the concentration and the minor:
(a) Those with a concentration in Black studies are encouraged to take a second major, with which an individually designed program in Black studies can be correlated.
(b) Students should seek academic advising from the Chairman of Black Studies for courses for the concentration or the minor which relate to career plans, preparation for graduate study, and relationship to the second major.
(c) Those with a concentration and a minor are strongly encouraged to combine classroom and experiential learning through a careful selection of courses, e.g., Human Services 4400 and/or Black Studies 4102.

Comparative Literature (260)
A concentration in comparative literature consists of 36 hours including Comparative Literature 4010, 4012-22-32, 9 hours of literature in a foreign language in courses numbered 3000 and above, and one classics course selected from Classics 4010, 4230, 4510. The remaining twelve hours should include literature courses, either in English or in a foreign language, numbered 3000 and above, from at least two of the following departments: English, Germanic and Slavic Languages, Religious Studies, Romance Languages (certain courses in Philosophy and Speech and Theatre may be substituted with the approval of the chairperson of the Comparative Literature Program). Students concentrating in comparative literature are strongly encouraged to acquire a working knowledge of a second foreign language, especially if they hope to pursue comparative literature on the graduate level.

A minor in comparative literature consists of 24 hours including Comparative Literature 4010, two courses from Comparative Literature 4012-22-32, 6 hours of literature in a foreign language in courses numbered 3000 and above, and 9 hours of literature courses numbered 3000 and above, either in English or in a foreign language, from at least two of the following departments: Classics (4010, 4230, 4510), English, Germanic and Slavic Languages, Religious Studies, and Romance Languages (certain courses in Philosophy and Speech and Theatre may be substituted with the approval of the Comparative Literature Program). Minors in comparative literature are strongly encouraged to continue their study of a foreign language beyond the minimum requirement.

For further information, consult the chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge.

2010 Introduction to Comparative Literature (4) Basic knowledge, techniques, and sources necessary to compare literatures of various cultures, ages, and nations.
3236 Special Themes in Literature (3, 3) (Same as English 3236-37)
4010 Methodology of Comparative Literature (3) Research and writing of comparative literature studies. Major project will be preparation of seminar paper in comparative literature. Prereq: 2010 and one course from 4012-22-32 or consent of instructor.
4012-22-32 Special Topics in Comparative Literature (3, 3, 3) Content varies; may be repeated for credit.
5012 Comparative Theories of Literature (3)
5022 Approaches in Comparative Literature (3)
5032 Studies in Comparative Literature (3)

Approved Area Courses
Classics 3210-20-30 Greek and Roman Mythology (3, 3, 3)
Classics 4010 Greek Drama in English Translation (3)
Classics 4510 Selected Reading in Latin Literature in Translation (3)
English 3411-12-20-30 Modern Drama (3, 3, 3, 3)
English 3710 Literature of the English Bible (3)
English 3910-20-30-40 Comparative Literature (3, 3, 3, 3)
English 4720 Folklore (3)
Two years of Spanish or Portuguese or a practical working knowledge acquired independently are a prerequisite. Minor: Consists of 24 quarter hours selected from Geography 3800 or 3790, History 3870-80-90, Political Science 3625-26, and Spanish 3710-20 or Portuguese 3510-20, and the Latin American studies sequence 2510-20 or Independent Research 4010.

For further information, consult the chairman of the Latin American Studies Committee, Dr. H.E. Lovell.

2510-20 Introduction to Latin American Studies (4, 4) Introduction to societies of Latin America with special emphasis on dominant culture patterns, social changes, and impact of nationalism. 2510—Pre-Colonial and Colonial periods through Independence era; 2420—Latter 19th century and the Modern period.

4010 Independent Research in Latin American Studies (3-9) Directed research in any topic fully developed in any discipline such as psychology, sociolinguistics, speech pathology and the like. It is designed to prepare a student for graduate work in linguistics or related areas, or to serve as a general survey of language and linguistics. It provides the additional possibility of emphasizing the teaching of English as a second language for the student interested in employment at the B.A. level.

4707 Senior Seminar (3-4) Selected topics in Latin American studies. May be repeated with consent of instructor.

Linguistics (623)

This concentration offers a broad exposure to the various fields of linguistics (including historical, descriptive and theoretical linguistics) along with an opportunity to study areas where linguistics overlaps with other disciplines such as psychology, sociolinguistics, speech pathology and the like. It is designed to prepare a student for graduate work in linguistics or related areas, or to serve as a general survey of language and linguistics. It provides the additional possibility of emphasizing the teaching of English as a second language for the student interested in employment at the B.A. level. The requirements of this concentration are:

Corequisites
(a) A 3000-level sequence or its equivalent of a foreign language. (This can be accomplished by electing Option I of the Language, Literature and Arts section of the Triad requirements. The following languages offer sequences which fulfill Option I: French, German, Greek, Italian, Latin, Russian, Portuguese, Spanish.) By special permission of the Linguistics Committee, certain language-related courses may be substituted for a 3000-level sequence of the foreign language. (b) Two quarters of a non-Indo-European language to be selected from the following: Religious Studies 3141-51 (Hebrew); Arabic 2510-20; Asian Studies 2531-32 (Chinese); Asian Studies 2631-32 (Japanese).

Concentration

The concentration shall consist of 38 hours distributed as follows:
(a) 32 hours composed of: Audiology and Speech Pathology 3050; French, German, Russian, or Spanish 4250-60-70; English 3330, 4430, 4440; Speech 4811; Linguistics 4020-30.
(b) 6 hours of the following, selected in consultation with the Linguistics Committee: Anthropology 3800; Audiology and Speech Pathology 3200, 4650, 5651, 5790, Educational Psychology 3562-63; Special Education and Rehabilitation 5220, 5310-20-30; English 3340, 4450, 4460, 4471, 4481, 5150, 5170-80; German 4310-20, 4810-20-30, 5710-20-30; Linguistics 4000; Russian 4310-20-30; Philosophy 4630; Psychology 4660, 5360-70; French 4210-20-30, 5110-20-30; Spanish 4210-20-30, 5110-20-30.
(c) Other hours may be substituted in (b) at the discretion of the Linguistics Committee.

Minor

A minor in linguistics shall consist of 27 credit hours composed of 9 from section (b) of the major selected in consultation with the Linguistics Committee, and 18 hours as follows: Audiology and Speech Pathology 3050; Linguistics 4020-30; English 4430, French, German, Russian, or Spanish 4250-60.

NOTE: In addition to the above listed courses for the concentration and the minor there are occasionally offerings in the Honors Seminar. In graduate seminars which may be substituted for certain requirements subject to written approval of the Linguistics Committee and the Office of the Dean.

For further information consult the chairman of the program, Dr. Jeff Mellor.

4000 Topics in Linguistics (3) Content varies. May be repeated. Maximum 9 hrs. credit.

4020-30 Historical Linguistics, Neogrammarian School, and Growth of Structuralism (3, 3) 4020—Traces development of scientific approach to linguistics from Jacob Grimm and Franz Bopp through 19th century. 4030—Traces change in linguistic interest brought about by Saussure's work and growing interest of anthropology and behaviorism on linguistic studies.

4471-81 English as a Second or Foreign Language (3, 3) (Same as English 4471-81.)

Medieval Studies (674)

A concentration in Medieval studies focuses upon culture and society from the collapse of the Roman Empire to the sixteenth century. Such a concentration offers the opportunity to deepen one's self-awareness and broaden one's view of the range of human possibilities by studying a very different and remote culture—its conditions of life, social and political institutions, values and ideals, and modes of perception and expression.

A concentration in Medieval studies consists of Medieval Studies 2010 and 2010 and 28 hours of upper-division courses concerned primarily with the Medieval experience, divided among the following three categories: (1) history, philosophy, political science, and religious studies; (2) language and literature; (3) arts—history of art, architecture, music, and speech and theatre. Courses should not be selected at random but should either form a related sequence (for example, courses in the literature and history of Medieval England or Italy, etc.), or should
revolve around a particular discipline, or two closely-related disciplines (for example, courses in the history of art and architecture). A minor in Medieval studies consists of Medieval Studies 2010 and 4010 and 16 additional hours distributed among the categories listed above for the major. Each student’s program, major or minor, must be approved in advance by the Medieval Studies Coordinating Committee, chairperson Dr. Thomas Heffernan.

It is strongly recommended that students selecting the Medieval studies concentration choose a foreign language option for the Triad requirement (Options 1 or 2). Latin is the most appropriate language for students and is essential for those who plan to continue their studies in graduate school. In addition, students planning to go on to graduate school are strongly advised to supplement their Medieval studies concentration with extensive work in one of the traditional disciplines.

2010 Medieval Civilization (4) Introduction to basic themes in medieval experience, approached from interdisciplinary points of view and including philosophy and religion, art and architecture, language and literature, social and political history.

4010 Seminar in Medieval Studies (4) Interdisciplinary treatment of selected topics.

Upper-division courses for the concentration in Medieval studies may be chosen from the list of courses below.

### Category #1
- History, Philosophy, Political Science and Religious Studies.

- History 3061 History of Western Religious Thought and Institutions (4)
- History 3411 Renaissance (3)
- History 3710 History of Germany (3)
- History 3780 History of Middle East (3)
- History 4011 European History Colloquium (3) (when subject is part of medieval culture and society)
- History 4500 History of Medieval England (3)
- History 4710-20-30 Medieval History (3, 3, 3)
- Philosophy 4430 Medieval Philosophy (4)
- Political Science 3802 Studies in Political Thought (4)
- Religious Studies 3061 History of Western Religious Thought and Institutions (4)
- Religious Studies 3411 Renaissance and Reformation (4)
- Religious Studies 3713 Religion in the Middle Ages
- Religious Studies 4610 Topics in Western Religious Thought and Institutions (4) (when subject is part of medieval culture and society)

### Category #2 Language and Literature
- Classics 4310 Selected Reading from Latin Literature (3) (readings in Latin)
- Comparative Literature 4012-22-32 Special Topics in Comparative Literature (3, 3, 3) (when subject is part of Medieval Studies Coordinating Committee)
- Comparative Literature 4050-60-70 Dante and Medieval Culture (3, 3, 3)
- English 4410 Introduction to Study of English Language (3) (no language requirement)
- English 4420 History of English Language (3) (no prerequisites)
- English 4910-20 Chaucer (3, 3) (readings in Middle English)
- French 3210 French Literature in English Translation (3)
- French 4350-60-70 Medieval French Literature (3, 3, 3) (readings in French)
- French 4410 French Civilization (3) (readings in French)
- German 3210 German Literature in English Translation (3-4)
- German 3240 Old Norse Literature in English Translation (3)
- German 4310 History of German Language (3) (readings in German)
- Italian 4010 Italian Drama in English Translation (3) (or in Italian)
- Italian 4050-60-70 Dante and Medieval Culture (3, 3, 3) (readings in English or Italian)
- Italian 4330 History of Italian Language (3) (readings in Italian)
- Spanish 4050-60-70 Hispano-Arabic Literature and Culture (3, 3, 3) (in English translation)

### Category #3 The Arts
- Architecture 4130 Seminar in Medieval Architecture (4)
- Art 3704 History of Medieval Art (4)
- Art 3705 Northern European Painting, 1350-1600 (4)
- Art 3715 Early Italian Renaissance Art, 1300-1500 (4)
- Music 4200 Independent Study in Music History and Literature (1-3) (when subject is part of medieval culture and society)
- Music 4280 The Mass to 1600 (3)
- Music 4290 Gregorian Chant (3)
- Theatre 3252 History of the Theatre (4)

### Russian and East European Studies (887)

There are two approaches for the student to take in designing a program with a concentration in Russian and East European Studies.

- **Track I** is designed for students whose interest is in a career in the academic world or in some branch of government service. Prerequisites to this track are Russian 2510-20 and 2640-50. The track consists of Economics 4000; Geography 3880; six hours from History 3470-80-90, 4470, 4480, and 4490; Political Science 4815 and four hours from Political Science 3631-32, 3715; Russian 3510-20 and 3 hours from 3610-20-30; and six hours from Russian 3210-21-30, 3240, 3250, 3260.
- **Track II** is designed for students whose interest is in a career in the world of international business and/or finance specifically oriented toward trade with the Soviet Union and Eastern Europe. Prerequisites to this track are Russian 2510-20 and 2640-50. The track consists of Economics 3210, 4000, and 4230; three hours from History 3470-80-90 and three hours from History 4480, 4490, or Geography 3880; Political Science 4815 and four hours from 3631-32, 3715; Russian 3510-20 and 3 hours from 3610-20-30; Marketing 4230; and Finance 4420.

For further information, consult the chairperson of the Russian and East European Studies Committee, Dr. Donald Fiene.

### Urban Studies (985)

A concentration in urban studies consists of 40 quarter hours, including Urban Studies 2500 and 3000, at least 4 hours of Urban Studies 4000, and 28 hours from the urban studies curriculum provided below. The urban studies minor consists of 24 quarter hours, including Urban Studies 2500 and 3000 plus 16 hours from the urban studies curriculum provided below. For further information consult the chairperson of the Urban Studies Committee, Dr. Samuel Wallace.

- 2500 Interdisciplinary Urban Studies (4) Fundamental perspectives of various disciplines toward the city, urbanism as a way of life and urbanization as an ongoing process. Stresses the multidimensional nature of urban studies.
- 3000 Selected Topics in Urban Studies (4) May be repeated with consent of the committee. Maximum 12 credit hours.
- 4000 Directed Field Work (1-16) Participant observation and other directed field research in selected sites and organizations. May be done in a concentrated manner, such as a summer, or over the course of an academic year. Minimum of four credits required for a concentration in urban studies. May be repeated. Maximum 16 hrs credit.

### Urban Studies Curriculum:

For the concentration and minor, courses may be selected to fill the respective requirements from the following:

- Anthropology:
  - 3450 Community Studies in Complex Culture (3)
  - 4440 Urban Anthropology (3)
- Architecture:
  - 2000 Man-Environment Systems (4)
  - 3930 Behavioral Approaches to Environmental Design (3)
  - 4900 Aspects of Urban Environment (4)
- Geography:
  - 3000 Man, Location, and Behavior (4)
  - 3430 Urban Geography (4)
- History:
  - 4670 Cities and Urbanization in American History (4)
  - 4740 The City in Europe (3)
- Planning:
  - 4100 Introduction to Planning (3)
- Political Science:
  - 3750 The Urban Policy (4)
  - 3760 Urban Policy Process (4)
- Real Estate and Urban Development:
  - 3810 Principles of Real Estate and Urban Development (3)
  - 4120 Urban Growth and Land Use (3)
  - 4130 Problems of Urban Development (3)
- Sociology:
  - 3410 Urban Environment (4)
  - 3420 Urban Problems (4)
  - 4330 Urban Sociology (4)
  - 4530 Community Organization (4)

### Women's Studies (944)

*Minor: Consists of Women's Studies 2010-20 and 16 hours of appropriate courses.*
courses numbered 3000 or above. Supporting courses are drawn from several departments and colleges on the UTK campus. A list of available courses will be published annually by the Women’s Studies Committee. For further information consult the chairperson of Women’s Studies, Dr. Suzanne Kurch.

2010-20 Women’s Studies (4, 4) Explores basic knowledge and sources necessary to understand current and past societal experiences of women. 2010 utilizes perspective of humanities; 2020 employs that of social sciences.

4000 Topics in Women’s Studies (4)

Cultural Studies (270)

4000 Selected Interdisciplinary Cultural Topics (1-12) Acceptable for credit in any cultural studies concentration or minor with the consent of the director of cultural studies and the respective chairperson. May be repeated for credit up to maximum of 12 hrs.

4101 Foreign Study (1-16) Acceptable for credit in any cultural studies concentration or minor except Black studies. Registration by consent of director of cultural studies and the respective chairperson. See page 199.

4102 Off-Campus Study (1-16) Acceptable for credit in any cultural studies concentration or minor except Black studies. Registration by consent of director of cultural studies and respective chairperson. See page 199.

4103 Independent Study (1-16) Acceptable for credit in any cultural studies concentration or minor except Black studies. Registration by consent of director of cultural studies and the respective chairperson. See page 199.

GRADUATE

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

Ecology (278)

J. Frank McCormick, Director.

Basic Faculty:


The graduate program in ecology offers Master of Science and the Doctor of Philosophy degrees. This interdepartmental program provides advanced courses in contemporary ecology for students from undergraduate programs in basic and applied biology, social sciences, mathematics and engineering. Research opportunities in both fundamental and applied ecology are intended to prepare students for academic careers, as well as professional positions in industry or government. The Environmental Sciences Division of the Oak Ridge National Laboratory and the Tennessee Valley Authority provide advisors and research facilities. The Great Smoky Mountains, Cumberland Plateau, valley and ridge topography, TVA lakes and wild rivers provide locally a spectrum of natural habitats and consequent biological diversity which is truly unique. In addition, faculty research programs provide opportunities for student research elsewhere on this continent and abroad.

ADMISSION

Requirements for admission to this program are: (1) admission to the Graduate School of The University of Tennessee; (2) at least 12 quarter hours of college chemistry, 9 quarter hours of college mathematics, and 4 quarter hours of ecology at the upper-division level. Candidates for the doctoral degree are expected to take the Graduate Record Examination.

Application forms for admission should be obtained from the Graduate School. Inquiries concerning the admission requirements should be addressed to the Director, Graduate Program in Ecology, 400 10th Street, University of Tennessee, Knoxville, Tennessee 37916.

COURSES ACCEPTABLE IN PROGRAM

Agricultural Biology

4010 Biology of Soil Microorganisms (4)

Agricultural Economics

4330 Land Economics (3)

5420 Advanced Land Economics (3)

Anthropology

4360 Field Work in Physical Anthropology (3-9)

4640 Zooarchaeology (3)

4960 Primates Paleontology (3)

4970 Human Paleontology (4)

5970 Emergence and Early Evolution of Man (3)

Botany

4310 Plant Ecology (4)

5340 Plant Geography (4)

5350 Analysis of Plant Communities (4)

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

5830 Field Methods in Plant Ecology (4)

6320 Ecosystems of the World (3)

Ecology

5000 Thesis

5100 Special Problems in Ecology (1-3)

5210-20-30 Principles of Ecology (2, 2, 2)

5310 Ecology for Planners and Engineers (3)

5320 Implementation of Environmental Policy (3)

5330 Marine Ecology (4)

5610 Environmental Toxicology (3)

5640 Techniques in Environmental Toxicology (2)

6000 Doctoral Research and Dissertation

6100 Special Topics in Ecology (3)

6110 Seminar in Animal Behavior (2)

6120 Seminar in Aquatic Ecology (2)

6130 Seminar in Physiological Ecology (2)

6140 Seminar in Community Ecology (2)

6150 Seminar in Radiation Ecology (2)

6160 Seminar in Systems Ecology (2)

Economics

4260 Economics of Resources and Environmental Policy (3)

Environmental Engineering

4530 Sanitary Engineering Laboratory (3)

4600 Solid Waste Management (3)

4700 Air Pollution-Air Resources Management (3)

5593 Advanced Sanitary Engineering Laboratory (3)

5700 Planning and Air Pollution Control (3)

5710 Air Pollution Control Engineering (3)

5220 Seminar in Forest Tree Biology (3)

5240 Seminar in Forest Genetics (3)

Geography

4720 Data Mapping (4)

4740 Remote Sensing: Types and Applications (4)

5550 Topics in Geography of Land-Surface System (3)

5610 Topics in Climatology (4)

5740 Advanced Topics in Remote Sensing (3)

Geology

4230 Paleocology (4)

4240 Paleobotany (4)

4510 Principles ofGeomorphology (4)

5290 Quaternary Problems (4)

5915 Regional Geomorphology (4)

Microbiology

5829 Experimental Microbial Ecology (3)

Nuclear Engineering

5210 System Dynamics (3)

Philosophy

4710 Philosophy of Natural Science (4)

5550-60 Philosophy of Science (4, 4)

6550 Seminar in Philosophy of Science (4)

Plant and Soil Science

4320 Soil Formation, Morphology, and Classification (4)

5240 Soil Productivity and Management (3)

5250 Pedology (4)

5810 Crop Climatology (4)

5820 Advanced Crop Physiology and Ecology (4)

Psychology

4900 Aspects of Urban Environment (4)

5750 Ethological Psychology (3)

Sociology

4110 Population Problems (4)
English (339)

Professors:
J. B. Trehern (Head), Ph.D. Princeton;
P. G. Adams, Ph.D. Texas; E. W. Breton, Ph.D. Illinois; K. Curry, Ph.D. Yale; R. B. Davis (Emeritus), Ph.D. Virginia;
J. H. Fisher, Ph.D. Pennsylvania;
J. A. Hansen (Emeritus), Ph.D. Yale; R. M. Kelly, Ph.D. Duke; K. Kortbocker (Emeritus), Ph.D. Yale;
B. J. Leggett, Ph.D. Florida;
F. D. Miller (Emeritus), Ph.D. Virginia;
R. E. Parker (Emeritus), Ph.D. California (Berkeley);
J. E. Reese (Chancellor), Ph.D. Kentucky;
N. J. Sanders, Ph.D. Shakespeare Institute, Stratford-on-Avon; D. J. Schneider, Ph.D. Northwestern;
P. L. Seger (Emeritus), Ph.D. Cornell;
H. E. Spiey (Emeritus), Ph.D. North Carolina;
B. T. Stewart, Ph.D. Northwestern;
E. W. Stockton (Emeritus), Ph.D. Harvard;
R. H. Walker, M.A. Texas; T. V. Wheeler, Ph.D. North Carolina;
J. M. White, M.A. Cambridge;
W. A. Witcher, M.A. Texas.

Associate Professors:
L. S. Burghardt, Ph.D. Chicago; D. A. Carroll, Ph.D. North Carolina; B. K. Dumas, Ph.D. Arkansas;
A. P. Ennor, Ph.D. Indiana;
B. J. Gaines, Ph.D. Wisconsin; J. E. Gill, Ph.D. North Carolina; R. B. Miller, Ph.D. Brown;
D. A. Myers, Ph.D. Florida; A. R. Penner, Ph.D. Colorado; F. K. Robinson, Ph.D. Texas.

Assistant Professors:
J. M. Armstead, Ph.D. Duke; D. R. Cox, Ph.D. Missouri; D. F. Gray, Ph.D. Yale; N. M. Goslee, Ph.D. Yale;
T. J. A. Heffernan, Ph.D. Cambridge;
M. A. Lofaro, Ph.D. Indiana; M. R. C. McMillan, Ph.D. Michigan;
G. C. Martin, Ph.D. North Carolina;
M. Pryse, Ph.D. California (Santa Cruz);
M. P. Richards, Ph.D. Wisconsin.

Instructors:
P. S. Adams, M.A. Tennessee; E. D. Baggett, M.A. Tennessee; E. W. Bare, M.A. Tennessee;
C. B. C. Cuthbertson, M.A. Marquette; W. J. Curtis, M.A. Tennessee; K. S. Feerick, M.S. Columbia;
L. D. Ferrell, M.A. Missouri; M. A. M. Florida; L. F. Fuller, M.A. Tennessee; D. G. Goswami, M.A. Clemson;
P. G. Hammond, M.A. Tennessee; G. A. Iowa; N. V. Lee, M.A. Pennsylvania; M. E. Lewis, Ph.D. Tennessee;
K. D. Moore, M.A. Michigan; E. D. Overbye, M.A. Virginia; M. A. P. Ohio; J. P. S. Texas;
P. A. Tschantz, M.A. New Mexico State.

John C. Hodges, Professor.
*Alumni Distinguished Service Professor.

UNDERGRADUATE

General Prerequisites and Corequisites: English 1010-20-31/32/33 or the equivalents are prerequisites to all sophomore and upper-division courses in English. Two hours of the 2000 level are prerequisite to any of the three English concentrations. The equivalent of the second year (2000 level) of a foreign language is a corequisite for any of the three English concentrations.

English for Non-Majors: The department welcomes non-majors both in its sophomore introductions to literature (2510-2600) and in its 3000-4000 level courses in language, literature, and creative writing. Of particular interest to students in other fields are Special Themes in Literature (3236-37), Forms of Popular Literature and Culture (3233-34), Literature and Other Fields (3230-31), and Technical Writing (4140-50). For prerequisites and other advice, consult specific course descriptions below and departmental advisers.

Majors: A minimum of 36 quarter hours is required in 3000-4000 level courses as indicated for the concentration below.

Concentrations in Literature: Twelve English courses at the 3000-4000 level including:

(1) English 3042;
(2) at least three courses in major figures or periods before 1800;
(3) at least two courses concerned with approaches other than literary history, such as literary forms or modes, theories of criticism, or other unifying approaches or ideas;
(4) a total of three courses in writing or the English language may be counted toward the Literature concentration but may not be substituted for requirements 1, 2, or 3 above.

Concentration in Creative Writing:
Twelve English courses at the 3000-4000 level including:
(1) one of the 3000-level creative writing courses followed by the corresponding 4000-level course in the same genre;
(2) four other courses in creative writing at either the 3000 or 4000 level;
(3) two courses in non-fiction writing, film, or English language;
(4) four courses in literature.

Concentration in the English Language:
Twelve English courses at the 3000-4000 level including:
(1) English 3330;
(2) five courses in linguistics and the English language selected from among those offered by the English department and, with English adviser approval, from Psychology 3880, Anthropology 4660, or Linguistics 4030;
(3) two additional courses in language, literature, or writing;
(4) four courses in literature.

Individualized Program: The Director of Undergraduate Studies is empowered to approve individualized programs developed by students in consultation with their English advisers. These programs need not necessarily fulfill all of the requirements listed above.

Honor Programs: For students who qualify for this program, the English department offers individualized study in the senior year culminating in a senior thesis and a comprehensive examination. If the thesis and examination both receive grades of B or better, the student will be graduated with High Honors. Interested students should consult their advisers or the Director of Undergraduate Studies.

Minor: An English minor consists of 24 hours at 2000 level or above, including at least 18 at the 3000-4000 level.

Certification for Teaching: Students planning to teach English in the public schools should consult the Certification Clerk, Room 212, Claxton Education Building.

Departmental Course Information: In the English Office, 316 McClung Tower, students can obtain a booklet describing current English courses in detail and listing the courses to be offered each quarter throughout the academic year. The booklet is available in advance of University timetables.

1010 English Composition (3) Expository writing with emphasis on invention, organization, style, and revision; intensive study of essays for meaning and ways of expressing meaning; conferences on individual writing problems. Coreq: English 1019 for designated students. A, B, C, I, NC, W grading.

*Replaces the Freshman English Sequence 1510-20.
1019 Writing Workshop (1) Required concurrently with 1010 of students selected on the basis of either their placement scores and high school records, or English proficiency in 1010. Specific criteria of selection for 1019 will be published by the English department prior to fall quarter of each year. This course will be taught in small groups with English grammar, mechanics, sentence patterns, reading comprehension, and writing development. Graded S/NC; a student taking 1019 concurrently with 1010 must pass 1010 to receive credit for 1019.

1020 English Composition (3) Analytical writing based on study of great themes in literature; practice in documentation; individual conferences. Prereq: 1010. Students receiving an A in 1020 may elect to continue their work in English composition with any 2000- or 3000-level writing course. A, B, C, I, NC, W grading.

1031-33 English Composition (3, 3, 3) Application of writing skills to areas of special interest. Study and practice of research writing; individual conferences. Prereq: 1010-20; any 1030-level course completes a year's work in English composition; no more than one may be taken for credit. 1031—Writing about modern literature; 2031—Writing about Shakespeare; 3031—Writing about poetry. 1032—Writing and Language; how we are influenced by verbal manipulation in education, politics, and advertising. 1033—Business and technical writing. A, B, C, I, NC, W grading.

1018-38 Honors: English Composition (3, 3, 3) Open only to those students elected on the basis of their scores on the college entrance examination. Grading scale and work load the same as regular sequence. 1018—Expository writing based on study of great themes in literature; practice in documenting; individual conferences. 1038—Analytical and research writing based on study of great literature. Students receiving a grade of B in 1018 will complete a year's work in English composition by taking 1020 and one course on the 1030 level; students receiving a grade of A or B also receive credit and a grade of no less than B for 1028 and may continue into 1038; all students with A's and B's in 1018 and consent of department have additional option of completing a year's work in English composition with any 2000- or 3000-level writing course. A, B, C, I, NC, W grading.

1211 Written and Oral English for Foreign Students (6) Rapid review of basic structures and pronunciation with intensive oral, aural, and written drill. Required during the first quarter of residence of all foreign students and transfer students who are not excused from it on the basis of the English Proficiency Examination. Graded S/NC (Same as Audiology and Speech Pathology 1261.)

1431 English Composition for Foreign Students (3) Composition and reading for students whose native language is not English, with emphasis on writing, reading, and composition organization with attention to grammar and mechanics. English 1431 replaces English 1010 for undergraduate foreign students. Prereq: 1221 or recommendation based on English Proficiency Examination, A, B, C, I, NC, W grading.

1441 English Composition for Foreign Students (3) For students whose native language is not English, writing based on reading and discussion with attention to use of library and to basic skills of documentation. Practice with typical writing assignments encountered by college students. English 1441 replaces English 1010 for undergraduate foreign students. Prereq: 1431. A, B, C, I, NC, W grading.


2510-20 English Masterpieces (4, 4) 2510—To the mid-eighteenth century. 2520—Since the mid-eighteenth century. 2530 American Masterpieces (4) 2540 The Literature of Black America (4) Poetry, fiction, drama. Emphasis on twentieth century. 2560-70-80 Literature of the Western World (4, 4, 4) 2560—Ancient and medieval. 2570—Renaissance through the eighteenth century. 2580—Nineteenth and twentieth centuries. 2640-50 English Culture (4, 4) 2640—Beginnings to the late eighteenth century. 2650—From the late eighteenth century to the present. 2660 Introduction to Drama (4) Study of selected plays to provide critical techniques necessary for understanding of drama. 2670 Introduction to Poetry (4) Study of selected poems to provide critical techniques necessary for reading of different types of poetry. 2680 Introduction to the Novel (4) Study of selected novels to provide critical tools necessary for judging longer works of fiction.

3010-20-30 American Literature (3, 3, 3) 3010—John Smith through Poe. 3020—Emerson through Mark Twain. 3030—Henry James to present. 3042 Colloquium in Literature (3) Introduction to methods and objectives of literary study; conferences to plan student's program in major.

3045 Introduction to Literary Criticism (3) 3070 Modern British Poetry (3) From Housman to Thomas and more recent poets. 3080 Modern American Poetry (3) From Robinson to Stevens and more recent poets. 3110-20-30 Romantic Poetry and Prose (3, 3, 3) 3110—Emphasis on Wordsworth and Coleridge. 3120—Emphasis on Byron, Blake and Scott. 3130—Emphasis on Shelley and Keats. 3135 Tennyson and His Successors (3) Includes such poetry as that by Pre-Raphaelites, humorists, and Decadents. 3136 Browning, Arnold, and Hopkins (3) 3150 Melville (3) 3160 The Short Story (3) British and Continental European, with emphasis on twentieth century. 3170 The American Short Story (3) From nineteenth-century beginnings to present, emphasis on twentieth century. 3210-20 English Literature and Culture of the Nineteenth Century (3, 3) Survey of literature dealing with leading movements in politics, science, religion, and the arts. 3210—1800 to 1835. 3220—1835 to 1900. 3230-31 Literature and Other Fields (3, 3) Content varies. Focus on religious, philosophical, psychological, historical, or other pertinent aspects of literature selected by instructor with consent of department. Maximum credit 6 hrs each.
4640 Special Topics in English Linguistics (3) May be repeated for credit with consent of department.

4747-81 English as a Second or Foreign Language (3, 3) 4471—Applied linguistics in teaching and learning of English as second or foreign language. Prerequisite: English 4471. Second year of a foreign language. 4481—Materials and methods of language teaching, with emphasis on preparation of materials and structured teaching situations.

4610-20-30 Black Literature (3, 3, 3) Trends and developments.

4651 Southern Literature through the Nineteenth Century (3) Southern writing from colonial period to end of nineteenth century, including frontier humorists and local color writers.

4652 Southern Literature in the Twentieth Century (3) Modern Southern literature, renaissance, Fugitives and Agrarians, Faulkner, and more recent writers such as Welty, O'Connor, and Porter.

4660 Emerson and Thoreau (3)

4680 American Humor through Mark Twain (3)

4721-31-41 Ballad and Folktale (3, 3, 3) 4721—Study of traditional English and Scottish popular ballads and their North American variants; 4731—Study of Native American ballad and folktale; 4741—The folk narrative: functions, categories, and patterns of storytelling.

4850 Milton (3) Emphasis on major poems.

4860 Seventeenth-Century Prose and Poetry (3) Bacon and Donne to Marvell.

4910-20 Chaucer (3, 3) 4910—Chaucer: Troilus and Criseyde. And early poems. 4920—The Canterbury Tales.

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

5110 Teaching Expository Writing (1)

5120 Teaching about Writing Literature (1)

5130 Teaching Business and Technical Writing (1)

5150 Old English Prose (3)

5170-80 History of the English Language (3, 3)

5210-20-30 Readings in American Literature from Colonial Period to Present (3, 3, 3)

5240 Reading in Black American Literature (3)

5310 Rhetoric and Composition: Theory and Practice (3)

5410-20 Readings in Middle English Literature (3, 3)

5510-20 Readings in Literary Criticism from Plato and Aristotle to Present (3)

5610-20-30 Readings in English Literature of Nineteenth Century (3, 3, 3)

5710-20-30 Readings in English Literature of Eighteenth Century (3, 3, 3)

5810-20-30 Readings in English Literature of Renais-

5860 Introduction to Literary Research (3)

5910-20-30 Readings in English and American Literature of Twentieth Century (3, 3, 3)

6000 Doctoral Research and Dissertation

6110-20-30 Studies in Elizabethan Literature (3, 3, 3)

6140 Studies in Old English Language and Literature (3)

6150 Old English Poetry (3)

6160 Beowulf (3)

6170 Studies in Middle English (3)

6181-82-83 Studies in the English Language (3, 3, 3)

6210-20-30 Studies in American Literature (3, 3, 3)

6241 Studies in Colonial American Literature (3)

6242 Studies in Colonial American Literature (3)

6270-80 Studies in American Fiction (3, 3)

6310-20-30 Studies in Victorian Literature (3, 3, 3)

6410-20-30 Studies in Chaucer (3, 3, 3)

6510-20-30 Studies in Spenser and Milton (3, 3, 3)

6550 Studies in Mode and Genre (3)

6590 Special Topics (3)

6610-20-30 Studies in English Romanticism (3, 3, 3)

6710-20-30 Studies in Eighteenth-Century Literature (3, 3, 3)

6810-20-30 Studies in Drama and Theatre (3, 3, 3)

6860 Textual Bibliography and Criticism (3)

6910-20-30 Studies in Twentieth-Century Literature (3, 3, 3)

French

See Romance Languages.

Geography (415)

Professors: S. R. Jumper Head, Ph.D. Tennessee; C. C. Aiken, Ph.D. Georgia; E. H. Hammond, Ph.D. California (Berkeley); R. G. Long, Ph.D. Northwestern; T. H. Schmude, Ph.D. Wisconsin.

Associate Professors: T. L. Brotz, Ph.D. Iowa; L. W. Brinkman, Jr., Ph.D. Wisconsin; J. B. Rehdor, Ph.D. Louisiana State.

Assistant Professors: J. R. Carter, Ph.D. Georgia; W. H. Cherry, M.S. Tennessee; B. A. Rasten, Ph.D. Northwestern.

UNDERGRADUATE

Major: Eight hours in courses numbered at the 1000 or 2000 level are recommended as an introduction to a major which consists of Geography 4100, 4710 and 4990, and an additional 28 hours selected from courses at the 3000 and 4000 levels. At least one course must be selected from each of groups A, B, C, and D below:

a. Physical Geography: 3520, 3530, 4550

b. Economic Geography: 3410, 3430, 3490, 3075, 4610, 4630

c. Cultural Geography: 3450, 3600, 3610, 3660, 4240

d. Regional Geography: 3790, 3800, 3810, 3840, 3870, 3880, 3910, 3920, 3930, 3940

For those pursuing a program leading to professional employment or graduate study in geography, 4210 and/or a senior project under 4103 are/is strongly
recommended.

Minor: Eight hours in courses numbered at the 1000 or 2000 levels are required. This minor is an introduction to the minor which consists of 24 hours selected from courses at the 3000 and 4000 levels.

Students wishing to major or minor in geography are strongly urged to consult with a departmental undergraduate adviser. Through choices available within the structure of the major and by appropriate selection of electives outside the department, each student may develop a coherent program in accordance with specific interests and needs. Such programs might emphasize particular aspects of geography itself or might develop interdisciplinary themes such as natural environment and resources, urban and regional planning or the culture, history or economy of a particular area. A useful technical or vocational specialty program is available which emphasizes cartography and remote sensing.

Asian Studies. See Cultural Studies.

Latin American Studies. See Cultural Studies.

Russian and East European Studies. See Cultural Studies.

1610-20 Introduction to Geography (4, 4) Selected problems or situations of contemporary interest are used to illustrate the use of selected geographical points of view and techniques. Needs not be taken in sequence. Not open to students who have taken 1110 and 1120, respectively.

1810-20 Geography of the Natural Environment (4, 4) Physical and environmental characteristics of earth’s surface and lower atmosphere; their interaction to produce world patterns and distinctive environments significant to man. Must be taken in sequence. Not open to students who have taken 1710.

2110-20-30 Economic Geography (4, 4, 4) The significance of location, pattern, and environment in economic activities. Emphasizes: 2110—agriculture; 2120—energy, minerals and manufacturing; 2130—transportation and trade. Need not be taken in sequence.

3000 Man, Location, and Behavior (4) Types of human spatial behavior, such as shopping patterns, commuting, residential mobility, trade, and recreation, consciousness, as they relate to distance, natural environment and culture. Order and regularity in pattern of human use of earth’s surface.


3420 Urban Geography (4) Concepts and theories concerning development and significance of systems of cities and internal morphology of cities. Not open to students who have taken 4660.

3450 Rural Geography (4) Geographical appraisal of rural areas of the United States, including small towns and urban fringes. Problems and potentials of rural America.

3490 Geography of Resources (4) Study of factors related to variations in resource availability from time to time and from place to place, with particular emphasis on upland and metallic resources.

3510 Meteorology (4) Introduction to dynamic atmosphere and resulting weather events. Nature of individual weather elements, their measurement and analysis over time and space.

3520 The Atmospheric System and Man (4) Overview of the atmospheric system leading to world pattern of climates. Role of climate in agriculture, architecture, human comfort, and economic activity.

3530 The Land-Surface System and Man (4) Nature and regional variations in relationships among surface, human activities, and surface materials. Man as evaluator and agent of change.

3600 Geography of Population (4) World population patterns; regional socio-economic characteristics and demographic trends; relationship to resource base.

3610 Political Geography (4) Importance of geographic factors for understanding political relationships within and between nations; spatial implications of political decision-making process; geography of administrative units.

3660 Cultural Geography (4) Basic concepts of culture; methods and background of cultural geography; world patterns of cultural phenomena.

3790 Geography of Middle America (4) Covers Mexico, Central America, and the West Indies. Not open to students who have taken 3740, 3770, or 3780.

3800 Geography of South America (4) Not open to students who have taken 3730, 3750, or 3760.

3810 Geography of Europe (4)

3840 Geography of Australia and Oceania (4) Survey of major physical, cultural, and economic characteristics of the countries of Australia, New Zealand, and of the Western portion of the South Pacific. Not open to students who have taken 3820, 3890 or 3870.

3880 Geography of the Soviet Union (4)

3910 Regional Geography of United States and Canada (4) Major physical, economic, and social distributions as they interrelate to give distinctive character to regions of United States and Canada. Not open to students who have taken 3710 or 3720.

3920 Geography of the American South (4) Geographical appraisal of southeastern United States, including physical environment and human resources. Origin and development of contemporary economic and cultural traits of the area.

3930 Geography of Tennessee (4)

3940 Geography of Appalachia (4) Interrelation of physical, economic, and social patterns to give distinctive character to the region and its parts, especially southeastern Arkansas, Kentucky, West Virginia, and Tennessee. Appalachia in perspective in the current American scene.

4075 Geography of Transportation (4) Geographical examination of transportation systems, emphasizing transport of people on highways and by public facilities. Relation of these systems to changing geography of cities and urban hinterlands.

4100 Quantitative Methods in Geography (4) Geographic applications of statistical techniques, point pattern analysis and analysis of areal units. Prereq: Mathematics 3000 or consent of instructor.

4101 Foreign Study (1-16) See page 187.

4102 Off-Campus Study (1-16) See page 187.

4103 Independent Study (1-16) See page 187.

4210 Problems in Geographic Method (4) Examples of problems and approaches in geographic analysis and synthesis. Emphasis on character of geographic data, area sampling, generalization, classification, regionalization, and problems of scale.

4240 Historical Geography of the United States (4) Survey of changing human geography of United States during four centuries of settlement and development. Emphasis upon changing population patterns, development of agricultural regions and patterns of urban development. Not open to students who have taken 4250-60.

4510 Principles of Geomorphology (4) (Same as Geology 4510)
6810-20 Seminar in Regional Geography of Latin America (3, 3)
6710-20 Seminar in Physical Geography (3, 3)

Geological Sciences

Professors: K. P. Krieger (Acting Head), Ph.D. Yale; G. Briggs, (Associate Dean, Liberal Arts College), Ph.D. Wisconsin; H. J. Klepper (Emeritus), Ph.D. Ohio State; O. C. Kopp, Ph.D. Columbia; R.E. McGlaubin, Ph.D. Tennessee; O.H. Rood, Ph.D. Goethe University (Germany); L.A. Taylor, Ph.D. Lehig; J. G. Walls (Emeritus), Ph.D. North Carolina.

Associate Professors: M. Clark, Ph.D. Pennsylvania State; K.C. Misra, Ph.D. Western Ontario.

Assistant Professors: T.W. Broadhead, Ph.D. Iowa; D.W. Byerly, Ph.D. Tennessee; J.B. Higgins, Ph.D. VPI & SU; F.B. Keller, M.Ph. Yale, H.Y. McSween, Ph.D. Harvard.

The Department of Geological Sciences provides training for (1) those who plan a career as a professional geologist in industry, federal and state surveys, education or other fields which utilize earth scientists; and, (2) those who seek a general knowledge of geology and its relationships to the other sciences, engineering, business, law, and other disciplines.

The requirements set forth below are designed to provide geology majors with a broad base from which qualified students may proceed into advanced study in one or more of the branches of geology or related minor fields. Because a wide range of elective courses is available, it is essential that each student be guided in planning the program by a departmental adviser. A list of advisers is available in the departmental office.

UNDERGRADUATE

Major: Geology 1410, 1420, 1430 are prerequisite to a major which consists of Geology 3180, 3260, 3310, 3360, 3370, and at least 24 hours additionally in upper-division courses in geology chosen to include at least 12 hours from among the following courses: Geology 3510, 4110, 4115, 4230, 4510, and 4610. Geology 4310 and/or 4440 (or equivalent) are strongly recommended for students planning to become professional geologists.

Because of the interdisciplinary nature of geology and the prerequisites for advanced study, students who major in geology are required to take the following allied science and mathematics courses: Biology 1210-20, Chemistry 1110-20, Mathematics 1840-50, Physics 2210-20 or 2510 and 2310-20. It is recommended that students take additional courses beyond the elementary level in at least one of the above allied fields.

Minor: Geology 1410, 1420, 1430 are prerequisite to a minor which consists of at least 24 hours in courses numbered 2000 or above.

Geology (424)

1000 Frontiers in Earth and Planetary Sciences (4)
Recent developments in earth science of interest of the public. Designed for non-majors; treats popular topics such as discoveries on moon by Apollo missions, earthquake prediction, and drifting of continents.

1410-20 General Geology I, II (4, 4) 1410—Introduction to study of the earth, its composition, structure, and processes that change it. 1420—Emphasis on the functioning of life and physical events through Mesozoic Era. Must be taken in sequence. 3 hrs and one 2-hr lab or field period.

1430 General Geology III (4) Continuation of 1410-20 sequence emphasizing the advent of human life and the interrelation of structures with geological processes and events. Prereq: 1420, 3 hrs and one 2-hr lab or field period.

2130 Geological History of the Earth (4) Origin and evolution of continents, atmosphere, oceans and earth's inhabitants with emphasis on physical history of North America. Prereq: 1420, 3 hrs and 1 lab or field period.

2210 History of Life on Earth (4) Chronological account of major evolutionary trends and the environment and societal patterns. Not intended for geology majors. 3 hrs and 1 lab or field period.


2610 Introduction to Geology for Engineers (3) Materials and structures of production for College of Engineering students only. 2 lectures and 1 lab or field period.

2710 Introduction Oceanography (4) Introduction to studies of oceans including origin and development of ocean basins and physical and biological processes within ocean basins and their contained water and sediment masses. 1410 recommended.

3160 Introduction to Earth Materials (4) Study of mineral deposits and rocks. Both hand specimen and analytical methods of identification. Not available for credit to majors. Prereq: 1410. 2 lectures and 2 labs.

3180 Mineralogy (4) Introduction to crystallography and study of minerals. Laboratory includes hand specimen, chemical and X-ray methods of identification. Prereq: 1410, Chemistry 1110-20 or equivalent. 3 lectures and 1 lab.

3210-20 Invertebrate Paleontology (4, 4) Systematic review of important invertebrate fossil groups. 3210—Protists to Brachiopoda, including sponges, coelenterata, and crinoids. 3220—Brachiopoda to Hemichordata, including annelids, molluscs, arthropods and echinoderms. May be taken separately or in any order. Prereq: 3260, Biology 1210-20 or consent of instructor. 3 hrs and 1 lab or field period.

3250 Micropaleontology (4) Microscopic remains of animals and plants with special emphasis on stratigraphically important groups. Prereq: 3210 or consent of instructor. 3 hrs and 1 lab.

3260 Paleobiology (4) Introduction to principles and materials of paleontology as applied to interpretation of ecosystems. Prereq: 3240. 3 lectures and 1 lab or field period.

3270 Geological History of Land Organisms (4) Geological history and development of terrestrial biota and ecosystem with special emphasis on fossil record related to ground covers. Prereq: Biology 1210-20 or consent of instructor. 3 lectures and 1 lab or field period.

3310 Introductory Petrology (4) Introduction to classification and properties of igneous and metamorphic rocks, processes which produce them, and tectonic environments in which they form. Laboratory emphasizes both hand specimen and microscopic study of important rock types. Prereq: 3180. 3 lectures and 1 lab.

3330 Geology of East Tennessee (4) Lectures and field excursions. Prereq: 2 quarter hrs of geology and consent of instructor.

3360 Stratigraphy-Sedimentation (4) Introductory study of stratigraphic principles and practices and of sedimentary processes and their interpretation of depositional environments. Prereq: 1420 and 3180. 3 hrs and 1 lab or field period.

3370 Structural Geology (4) Introductory discussion of structures such as folds, faults, joints, cleavage, and primary structures. Laboratory work includes depth and thickness problems. Structure sections, structure contour maps, etc. Prereq: 1420, Mathematics 1840-50 or equivalent. 3 hrs and 1 lab.

3410 Principles of Ground Water Geology (3) Geologic materials and processes affecting the occurrence and behavior of water. Not open to geology majors. 2 lectures and 1 lab. (Same as Water Resources Development 3410.)

3510 Introductory Environmental Geology (4) Geologic problems involving water, soil, and geologic parameters associated with their control and misuse. Prereq: 1420 or consent of instructor. 2 lectures and 2 lab or field periods.

3610 Quaternary Geology for Engineers (3) Erosional and depositional processes, landforms, ground water. 2 lectures and 1 lab or field period.

3710 Origin and Evolution of the Continents and Ocean Basins (4) Introductory study of origins and changes that have occurred in earth's crust with emphasis on modern concepts of continental drift and plate tectonics. Prereq: 1420.

4110 Principles of Economic Geology (4) Formations of mineral deposits. Prereq: 3180, 3370 or equivalent.

4151 Elementary Applied Geophysics (4) Basic principles of electrical, seismic, gravity and magnetic surveying. Recommended: 1420, Physics 2220 or 2230. 3 lectures and 1 lab.

4130 Sedimentology (4) Introduction to physical processes of sedimentation: transport of sediments and formation of sedimentary structures, river flow, waves, tides, and ocean circulation. Prereq: 3310. 3 lectures and 1 lab.

4230 Paleocology (4) Principles of environmental analysis as applied to paleontology and associated lithologies. Prereq: 3280 or consent of instructor. 3 hrs and 1 lab.

4240 Paleobotany (4) Survey of fossil record of plants with particular emphasis on (1) comparative morphology and evolutionary trends in major plant groups and (2) chronological succession and geographic distribution in major groups. Prereq: 1410 and 2210; Botany 3010-20 or consent of instructor. 3 hrs and 1 lab or field period. (Same as Botany 4240.)

4310 Geologic Mapping (4) Interpretation of maps and methods of geology as applied to 3 credits and 1 lab or field period. Prereq: 12 quarter hrs of geology.

4370 Tectonic Styles (4) Elements, habitats, and geologic causes of basic styles of tectonic deformation are presented on maps, sections, aerial photographs and fabric diagrams. 3 lectures and 1 seminar or lab. Prereq: 3370 or consent of instructor.

4440 Field Geology (4) Five weeks' field course, first term summer quarter. Advanced undergraduates or first-year graduate students. Enrollment limited to the entire time of students. A report is required, to be submitted no later than end of fall quarter. Prereq: 12 quarter hrs of geology and consent of instructor.
4460 Geologic Photography and Photogrammetry (4) Principles of terrestrial and aerial geologic photography, including photographic principles and practice, geometry of terrestrial and aerial photography, and image interpretation. Prereq: 3370 or consent of instructor. 3 lectures and 1 lab.

4510 Principles of Geomorphology (4) Gradational processes acting at earth's surface and landforms produced. Prereq: 1410 or consent of instructor. 3 hrs and 1 lab.

4550 Optical Mineralogy (4) Identification of non-opaque substances by immersion methods, using petrographic microscope.

4610 Principles of Geochemistry (4) Application of chemical principles to geologic problems. Emphasis on crystal chemistry and relation between basic atomic structure and distribution and behavior of elements in the earth's crust. Prereq: Chemistry 1110-20 or equivalent required. Recommend 3310.

4650 Mineral Phase Equilibria (3) Principles of phase chemistry and application of phase equilibria studies in rock-forming mineral systems as aid to understanding conditions of formation and modification of rocks. Prereq: 4610 or consent of instructor.

4710 Petrophysics (3) Fluid, heat, electric current and ionic flow through rock masses in a potential field. Stress-strain behavior of rock as a function of temperature and pressure. 3 lectures and 2 hours per week. Prereq: 3310, Mathematics 1830, Physics 1330. Recommended: Mathematics 2610 and 2620.

4810 Special Problems in Geology (1-4) Prereq: Consent of instructor. May be repeated to a maximum of 4 hrs credit.

GRADUATE

The general requirements for master's and doctoral degrees are given in the Graduate Catalog.

5000 Thesis

5050 Geochemistry of Ore Mineral Deposits (3)

5069 Experimental Geochemistry Laboratory (1-3)

5120 Geophysics—Gravity and Magnetic Methods (4)

5130 Geophysics—Seismic Exploration Methods (4)

5210-20-30 Special Problems in Geology (1-4, 1-4)

5290 Quaternary Problems (4)

5310 Advanced Stratigraphy and Sedimentation (4)

5340 Seminar in Local Stratigraphy (1)

5350 Selected Topics in Geology (1)

5370 Mesosabir Analysis (4)

5460 Photogeologic Interpretation (4)

5470 Plate Tectonics and Orogeny (4)

5520 Igneous Petrology (4)

5530 Metamorphic Petrology (4)

5540 Terrigenous Clastic Sedimentary Petrology (4)

5550 Carbonate Sedimentology (4)

5620 Electron Microprobe and X-Ray Spectrographic Analysis: Theory and Application (4)

5630 X-Ray Diffraction: Theory and Application (4)

*5640 Clay Mineralogy (4)

5650 Thermodynamics for Geologists (3)

5670 Geochemical Prospecting (3)

5710 Advanced Paleontology (4)

5750 Petrophysics (3)

5810 Geology of Fuels (4)

5820-30 Mineral Deposits (4, 4)

5840 Ore Microscopy (4)

5850 Regional Studies in Economic Geology (3)

5915 Regional Geomorphology (4)

6000 Doctoral Research and Dissertation

6110 Seminar in Stratigraphic Geology (3)

6210 Seminar in Paleontology (3)

6310 Seminar in Structural Geology (3)

6410 Seminar in Mineralogy (3)

6510 Seminar in Petrology (3)

6610 Seminar in Economic Geology (3)

6710 Seminar in Geochemistry (3)

6810 Seminar in Geomorphology (3)

German and Slavic Languages

Professors: H. Kratz (Head), Ph.D. Ohio State; J.E. Falen, Ph.D. Pennsylvania; C.W. Fuller, Ph.D. Wisconsin; E.T. Hankamer (Emeritus), Ph.D. Bonn (Germany); R.L. Hiller, Ph.D. Cornell; R.L. Norddick (Emeritus), Ph.D. Ohio State; J.C. Osborne, Ph.D. Northwestern.

Associate Professors: N.A. Lauckner, Ph.D. Wisconsin; D.E. Lee, Ph.D. Stanford; M.P. Rico, Ph.D. Vanderbilt.

Assistant Professors: J.S. Elliott, Ph.D. Michigan; D.M. Finne, Ph.D. Indiana; C.J. Mellor, Ph.D. Chicago; U.C. Ritzhoff, Ph.D. Connecticut.

Instructors: M.H. Harris, M.A. Illinois; J.M. Rasmussen, Diploma, City College, Tallin, Estonia.

UNDERGRADUATE

Placement Examination: Students who have had previous work in German or Russian either in high school or in another college should register for the course in which they would normally be placed. During the first week of the quarter a placement test will be given, and students will be advised if a change in registration is indicated.

Proficiency Examinations: Students who have acquired a knowledge of German or Russian through private study, tutoring, residence in foreign countries, or the like, should request a proficiency test. A student earning a grade of C or better on such a test will receive credit for a limited number of courses. Superior students are encouraged to proceed as rapidly as their achievement permits. Students who omit any course in a sequence may receive credit for it by passing a proficiency examination.

Foreign Study: Students are encouraged to study abroad. The department is prepared to recommend summer study programs and junior year abroad programs for students who are interested in foreign study. Credits from recognized foreign study programs can readily be transferred to UTK. For qualified students, the department also offers a German Foreign Study and Russian 4101 Foreign Study. See page 187. Students should consult the department before registering for the foreign study course.
4810-20-30 Advanced Conversation and Composition (3, 3, 3) Prereq: 3810-20-30 or equivalent or consent of department.

GENERAL COURSES

2610-20-30 Culture of German-Speaking Peoples (3, 3, 3, 3) 4810-20-30 Literary German Language and Literature (3, 3, 3, 3) 5530 Advanced Conversation and Composition (3, 3, 3) 5550 Goethe's Faust (3) 5560 German Romanticism (3) 5570 German Realism and Naturalism (3) 5580 Modern German Literature (1889-1945) (3) 5590 Modern German Literature (1945-Present) (3) 5600 German Literary Theory and Criticism (3) 5610-20-30-40-50-60 Directed Readings in German Language and Literature (3, 3, 3, 3, 3, 3) 5710 Introduction to Old Norse (3) 5720 Readings in Old Norse Prose (3) 5730 Readings in Old Norse Poetry (3) 6000 Doctoral Research and Dissertation 6100 Gothic (3) 6120-30 Old High German (3, 3) 6140 Old Saxon (3) 6210-20-30-40-50-60 Seminar in German Literature (3, 3, 3, 3, 3, 3) 6310-20-30 Seminar in German and Germanic Philology (3, 3, 3)

Russian (886)

1510-20 Elementary Russian (4, 4) Must be taken in sequence. 1610-20 Elementary Serbo-Croatian (4, 4) Must be taken in sequence. 1710-20 Elementary Czech (4, 4) Must be taken in sequence. 2510-20 Intermediate Russian (4, 4) Must be taken in sequence. 2870-80 Intermediate Serbo-Croatian (4, 4) Must be taken in sequence. 2710-20 Intermediate Czech (4, 4) Must be taken in sequence. 3010-20-30 Elements of Russian for Graduate Students and Seniors (3, 3, 3) For graduate students preparing for language examinations and seniors desiring reading knowledge of a second foreign language. Prereq: 2 yrs of some foreign language in college or consent of department. Undergraduate credit only. No credit for students having completed 1510-20 or equivalent. 3510-20 Russian Composition and Conversation (4) Practice in writing and speaking; grammar review and vocabulary building. 3610-20-30 Introduction to Russian Literature (3, 3, 3) 3610: Russian Poetry. 3620: Russian Short Stories. 3630: Russian Short Novels. Prereq: Completion of Russian 3510-20 or equivalent. ADVANCED UNDERGRADUATE AND GRADUATE

4010 Selected Topics in Russian and East European Studies (3) Interdisciplinary seminar on selected topic using appropriate approach. 4101 Foreign Study (1-16) See page 187. 4102 Off-Campus Study (1-16) See page 187. 4103 Independent Study (1-16) See page 187. 4110-20-30 Studies in Major Russian Writers (3, 3, 3) Content varies. Pushkin, Lermontov, Gogol, Turgenev, Tolstoy, Dostoevsky, Chekhov and others. Prereq: 9 hrs of 3000 courses (exclusive of 3010-20-30, 3210-20-30-40-50-60-70, 3310) or equivalent. May be repeated for credit.

History (462)

Professors:
L.P. Graff (Head), Ph.D. Harvard; E.V. Chmielowski, Ph.D. Harvard; J.C. Daniel, Ph.D. Maryland; R.E. Duncan, Ph.D. California (Berkeley); H.S. Fink (Emeritus), Ph.D. Princeton; Y.-P. Hao, Ph.D. Harvard; A.G. Haas, Ph.D. Chicago; A. Halkinos, Ph.D. California (Berkeley); C.O. Jackson (Associate Dean, Liberal Arts College), Ph.D. Emory; H.W. Klein, Ph.D. California (Berkeley), Ph.D. Columbia; M.K. Klein, Ph.D. Columbia (Dean, Liberal Arts College), Ph.D. Princeton.

Associate Professors:

Assistant Professors:
S.O. Becker, Ph.D. Case-Western Reserve; N.L. Brann, Ph.D. Stanford; S.J. Kleingin, Ph.D. Pittsburgh; R.B. Rice, Ph.D. Harvard.

* Distinshished Professor.
* Alumni Distinguished Service Professor.

UNDERGRADUATE

Major: History 1510-20 (or honors equivalent), or 1610-20, is prerequisite to a major which consists of 36 hours, including 8 hours of History 2510-20 and 28 hours of upper division courses chosen so that the student presents a minimum of 8 upper-division hours in two of the three following groups: (a) European States; (b) Other areas, e.g., Latin American, Asian, etc.; Students may use only two of the three History collogia (4010, General; 4011, European; 4012, American) toward the 36 hours of the major. Honors in History—Consists of prerequisites to the general major plus 45 hours; 36 hours of courses, including group requirements in the general major and History 4018-28 plus 2006, 3036, 3048.

(a) EUROPEAN: 3060-70-80; 3140-60-60; 3411-12-13; 3421-22-23; 3431-32-33; 3445-46; 3470-80-90; 3710-20-30; 3740; 3760-70; 4011; 4250-60; 4260; 4280; 4380; 4410-20-30; 4470; 4480; 4500; 4501-20; 4551; 4570; 4580; 4710-20-30; 4770; History 4015 when subject matter is appropriate.
(b) UNITED STATES: 3311-21; 3610-20; 3630-40-50; 3670; 3680; 3911-21-31; 4012; 4290; 4310-20-30; 4360; 4370; 4610-20-30; 4640-50-60; 4670; 4910-20-30; 4950-60; History 4015 when subject matter is appropriate.

Minor: History 1510-20 (or honors equivalent) is prerequisite to a minor which consists of 24 hours of courses numbered above the 2000 level of which at least 8 hours must be in United States history.

American Studies. See Cultural Studies.


Russian and East European Studies. See Cultural Studies.

1510-20 Development of Western Civilization (4, 4) 1510—Ancient World to 1715. 1520—1715 to present.

1518-28 Honors: Development of Western Civilization (4, 4) Consent of department required.

1610-20 A History of World Civilization since 1450 (4, 4) Interaction of Western and Non-Western peoples since the fifteenth century, 1450—ca. 1650. 1610—1650 to 1800—1800 to present.

1560-60 Afro-American History: An Introduction (4, 4) 1560—Afro-American civilization to 1890. 1600—1890 to present.

2350 U.S. and World Crisis, 1899 to Present (4) An introductory course in the history of 20th-century American foreign relations. May not satisfy major or minor requirements.

2510-20 History of the United States (4, 4) 2510—Settlement to 1865. 2520—1865 to present.

2511-21 Readings in United States History (1, 1) Directed readings in aspects of national past. Only for students who have not yet met Tennessee Legislature requirements in American history, or for transfers who enter liberal arts with credits, but fewer than eight, in an American history sequence. 2511—Settlement to 1865. 2521—1865 to present. Prereq: Consent of department; prereq or coreq: 2510 for 2520. May not be taken as 1 hr elective. Will not be offered during summer sessions.

2518-28 Honors: History of the United States (4, 4) Consent of department required.

3008 Honors: Introduction to Historical Analysis and Interpretations (3) Required of students working for honors in history.

3038 Honors: Philosophy and Method (3) Principles and techniques of research and study of critical and speculative philosophy of history. Required of students working for honors in history. Admission with consent of department.

3048: Honors: Readings (3) Required of and open only to students working for honors in history.

3060-70-80 History of Western Thought and Institutions (3, 3, 3) (Same as Religious Studies 3060-70-80.)

3140-50-60 History of England (3, 3, 3) 3140—To 1688. 3150—1688 through Reform Bill of 1832. 3160—1832 to present.

3210 History of Sports in United States (3) Analysis of development of sports and their significance to American culture from colonial period to present. Emphasis on social, cultural, economic, and political impact of both spectator and participatory sports.

3311-21 History of Tennessee (3, 3) 3311—18th century to Civil War Era. 3321—1865 to present.

3411-12-13 Renaissance and Reformation (3, 3, 3) 3411—Renaissance. 3412—Reformation 1517-1550. 3413—Catholic Reformation and Wars of Religion. (Same as Religious Studies 3411-13.)


3445-46 History of France (4, 4) 3445—To 1875. 3446—Since 1875.

3470-80 History of France (3, 3, 3) 3470—To 1801. 3480—19th Century. 3490—20th Century.

3610-20 the American Colonies and the American Revolution (3, 3) 3610—Settlements to 1754. 3620—1754-1789.

4280 Women in European History (4) Comparative analysis of role and image of women in Medieval, Renaissance, and Victorian periods. Attention given to parallel changes in structure of family as well as relationship between Western culture and women's protest movements.

4290 Women in American History (4) Approaches of 4280 applied to American society.

4310-20-30 History of American Foreign Relations (3, 3, 3) 4310—Revolution to 1901; 4320—1901-1941; 4330—1941 to present.

4360 The United States in World War II (4) Military, diplomatic, and domestic experience.

4370 U.S. Military History, 1754 to the Present (4) Examination of nation's broad strategic aims and means used to attain them, shifting strategy, tactics, and weaponry involved in our wars, and relationship between American society and its armed forces.

4380 Civilian-Military Relationships in the Modern Western World (3) Civilian-military affairs from about 1900 to 1960 in Western Europe, Russia, and America, emphasis on Western Europe: e.g. Grey/US Affair, Army in Nazi Germany, and Truman-Mac Arthur controversy.


4470 Poland and its Neighbors (3) A survey of Polish history from its beginnings to present with some emphasis on the Polish question within context of modern international affairs.

4480 Russian Intellectual History (3) Russian intellectual history from eighteenth century to present, emphasizing problems of Westernization, nationalism, and revolutionary tradition.

4490 Soviet Foreign Policy (3)

4500 History of Medieval England (3)

4510-20 Tudor- Stuart England (3, 3) 4510—1485-1603: 4520—1603-1714

4551 Great Britain from Burke to Bright (1780-1848) (3)

4570 Twentieth-Century Britain (3)

4580 Revolution and Reform: Ireland in the 19th and 20th Centuries (4)

4590 History of Canada, 1774-Present (3)

4610-20 The American Frontier and Westward Movement I, II, III (3, 3, 3) Settlement and development of the "West" throughout American history.

4640-50-60 Social and Cultural History of the United States (3, 3, 3) 4640—Colonial Society and Early Nation to 1825; 4650—1825-1925; 4650—1900-1900.

4670 Cities and Urbanization in American History (4) Origins, growth and influence of American cities in development of the nation, from colonial era to present.


4741 Italian City-States, 1250-1500 (3) Evolution of urban civilization in northern and central Italy in medieval and Renaissance periods. Architectural and townscapes forms studied in socio-economic as well as cultural contexts.

4770-80 Austria and Central Europe (3, 3) 4770—To 1867; 4780—Since 1867.

4791 Modernization of the Middle East (3) Advanced reading and discussion course which examines key facets of political, economic, and social dynamics in contemporary Middle East with emphasis on institution building, elites, and ideology. Prereq: 4795 or consent of instructor.
students invited on the basis of test scores, high school averages, and where appropriate, on University performance. Participation in the 2000-, 3000-, and 4000-level courses is based on cumulative averages. At present students with an average of 3.25 or greater are eligible.

Honors (509)

1118-28-38 Honors: First Year—Inquiry and Modes of Thought (2-4, 2-4, 2-4) 1118—The Humanities; 1128—The Natural Sciences; 1138—The Social Sciences. May be repeated.

2118-28-38 Honors: Sophomore—Special Problems Seminar (2-4, 2-4, 2-4) 2118—The Humanities; 2128—The Natural Sciences; 2138—The Social Sciences. These seminars focus on selected problems in the respective disciplines. The specific topics will vary from year to year. May be repeated.

3118-28-38 Honors: Junior—Colloquium (2-4, 2-4, 2-4) Small group studies of selected topics. May be repeated.

4101 Honors: Foreign Study (1-16) See page 187 and Director of Special Programs. Primarily for College Scholars Students.

4102 Honors: Off-Campus Study (1-16) See page 187 and Director of Special Programs. Primarily for College Scholars Students.

4103 Honors: Independent Study (1-16) See page 187 and Director of Special Programs. Primarily for College Scholars Students.

4118-28-38 Honors: Senior—Colloquium (2-4, 2-4, 2-4) Small group studies of selected topics. May be repeated.

4998 Honors: College Scholars Studies (2-16) Designed for College Scholars working on their senior thesis, project, or performance. May be repeated for a total of 16 credit hrs.

Human Services (532)

Associate Professors:
R.F. Krichak (Director), Ph.D. Tennessee; C.T. Cruthirds, D.S.W. Tulane.
Assistant Professors:
J.D. Mclean, Ph.D. Chicago; F.J. Spicuzza, M.S.W. Tennessee; N. Wright, M.S.W. Pittsburgh.
Instructor:
W.R. Woodruff, M.S.W. California (Berkeley).

Major: 48-52 hours
Requirements: Human Services 2690, 3100, 3300, 4220, 4229, 4400.
In addition, four courses from the following alternative areas (one course from each of the four areas):

I. Culture and Personality
American Studies 3010; Anthropology 3410, 3800, 3930, 4420, 4430, 4740; Audiology & Speech Pathology 4250, 4650; Child and Family Studies 3210, 3220, 4810; Educational Psychology 4110, 4800; Geography 3610; Psychology 3120, 3550, 3850, 4510; Sociology 3130, 4820; Speech 3021, 3630.

II. Complex Organizations
Geography 3610; Political Science 3565, 3566, 4665, 4666; Psychology 4500; Religious Studies/Sociology 4940; Sociology 3610, 3620, 4030, 4560.

III. Research and Statistics
Computer Science 3010; Philosophy 3720, 4720; Psychology 3150; Sociology 3910, 3920.

IV. Community and Society
Economics 3220, 3410; Anthropology 3070, 3450; Child and Family Studies 3515, 3520, 4610; Geography 3000, 3430; Home Economics 3110; Human Services 4900; Philosophy 3320, 3440, 3611; Political Science 3710, 3720, 3730, 3760, 4580, 4590; Public Health 3330; Religious Studies 3550, 3600, 3610; Rural Sociology 3420; Sociology 3160, 3220, 3330, 3380, 3420, 3510, 3891, 4330, 4530, 4540, 4930; Special Education 5490, 5620.

Total Hours Credit: 48-52

2690 Introduction to Human Services (4) General field of human services with focus on related societal values; contemporary issues in human services.

3100 Social Welfare as a Social Institution (4) Specific social welfare institutions examined in depth in relation to human needs, structure, program, and service approaches. 2690 recommended.
3200 Peoples and Problems of Appalachia (4)
Course designed to provide better understanding of Appalachian peoples, by exploring their life style and institutions in contemporary human services point of view. Special emphasis placed on political and economic structures of region. Recommended: Anthropology 4740.

3300 Thinking about People (4) Intended to facilitate development of research informed, and empathic attitudes toward human beings—those providing service as well as those receiving serv-

4100 Deviant Behavior as a Product of Labeling (4) Course is designed to show human services workers the role they play in maintaining the deviant or non-deviant role of client or clients being served. Settings considered will include crime, delinquency, health, and blindness.

4101 Foreign Study (1-16) See page 187.
4102 Off-Campus Study (1-16) See page 187.
4103 Independent Study (1-16) See page 187.

2200 Human Services Methodologies (16)
Inroduction to some specific helping techniques essential to administration and delivery of human services.

2229 Special Topics in Human Services (4) Examination of specific issues, methods, values, and trends which have implications for helping practitioners, e.g. art therapy, behavior modification, counseling skills, self awareness training. Content varies, topic to be determined by instruc-

4400 Human Services Field Work (8 or 16) Practical field experiences in appropriately organized and directed human services settings. Designed to offer the student the opportunity to learn and develop specific helping skills and to become exposed and involved in the roles and functions of social services; to provide some direct services in a supervised learning situation. For majors only. May be repeated up to 12 credit hrs.

4900 Aspects of Urban Environment (4) (Same as Architecture 4900, Real Estate 4900, Psychology 4900.)

Italian
See Romance Languages.

Japanese
See Cultural Studies (Asian Studies).

Latin
See Classics.

Latin American Studies
See Cultural Studies.

Linguistics
See Cultural Studies.

Mathematics (641)

P. W. Schaefer, Ph.D. Maryland; F.W. Stallman, Ph.D. Giessen (Germany); W R. Wade, Ph.D. California (Riverside).

Associate Professors:
C.E. Clark, Ph.D. Louisiana State; D.E. Dobbs, Ph.D. Cornell; D. J. Junker, Ph.D. New York; G.S. Jordan, Ph.D. Wisconsin; R. Kibbles, Ph.D. Ohio State; G.A. Klasseen, Ph.D. Nebraska; Y. Kuo, Ph.D. Cincinnati.

B.S. Rajput, Ph.D. Illinois; W.H. Row, Jr., Ph.D. Wisconsin; R. B. Sander, Ph.D. California (Berkeley); L. Soni, Ph.D. Oregon State; R.P. Soni, Ph.D. Oregon State; C.G. Wagner, Ph.D. Duke.

Assistant Professors:

Instructors:
C.G. Doss, M.A. Tennessee; M.S. McLean, M.S. Purdue; D.P. Nash, M.A. Colorado.

Undergraduate

Placement Information for Freshman Courses: Students who need more than one year of mathematics should plan to take 1840-50-60 (or 1842-52-62 or 1848-58-
68). The prerequisites for 1840 (and 1842) are two years of high school algebra, one year of geometry and one semester of trigonometry or equivalent. Students who present an ACT score below 28 in mathematics or an equivalent score on the SAT 1700 with a grade of C or better before taking 1840 (or 1842). Students who have not had high school trigonometry should take 1050 before (or concurrently with) 1840 (or 1842). Students who present an ACT score of at least 32 in mathematics and a high school average of at least 3.00 are eligible for the honors course 1848. Prospective mathematics majors who meet these requirements are particularly encouraged to enroll in 1848. (Exceptions to the eligibility criteria for 1848 are possible. Interested students should see the department head in Ayres Hall, Room 124.)

For majors only. May be repeated up to 12 credit hrs. S/N/C. Prerequisite: Consent of instructor.

9000 Aspects of Urban Environment (4) (Same as Architecture 4900, Real Estate 4900, Psychology 4900.)

College of Liberal Arts 215

Undergraduate

Placment Information for Freshman Courses: Students who need more than one year of mathematics should plan to take 1840-50-60 (or 1842-52-62 or 1848-58-
68). The prerequisites for 1840 (and 1842) are two years of high school algebra, one year of geometry and one semester of trigonometry or equivalent. Students who present an ACT score below 28 in mathematics or an equivalent score on the SAT 1700 with a grade of C or better before taking 1840 (or 1842). Students who have not had high school trigonometry should take 1050 before (or concurrently with) 1840 (or 1842). Students who present an ACT score of at least 32 in mathematics and a high school average of at least 3.00 are eligible for the honors course 1848. Prospective mathematics majors who meet these requirements are particularly encouraged to enroll in 1848. (Exceptions to the eligibility criteria for 1848 are possible. Interested students should see the department head in Ayres Hall, Room 124.)

The prerequisites for 1540 are two years of high school algebra or one year of algebra and one year of geometry. Students who present an ACT score below 18 in mathematics may take 1540 but are advised to take Algebra Refresher, Part I, in the Workshops and Non-Credit Programs (or an equivalent elsewhere) and, at the same time, Part II, in the Workshops and Non-Credit Programs (or an equivalent in another department). Students who have taken 2 years of high school algebra and 1 year of high school geometry and who present an ACT score in mathematics of at least 20 (or those who earned at least a grade of B in high school algebra and geometry, and present an ACT score in mathematics of at least 24) are encouraged to opt 1540 and begin with 1550.

Students who have a deficiency in algebra or geometry must remove the deficiency by taking the appropriate refresher course(s) in the Workshops and Non-Credit Programs (or equivalent elsewhere).

A student may receive credit for only one of the following courses: 1500, 1540, 1700. The last one of these courses taken is the one which will count towards the major requirement.

Honors Courses: The current practice of the department is to offer honors versions (1848-58-68 and 2848-58-68) of 1840-50-60 in sequence, fall-winter-spring, each year. In addition to these regularly offered honors courses, an honors version of any course in the department whose number has zero as the last digit may be offered in any quarter. In this case, the last digit will be changed to eight and the title will be preceded by the word "Honors," both in the Timetable and on the student's transcript. These honors courses may be offered upon the initiative of interested faculty, students, or the department head (in all cases subject to the approval of the department head).

Proficiency Examinations: Students who have taken calculus in high school are encouraged to inquire at the Mathematics Office, Ayres 121 about the possibility of taking a proficiency examination for course credit from the calculus sequence 1840-50-60. If a satisfactory grade is made on the examination(s), credit will be awarded for the appropriate course(s).

Major: To major in mathematics, a student must complete the Basic Requirements and Advanced Requirements listed below:

1. Basic Requirements:
   a. 2840-50-60; or 2848-58-68; or 2540-50-60, 2610, and 2860.
   b. 3810, preferably taken during the sophomore year. Students who take 2848-58-68 may substitute any 3 or 4 hour mathematics course numbered 3050 or above for 3810.

2. Advanced Requirements:
   a. 21 additional hours in mathematics courses numbered 3050 or above, including a senior seminar (4910 or 4920) and at least two of the following sequences: 3780-90, 3920-30, 4060-4245, 4060-70, 4120-50, 4120-4810, 4150-60, 4225-35, 4225-45, 4235-45, 4510-20, 4550-4260, 4710-4550, 4610-30, 4610-4235, 4650-60, 4710-4250, 4750-60.
   b. 9 additional hours in courses from the following list: mathematics courses numbered 4000 or above, Computer Science 3715, 4710, 3510, 4510; Curriculum and Instruction 3751, 3752, 3521, 3522; Physics 3210, 3220, 3230, 4410, 4420, 4430, 4210, 4220, 4250; Statistics 3450.

Honors Program:
An Honors Program in mathematics will consist of at least 27 hours of mathematics courses numbered 4000 or above, including at least 9 hours of honors courses (those whose number ends in 8). Students who satisfy the major requirements (categories 1 and 2 above) and complete the Honors Program with a grade average of at least 3.4, 3.6, or 3.8 will be graduated with Honors, High Honors, or Highest Honors in mathematics, respectively.
In exceptional cases, other courses of similar level may be accepted in place of the six hours of honors courses. A student who wishes to be considered under the Honors Program will apply the quarter before he or she expects to graduate (but in the spring, if graduation is to be in December). The application will list the 27 hours to be offered, including the honors courses or their proposed substitutes. Students taking more than 27 hours of qualifying courses may select those to be listed. A note of successful completion will be added to the student's transcript.

Students interested in planning an Honors Program should consult their advisers as early as possible.

Minor: Consists of 20 - 29 hours (or 2848-56-68; or 2540-50-60, 2610 and 2860) and at least 12 hours in courses numbered 3050 or above.

Program Planning for Majors:

Mathematics majors have considerable freedom in determining how they will meet the advanced requirements of the major. In order to offer some guidance in program planning, the mathematics department has designed several sample programs which majors may wish to follow. A brief description of these programs appears below; for more detailed information about these or any additional programs which the department may design in the future is available in Ayres 121. Completion of the courses suggested in any of the following programs will meet (and, in some cases exceed) the advanced requirements for a major in mathematics.

All students who intend to pursue graduate studies in the mathematical sciences are strongly urged to study French, German, or Russian for at least two years.

Program 1. This program is designed for students who have a general interest in mathematics and do not plan to become professional mathematicians. Supplemented by appropriate non-mathematical electives, such a program might be followed, for example, by premedical or pre-law students, by students planning to teach secondary school mathematics, or by those who plan to enter business after graduation. Suggested courses: Mathematics 3150, 3050-60, 3780-90, 3330, 4510-20, 4120, senior seminar, 6 hours of math electives.

Program 2. This program emphasizes pure mathematics and is designed to prepare students for graduate work in any of the mathematical sciences. Suggested courses: Mathematics 3150, 3210-30, 4100-20-30, 4120, 4150-60, 4520, senior seminar, 3 hours of math electives. The honors courses 4158-28-38 and 4158-68 are especially recommended. Since 4158-68 begins only in the fall quarter, students who wish to enroll in this sequence should take 4120 during their sophomore or junior years.

Program 3-A. This program emphasizes numerical mathematics and is designed to prepare the student for employment in industry. Suggested courses: Mathematics 3150, 4225-35, 4610, 4060-70, 4250,
statistics and finite probability. This course is especially recommended for architecture majors. Prereq: 1810. A student who has not studied calculus after taking 1900 should consult the mathematics department.

2012 Basic Concepts of Elementary Mathematics (4) Sets, theory of arithmetic operations, ele- ments of numerical analysis. Basic geo- metrical concepts, elementary analytic geometry. Applications. May not be counted as credit toward graduation in any subject. 1110-1500, 1540, 1550, 2530, 1810, 1818, 1840, 1848, 2110, 2410, 2412, 2540, 2710. Primarily for secondary education students.

2020 Great Ideas in Mathematics (4) Course for non-science majors to expose the student to ideas which have had a significant impact on direction of mathematical thought in particular and on civilization in general. Selected topics may include: the Greeks and mathematics as logical reasoning; irrational numbers; Descartes and co- ordinate geometry; Newton and Leibniz and the mathematics of motion; non-Euclidean geometry; the infinite. Prereq: High school algebra and geometry and an interest in cultural mathematics.

2110-20-30 Structure of the Number System (3, 3, 3) 2110—Set theory, whole numbers, integers. 2120—Inverses, order properties, rational num- bers. 2130—Real number theory, rational and irrational numbers. Euclidean geometry. Must be taken in sequence. Prereq: 1 year high school algebra and completion of 2110 before standing in ele- mентary education, College of Education, or con- sept of instructor.

2412-22 Finite Mathematics (4, 4) Logic and sets, counting techniques, vectors and ma- trices, elementary optimization and game theory, applications to simple problems in the behavioral and/or managerial sciences. Prereq: Two years of high school algebra or one year of algebra and one year geometry.

2512 Calculus Refresher (4) Functions, graphs, limits, derivatives, mean value theorem, integra- tion and properties of the integral. For students who have had some previous exposure to differen- tial and integral calculus. Prereq: 1560 or equiva- lent and consent of instructor.

2540-50-60 Calculus (4, 4, 4) Calculus sequence for students who have completed 1560 or students who have had a significant introduction to calculus in high school. Definition of a derivative; derivatives of algebraic functions, the chain rule, differentials, continuity; applications of deriva- tives; Rolle’s Theorem, the Mean Value Theorem, maxima and minima; indefinite integrals and appli- cations, the definite integral and applications, Fundamental Theorem of Calculus. Computing deriv- atives and integrals of transcendental functions, methods of integration, parametric equations, vectors, vector products, lines and planes, sur- faces, directional derivatives, partial deriva- tives, the chain rule, the total differential, maxima and minima, line integrals, exact differentials, multiple integrals with applications, cylindrical and spherical coordinates, series, tests for con- vergence, power series, Taylor’s series. Must be taken in sequence. Prereq: Math 1560 or at least one semester of high school calculus.

2610 Introduction to Differential Equations (2) Var- iables separable, homogeneous, exact, and linear first order equations, integrating factors. Second order linear equations with constant coefficients. Prereq: 1830.

2840-50-60 Multivariable Calculus and Matrix Al- gebra (4, 4, 4) 2840-50—Differential equations, vectors in the plane, matrices, solid analytic geometry, dot and cross product of vectors, space curves. Functions of several variables, directional derivatives, partial derivatives, gradient, curves and surfaces, multiple integrals, cylindrical and spherical coordinates, series, convergence tests, power series, Taylor’s formula, indeterminate forms, absolute convergence. Prereq: Math 1800. Must be taken in sequence. Vectors, systems of equations, determinants, inverses of matrices, eigenvalues and eigenvectors. A student can receive credit for 2860 and 4050. Prereq: 2820 or 2560 or consent of instructor.

2848-58-68 Honors: Multivariable Calculus and Ma- trix Algebra (4, 4, 4) Honors course for selected students extending the basis of performance in 2848-58-68 or 1840-50-60. Prerequisites. If specific courses are listed below as prerequisites, equivalent preparation satisfactory to the instructor will be an acceptable substitute. Graduate standing is a prerequisite to enrollment in courses numbered above 6000.

Undergraduates working towards a major in mathematics with a view to taking advanced work are strongly recommended to include 4510-20-30 and 4150-60 during the junior or senior year.

3000 Elementary Quantitative Methods (4) Ele- mentary course designed to prepare students in social and life sciences for quantitative courses in their department. Treats basic topics in probability and statistics without calculus. Course cannot be used to meet requirements for majors or minors in mathematics, nor is it available for credit to students in College of Business Administration.

3040 The Ideas of Calculus (4) Study of basic ideas and theory behind differential and integral calculus designed for students whose course of studies does not involve the material. Emphasis on the historical framework in which calculus was developed and the consequent philosophical and scientific thought. Prereq: One year of high school algebra. May not be taken for credit by any student who has previously received credit for any college-level calculus course.

3050 Elementary Probability and Statistical Analy- sis (3) Combinatorial problems; sample spaces, sets, and events; statistical independence; axiom- atic probability theory; random variables and their distributions; simple random processes. Prereq: 1550-60 or equivalent.

3060 Elementary Statistical Analysis (3) Element- ary probability distributions; sampling theory; confidence intervals and statistical tests of hy- potheses; least squares and linear regression. Prereq: 3050 or consent of instructor.

3090 Polynomials and Rings (3) An introduction to abstract algebra, beginning with study of in- tegers followed by more general notion of rings, integral domains, and fields. Emphasis is given to certain ring theoretic properties shared by integers and polynomial rings over certain fields. Prereq or coreq: Math 3100 or consent of instructor.

3100 Logic and Sets (3) Elements of mathematical logic; elementary algebra of sets. Primarily for students in the College of Education. Prereq: 1 year of college algebra.

3110 Real Number System (3) Laws of arithmetic; rational and irrational numbers; fields. Primarily for students in the College of Education. Prereq: 1 year of college mathematics.

3150 Introduction to Numerical Algorithms and Pro- gramming (3) (Same as Computer Science 3150.)

3155 Introduction to Numerical Algorithms (3) (Same as Computer Science 3155.)

3220 History of Mathematics (3) Survey of develop- ment of many branches of mathematics, from ancient to modern times. Not acceptable for satis- fying requirements for a major or minor in mathe- matics. Prereq: Math 1880 or 2850 or equivalent.

3310 Advanced Euclidean Geometry (3) Triangles and circles; compass and straightedge construction concepts. Prereq: 1 year of college mathematics.

3320 Non-Euclidean Geometry (3) Foundations of geometry. Elliptic and hyperbolic plane geometry. Prereq: 1 year of college mathematics.

3330 Transformational Geometry (3) Fundamental transformations in Euclidean plane geometry. Classification of isometries and similarities; symmetries of a polygon; inversions. Prereq: 1 year of col- lege mathematics.

3510 Intermediate Analysis (3) Primarily for stu- dents in secondary mathematics education. Coupled with a 2-credit calculus from advanced viewpoint with emphasis on proofs of basic theorems. Topics covered include limits of sequences and functions, continuity, derivatives, definite integral, and fundamental theorem of integral calculus. Prereq: 1550-60 or 1890.

3715 Discrete Structures (3) (Same as Computer Science 3715.)


3725 Advanced Discrete Structures (3) (Same as Computer Science 3725.)

3780-90 Introduction to Combinatorial Theory (3, 3) Introduction to problems of arrangement and se- lection within discrete systems. Enumeration by recurrence relations and generating functions, graph theory, finite geometries and finite fields, partitions, block designs. Prereq: Math 2860 or consent of instructor.

3810 How to Prove It (3) A course is designed to im- prove understanding of nature and methods of mathematical proof by means of practice and par- ticipation in seminar and discussion. May be taken with 3820, and will include certain standard topics such as ele- mementary set theory, relations and functions, and mathematical induction. Coreq: 2850 or 2560.

3820-30 Topology of Euclidean Spaces (3, 3) Topics will include basic topology of line, plane, separation properties, compactness, connectedness, com- pleteness, continuous functions, homeomor- phisms, continuity, and topological matrix norms. May be taken in sequence. Prereq: 3810 or 2860 or con- sent of instructor.

3990 Studies in Mathematics (1-4) Credit deter- mined at registration. May be repeated for credit with consent of department; maximum 9 hrs credit. Prereq: Consent of instructor.

4050 Matrix Algebra and Applications (3) Matrices, elementary operations, systems of linear equa- tions, vector spaces, determinants, eigenvalues and eigenvectors. A student cannot receive credit for both 2860 and 4050. Prereq: 2850 or 2560 or consent of instructor.

4060-70 Matrix Algebra and Applications (3, 3) Eigenvalues and eigenvectors, singular values and singular vectors, unitary and similarity transforma- tions, quadratic forms, complex vector spaces, Jordan canonical form, and related topics. Prereq: 2860 or 4050.

4102 Off-Campus Study (1-16) See page 187.

4120 Linear Algebra (3) Abstract vector spaces, linear transformations, and their matrices, sys- tems of linear equations and determinants, inner products, and diagonalization of symmetric ma- trices. Prereq: 2860 or 4050.

4150-60 Abstract Algebra (3, 3) Equivalence rela- tions and partitions, properties of integers, ele- ments of number theory of groups, rings, integral domains, divisibility, unique factoriza- tion domains, fields. Must be taken in sequence. Prereq: 2860 or 4050.

4225 Numerical Solution to Equations and Nu- merical Approximations (3) Numerical solution to equations and numerical approximations. Intro- duction to errors, round-off errors, limit errors. Solution of a single nonlinear equation; introduction to iterative methods for linear and nonlinear systems. Polynomial and rational zeros, polynomial and inverse power methods for eigenvalues. Ap- proximation by polynomials, piecewise polynomial- ization of geometric curves and surfaces, function approximation and complexity. Coreq: 3150 or 3155. (Same as Computer Science 4225.)

4810 Senior Seminar (1-2) Credit determined at registration. May be repeated for credit with consent of department; student may offer a maximum of 4 hrs credit from 4910 and 4920 combined. Prereq: Senior standing.

4920 Senior Seminar (1-2) Credit determined at registration. May be repeated for credit with consent of department; student may offer a maximum of 4 hrs credit from 4910 and 4920 combined. Prereq: Senior standing.

4980 Readings in Mathematics (1-3) Open to superior students with consent of department head. Independent study with faculty guidance. May be repeated. Maximum 9 hrs credit.

4990 Studies in Mathematics (1-4) Credit determined at registration. May be repeated for credit with consent of department; maximum 9 hrs credit. Permission of consent of department head may be requested. Recommended for advanced students and for graduate credit under consent of department head.

GRADUATE

The Department of Mathematics offers four advanced degrees. In order to become a candidate for any one of these the student must first be admitted to the Graduate School. The Master of Arts and Master of Science degree programs presuppose a bachelor's degree with a major in mathematics. The Master of Mathematics degree is intended primarily for teachers of high school mathematics. Applicants for admission to this program must take the Graduate Record Examination and must have either (a) certification for teaching secondary mathematics, or (b) successful elementary or secondary school teaching experience. The Doctor of Philosophy degree program presupposes a bachelor's or master's degree with a strong major in mathematics. This program is intended to train professional mathematicians for a career of teaching and scholarly work in colleges and universities or work in industry. Further details on all of these programs are in the Graduate Catalog.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5011 Elementary Functions from an Advanced Standpoint for Teachers (3-4)

5012 Differential Geometry for Teachers (3-4)

5013 Geometries for Teachers (3-4)

5014 Analysis for Teachers (3-4)

5015 Probability and Statistical Inference for Teachers (3-4)

5050-60-70 Mathematical Logic (3, 3, 3)

5110-20-30 Theory of Functions of Complex Variables (3, 3, 3)

5150-70-70 Foundations of Analysis (3, 3, 3)

5210-20-30 Theory of Functions of a Real Variable (3, 3, 3)

5240-50-60 Linear Algebra (3, 3, 3)

5270 Stability Theory and Liapunov's Direct Method (3)

5310-20-30 Introduction to Higher Geometry (3, 3, 3)

5430 Integral Equations (3)

5440 Calculus of Variations (3)

5450-60-70 Introduction to Partial Differential Equations (3, 3, 3)

5465 Finite Difference Methods for Partial Differential Equations (3)
Associate Professors: R.J. Courtney, Ph.D. Syracuse; R.V. Miller, Ph.D. Illinois, W.S. Riggsby, Ph.D. Yale; B.T. Rouse, Ph.D. Guelph (Canada).

Assistant Professors: D.A. Benocis, Ph.D. Cornell; D.A. Brian, D.V.M., Ph.D. Michigan State; G.S. Sayler, Ph.D. Idaho.

UNDERGRADUATE
Major: Consists of Biology 3110, 3120, 4110, 4120, Microbiology 3510-19, 3520-29, 3530-39, and 12 hours of upper-division courses in microbiology of which 2 hours must be in a 4000-level laboratory course. Prerequisites to this major are Biology 1210-20-30 or Honors Zoology 1118-28, and Chemistry 1110-20-30. Corequisites are Chemistry 3211-21-31, 3219-28-39, and Mathematics 1841-51 or 1540-50-60. It is recommended that students who intend to do post-graduate study take Mathematics 1841-51. It is further recommended that such students take Physics 2210-20-30.

Microbiology (684)
2110 Microbiology for Student Nurses (4) Introductory course offered only to student nurses in diploma program of hospitals affiliated with The University of Tennessee. Microbiological principles as they apply to nursing care of the patient, epidemiology of infection, and principles of immunity and allergy. 3 hrs and 1 lab.

2160 General Microbiology (3) General properties of bacteria, viruses, and fungi including study of pathogenesis, immunity, and applied bacteriology. The combination of both 2160 and 2161 meets the needs of programs that require a one-quarter course in microbiology. Coreq: 2911 or 2919.

2191 Microbes in Action (1) Discussions, demonstrations, and films relating to the subject matter of 2190. Students do not receive credit for 2911 if 2919 has been taken. Prereq or coreq: 2910.

2191 Laboratory in General Microbiology (2) Laboratory exercises designed to accompany 2910. Open only to students majoring in Preventive Medicine, pre-veterinary medicine, food technology, food science, nutrition, or food systems administration. Others by consent of instructor. Students do not receive credit for 2910 if 2919 has been taken. Prereq or coreq: 2910.

3510 Introduction to Microbiology I: Physiology, Genetics, and Bacteriology (4) Structure and behavior of prokaryotic and eukaryotic microorganisms: physiology and genetics of bacteria and viruses. Place of microorganisms in the environment. Prereq: Biology 3110, 3120.

3519-29 Introduction to Microbiology Laboratory II, I, III (2, 1, 1) Laboratory exercises designed to accompany 3510-20-30 which are coreq for 3519-28-38 respectively. 3519 is prereq to 3539.

3520 Introduction to Microbiology II: Immunology (2) Basic principles of inflammation and immunity, immunoglobulin structure, complement, hypersensitvity, and cell-mediated immunity. Prereq: Biology 3120. (Same as Zoology 3520.)

3530 Introduction to Microbiology III: Pathogenic Microbiology (2) Disease-producing microorganisms including bacteria, fungi, and viruses. Prereq: 3510.

3810 Food Bacteriology (4) Standard methods for examination, cultivation, and identification of bacteria associated with food fermentation and food spoilage. Prereq: 2510 and Chemistry 2230 or 3211, 2 hrs and 2 labs.

3820 Yeasts and Molds (4) Morphology, taxonomy, and physiology of yeasts, actinomycetes, and fungi. Special emphasis on industrial importance. Prereq: 2510 and Chemistry 2230 or 3211, or consent of instructor. 2 hrs and 2 labs.

4010 Biology of Soil Microorganisms (4) (Same as Agricultural Biology 4010.)

4101 Foreign Study (1-16) See page 187. No more than 3 hrs may be applied toward a major or minor in microbiology. May be repeated to a total of 16 hrs.

4102 Off-Campus Study (1-16) See page 187. No more than 3 hrs may be applied toward a major or minor in microbiology. May be repeated to a total of 16 hrs.

4103 Independent Study (1-16) See page 187. No more than 3 hrs may be applied toward a major or minor in microbiology. May be repeated to a total of 16 hrs.

4110 Physiology of Bacteria (2) Modern concepts of bacterial physiology and metabolism including cell structure and function. Prereq: 3510 and 12 hrs of organic chemistry.

4119 Bacterial Physiology Laboratory (2) Prereq: 3519; coreq: 4110.

4130 Taxonomy of Bacteria (3) Bacterial classification. Prereq: 3510-19. 3 hrs.

4140 Molecular Genetics of Prokaryotes (2) Transmission and expression of genetic information at the molecular level. Emphasis is on bacterial and viral systems, but unique features of eukaryotic genetic systems are included. Prereq: 3510 or consent of instructor.

4150 Microbial Ecology (3) Application of ecological principles to study of microbial communities. Emphasis on functional role of microorganisms in natural environments. Prereq: 3510, one year organic chemistry, Biology 3130, or consent of instructor.

4270 Advanced Immunology (2) Chemistry of antibodies and antigens, theories of antigen formation, cell cooperation in immune mechanisms, transplantation, abnormalities of the immune system, and autoimmune diseases. Prereq: 3520 or consent of instructor. (Same as Zoology 4270.)

4279 Advanced Immunology Laboratory (2) Laboratory exercises designed to accompany 4270. Prereq or coreq: 4270.

4289 Serological Methods (2) Practical procedures in serology and clinical immunology. Prereq or coreq: 4270.

4320 Pathogenic Bacteriology (2) Disease producing microorganisms including bacteria, rickettsia, and chlamydia. Prereq: 3530.

4329 Pathogenic Bacteriology Laboratory (2) Techniques for isolation, cultivation, and identification of pathogenic bacteria. Prereq: 3539; coreq: 4320.

4330 Medical Mycology (2) Disease causing fungi; cytology, physiology, pathogenesis and immunity; emphasis on methodology of isolation and identification. Prereq: 3530 and 3820.

4339 Medical Mycology Laboratory (2) Prereq: 3519; coreq: 4330.

4420 Molecular Virology (2) Molecular aspects of the replication, assembly, and expression of viruses, with emphasis on bacteria. Prereq: 3510.

4430 Medical Virology (2) General virology with emphasis on medical aspects. Prereq: 3530.

4439 Medical Virology Laboratory (2) Laboratory procedures for isolation, handling and culturing of animal viruses. Prereq: 3530; coreq: 4430.

4909 Laboratory Problems in Microbiology (2-6) Involvement in research program of a faculty member through independent study projects. Consent of individual faculty member required. Not more than 3 hrs may be used towards a major in microbiology. May be repeated. Maximum 12 hrs credit.

4910 Seminar in Microbiology (1) May not be applied towards a major in microbiology. Prereq: Senior standing, consent of instructor. S/NC.

GRADUATE
5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)
5011-12 Non-thesis Mini-course in Microbiology (1, 1, 1, 1, 1)

5130 Topics in Taxonomy (3)
5310 Selected Topics in Microbiological Research (3)
5360 Topics in Immunology and Immunonchemistry (4)
5411-42-43-44-45-46 Clinical Microbiology (6, 6, 6, 6, 6, 6)
5510-20-30 Research Problems (3, 3, 3)
5720 Microbial Physiology (3)
5730 Pathogenesis of Infectious Disease (3)
5750 The Oncogenic Viruses (3)
5760 The Bacterial Viruses (3)
5819 Molecular Genetics Laboratory (3)
5820 Microbiology of Foods (3)
5829 Experimental Microbial Ecology (3)
5850 Seminar in History of Microbiology (1)
5910-20-30 General Seminar (1, 1, 1)

6000 Doctoral Research and Dissertation
6310 Seminar in Immunology (1)
6320 Seminar in Microbial Pathogenesis (1)
6330 Seminar in Microbial Physiology (1)
6340 Seminar in Microbial Genetics (1)
6350 Seminar in Virology (1)
6360 Seminar in the Filamentous Fungi (1)
6370 Current Topics in Environmental Microbiology (2)
6410 Concepts of Immunity (3)
6720 Advanced Topics in Microbial Physiology (3)
6730 Advanced Topics in Microbial Pathogenesis (3)
6740 Advances in Virology (3)
6780 Advanced Topics in Microbial Genetics (1)
6810-20-30 Problem Seminar (1, 1, 1)

Medical Technology (669)
Courses in this major are open only to qualified students who have completed the first three years of the Sciences-Medical Technology Curriculum, described on page 181, and who have been approved by the Pre-Medical Advisory Committee.

4011-12 Microbiology (6, 6) Laboratory work in bacteriology, mycology, and parasitology. Emphasis on pathogenic bacteria and fungi, their sources, methods of culture, techniques of identification, and evaluation of antibiotic sensitivity. Gross and qualitative chemical examination of feces and methods of identification of protozoa and helminth parasites of man.

4021-22 Clinical Chemistry (6, 6) Clinical aspects of biochemistry, including overview of principles and instrumentation with emphasis on practical laboratory applications of analytical procedures, specimen collection and handling, significance of results, and quality assurance. Includes blood gas analysis, including radioimmunoassay, and analysis of blood and other body fluids for enzymes, hormones, and other constituents of clinical interest, utilizing both automated and manual techniques.

4031-32 Hematology and Clinical Microscopy (6, 6) Principles, theories, and instrumentation related to the qualitative and quantitative evaluation of cellular elements of blood and other body fluids.
factors of hemostasis, quantitative chemical analysis of various clinical fluid studies. Emphasis is placed on microscopic identification of cells and the significance and correlation of laboratory data.

4041-42 Immunohematology (4, 4) Theory and practice in blood bank operation. Erythrocyte antigens and their normal and abnormal immunology. Standard techniques used in evaluating blood typing, cross-matching, and antibody detection, and preparation of blood components for transfusion. Biological methods standard to an efficient blood bank are important part of course material.

4043 Clinical Serology and Immunology (2) Perspectives and broad range of clinical serological and immunological procedures with emphasis on principles and clinical correlation. Formal lecture series included.

4050 Nuclear Medicine (1) Physical characteristics, detection and use of short half-lifetime radioactive materials. Emphasis placed on in vivo diagnostic medical uses and radiation safety.

4060 Histology (1) Overview of techniques of preparing whole mounts of animals for histologic examination and role of histopathology in clinical diagnosis.

4071 Orientation and Basic Techniques (1) Designed to facilitate transfer of students from campus to hospital community and clinical laboratory. Introduction to medical terminology, ethics, and health team concept. Orientation to basic techniques in laboratory study include procedures for collection and handling of specimens, principles of operation of major laboratory instruments, review of laboratory math and introduction of quality control procedures. Portions of course extend over entire clinical year.

4072 Principles of Supervision and Education in Medical Technology (1) Consists of seminars in basic principles of management, supervision, and education theories and methods. There will be comprehensive examination covering the entire course.

Music (698)


The Department of Music offers curricula leading to the Bachelor of Music degree which is designed to prepare students for graduate study and for professional positions, and the Bachelor of Arts degree with a major and minor in music, designed for those students whose interests are strong but essentially non-professional. The following are the major requirements for the B.M. degree may be found on page 183. The requirements for a major and minor are as follows:

Major:
(a) Concentration in Applied Music—consists of Music 2000, 2111-21-31, 2113-23-33, 2310-20-30-40, 27 hours in applied music at the 2000-3000-4000 levels (9 hours each), and junior and senior recitals. Prerequisites are Music 1111-21-31, 1113-23-33, and 3 quarters of study in applied music at the 1000 level.
(b) Concentration in Music History and Literature—consists of Music 2111-21-31, 2113-23-33, 2310-20-30-40, and 27 upper-division hours in music history and literature. Prerequisites are Music 1111-21-31, 1113-23-33, and 1340.

Minor:
(a) Concentration in Applied Music—consists of Music 2000, 2111-21-31, 2113-20-30-40, and 18 upper-division hours in music history and literature. Prerequisites are the same as those for the major.
(b) Concentration in Music History and Literature—consists of Music 2111-21-31, 2113-20-30-40 and 18 upper-division hours in music history and literature. Prerequisites are the same as those for the major.

The Bachelor of Science in Music Education, designed for preparation for institutional teaching, is administered by the Department of Music Education. See page 108 for requirements.

GENERAL

1000 Fundamentals of Music Theory (3) Theory and practice of basic elements of music. 3 hrs.
1010-20-30-40-50-60 Class Piano (1, 1, 1, 1, 1, 1) For music and music education majors only. Must be taken during the first two years. May be waived by successful completion of Piano Competency Exam. Waived courses must be substituted with an equivalent number of quarters of study in Music 1580 or above.
1015 Class Voice (1) For music and music education majors only. May be repeated for credit.
2000 Solo Class (0)
2010 Introduction to Musical Theatre Technology (3) Stage technology unique to lyrical stage.
2055-65-75 Diction for Singers (2, 2, 2) Sounds by phonetic symbols. Opera and art songs used for examples. Performance practice.
2071-81-91 Church Service Playing I (1, 1, 1) Practical skills applicable to the use of the organ in church services, including keyboard harmony, improvisation, keyboard playing, and accompanying on the organ. Prereq: 1131 and 6 hrs in organ.
2810-20 Jazz Piano (1, 1) Harmonic language of jazz: interpretation of chord symbols, formulae for voicing chords, chord progressions, and fundamental melodic-playing and improvisation for right hand. Must be taken in sequence. Prereq: 1910-20.
3000 Junior Recital (0)
3012-22-32 Song Literature (2, 2, 2) Study of literature from 750 to present with emphasis on performance practices. 3012—Classical and Romantic German art song; 3022—French and Russian songs; 3032—Late German and contemporary songs. Prereq: 2075 and consent of instructor.
3014-24 Woodwind Literature (2, 2) Prereq: Consent of instructor.
3015 Percussion Literature (1) Prereq: Consent of instructor.
3016 String Literature (2) May be repeated. Maximum 6 hrs credit. Prereq: Consent of instructor.
3040-50-60 Advanced Piano Literature (2, 2, 2) Piano music from preclassical period to present. Prereq: Consent of instructor.
3041 Keyboard Harmony (2) Melody harmonization, figured bass realization, and improvisation. Prereq: 1131-33, and keyboard proficiency at the 2000 level.
3052-53 Jazz Improvisation (2, 2) Study and application of principles of improvisation, including nomenclature, chord progressions, chord-scales, patterns, melodic development, and free form devices. Prereq: Consent of instructor. 2 hrs and 1 lab.
3044-54 Brass Literature (2, 2) Prereq: Consent of instructor.
3070 Opera Production (1-3) Supervised work on opera productions. May be repeated for credit. Prereq: Consent of instructor.
3071-81-91 Church Service Playing II (1, 1) Continuation of Music 2371-81-91, which is prerequisite. Prereq: Consent of instructor.
4000 Senior Recital (0)
4002 Suzuki Piano Method (2) Study of the psychology, procedures, and literature of the Suzuki piano method. Prereq: Consent of instructor.
4010-30-30 Piano Techniques (1, 1) Problems of piano playing; development of piano technique; style and interpretation; program building. Prereq: Consent of instructor.
4011-22-32 Principles of Vocal Pedagogy (1, 1) Examination and evaluation of concepts and approaches to teaching singing (past and present) and their effectiveness. Participation in laboratory experiences accompanies the study. Prereq: Consent of instructor.
4041 Styles in Opera Acting (3) Study and practice of styles in opera acting based on historical and national characteristics. Prereq: 3015 or consent of instructor.
4045 Projects in Opera Theatre (1-3) May be repeated for credit. Prereq: Consent of instructor.
4050 Advanced Instrumental Conducting (3) Development of knowledge and skills in instrumental conducting; study of various periods and composers and relationship of different styles to the conductor's art; musical analysis and practice in conducting. Prereq: Music Ed. 4430 or equivalent.
4060 Choral Conducting (3) Development of knowledge and skills in choral conducting; study of various periods and composers and relationship of different styles to the conductor's art; musical analysis and practice in conducting. Prereq: Music Ed. 4430 or equivalent.
4074-84 Church Music Seminar (3, 3) History and philosophy of church music; liturgies and liturgical music; church music administration. Prereq: Consent of instructor.
half hour private instruction per week or its equivalent in class instruction. Applied music courses do not permit non-credit registration nor may students elect non-conventional grading.

Non-music students will be accepted at the secondary level if they meet audition requirements established by area faculty (piano, voice, violin, etc.) and instruction time is available.

Undergraduate students seeking entrance to applied music courses must be concurrently registered for no less than nine credit hours in academic courses. Graduate students must be concurrently registered for no less than six credit hours in academic courses. Exceptions to these requirements may be made with the approval of the department head if applied music registration is necessary to completion of degree requirements.

A placement test in applied music is measured by proficiency (Jury) examination. Students who do not meet proficiency requirements at any level may be required additional study at that level. Course level and credit hours will be determined by the applied faculty.

All students studying applied music at the principal level are required to register for Music 2000 Solo Class. The requirements for this course are to attend scheduled concerts, recitals, master, repertoire, and solo classes and to perform at least once each quarter as part of fulfillment of applied music credit requirements.

Applied Music Fees: $20 per quarter for half-hour lesson (1 credit hour) $40 per quarter for hour lesson (2-4 credit hours)

Computer registration and applied music fee payment must be verified in the Department of Music office no later than the end of the second day of classes of the fall, winter, and spring quarters and the first day of the summer terms in order to be accepted for applied music study.

Applied music fees are not refundable after lessons have been scheduled.

1500-2500 3500-4500 5500 Flute (1-4) May be repeated for credit.
1505-2505 3505-4505 5505 Oboe (1-4) May be repeated for credit.
1510-2510 3510-4510 5510 Bassoon (1-4) May be repeated for credit.
1515-2515 3515-4515 5515 Clarinet (1-4) May be repeated for credit.
1520-2520 3520-4520 5520 Saxophone (1-4) May be repeated for credit.
1525-2525 3525-4525 5525 Horn (1-4) May be repeated for credit.
1530-2530 3530-4530 5530 Trumpet (1-4) May be repeated for credit.
1535-2535 3535-4535 5535 Trombone (1-4) May be repeated for credit.
1540-2540 3540-4540 5540 Baritone (1-4) May be repeated for credit.
1545-2545 3545-4545 5545 Tuba (1-4) May be repeated for credit.
1550-2550 3550-4550 5550 Percussion (1-4) May be repeated for credit.
1555-2555 3555-4555 5555 Voice (1-4) May be repeated for credit.

1560-2560 3560-4560 5560 Violin (1-4) May be repeated for credit.
1565-2565 3565-4565 5565 Viola (1-4) May be repeated for credit.
1570-2570 3570-4570 5570 Cello (1-4) May be repeated for credit.
1575-2575 3575-4575 5575 String Bass (1-4) May be repeated for credit.
1580-2580 3580-4580 5580 Piano (1-4) May be repeated for credit.
1585-2585 3585-4585 5585 Harpsichord (1-4) May be repeated for credit.
1590-2590 3590-4590 5590 Organ (1-4) May be repeated for credit.
1595-2595 3595-4595 5595 Guitar (1-4) May be repeated for credit.
2599-3599 4599-5599 5599 Composition (1-3, 1-3, 1-3, 1-3) May be repeated for credit. Prereq: Consent of instructor.
3597-4597 5597 Composition with Electronic Media (1-3, 1-3, 1-3) May be repeated for credit. Prereq: 3199 and consent of instructor.

ENSEMBLES
All students studying applied music are required to perform in a major musical organization each quarter. String, woodwind, brass, and percussion students must be enrolled in an instrumental organization; voice students in a choral organization, opera workshop or opera theatre.

A student’s preference for musical organization will be honored whenever possible, but factors considered in making the assignment will include playing ability, specific needs of various organizations, and previous performance experience at the University.

3600-5600 Small Ensemble (1, 1) May be repeated for credit.
3601-5601 Woodwind Choir (1, 1) May be repeated for credit.
3602-5602 Brass Choir (1, 1) May be repeated for credit.
3604-5604 Jazz Ensemble (1, 1) May be repeated for credit.
3606-5606 Trombone Choir (1, 1) May be repeated for credit.
3607 Tuba Ensemble (1) May be repeated for credit.
3610-5610 Percussion Ensemble (1, 1) May be repeated for credit.
3612-5612 Baroque Ensemble (1, 1) May be repeated for credit.
3620-5620 UT Singers (1, 1) May be repeated for credit.
3630-5630 Chamber Singers (1, 1) May be repeated for credit.
3632-5632 Collegium (1, 1) May be repeated for credit.
3634-5634 Saxophone Choir (1, 1) May be repeated for credit.
3640-5640 Opera Theatre (1, 1) May be repeated for credit.
3642-5642 Opera Workshop (1, 1) May be repeated for credit.
3650-5650 Concert Band (1, 1) May be repeated for credit.
3652-5652 Campus Band (1, 1) May be repeated for credit.
3654-5654 Varsity Band (1, 1) May be repeated for credit.
3655-5655 Laboratory Band (1, 1) May be repeated for credit.
3657-5657 Marching Band (1, 1) May be repeated for credit.
3670-5670 Symphony Orchestra (1, 1) May be repeated for credit.
3680-5680 Concert Choir (1, 1) May be repeated for credit.
3682-5682 University Chorus (1, 1) May be repeated for credit.
3686-5686 Men’s Glee Club (1, 1) May be repeated for credit.
3687-5687 Women’s Chorale (1, 1) May be repeated for credit.
3699-5699 Accompanying (1, 1) May be repeated for credit.
5684 Campus Chorus (1) May be repeated for credit.

GRADUATE
The Department of Music offers the Master of Music degree in performance, composition, music theory, choral conducting, and Suzuki string techniques, and the Master of Arts degree in musicology and music theory. See the Graduate Catalog for admission and degree requirements.

5000 Thesis
5001 Choral Conducting Document (3)
5002 Non-Thesis Graduation Completion (3-15)
5010 Organ Literature Seminar (3)
5012-22-32 Pedagogy of Voice (2, 2, 2)
5020 Piano Literature Seminar (3)
5030 Choral Literature Seminar (3)
5040 Vocal Literature Seminar (3)
5050 Graduate Recital (3)
5051 Opera Performance (3)
5052 Vocal Chamber Music Performance (3)
5053 Choral Conducting Performance (3)
5054 Lecture-Recital (3)
5055-56 Practicum for Instrumental Conductors (1, 1)
5057 Instrumental Conducting Seminar (3)
5060 Seminar in Choral Performance (3)
5070 Opera Production (1-3)
5080 Instrumental Conducting Performance (1)
5090 Special Topics in Performance (1-3)
5100 Independent Study in Music Theory (1-3)
5111 Advanced Harmony (3)
5114 History of Music Theory (3)
5116 Musical Styles (3)
5121 Analytical Techniques (3)
5125 Practicum in Computers and Music Research (3)
5150 Seminar in Music Theory (3)
5200 Independent Study in Music History and Literature (1-3)
5210 Introduction to Music Research (3)
5220 Proseminar (3)
Organizational Psychology Program
See Graduate School.

Philosophy (745)
Professors: J.W. Davis (Head), Ph.D. Emory; R.B. Edwards, Ph.D. Emory; M.H. Moore (Emeritus), Ph.D. Chicago; D. Van de Vate, Ph.D. Yale.
Instructor: M.L. Osborne, M.A. Bryn Mawr.

Philosophy seeks to understand human, the world, their relations. It involves (1) use of logical and scientific methods, (2) appreciation of all values, (3) history of ideas, (4) philosophical systems.

Philosophy is an appropriate major for students wishing a broad education, and those preparing for careers as writers (whether journalistic or literary), lawyers, ministers, teachers, in various types of political and government service, and in non-technical positions in business and industry.

A major in philosophy implies a balanced program in the humanities, natural and social sciences. Graduate students should read French or German, preferably both; other ancient or modern languages are useful and necessary for some advanced work.

UNDERGRADUATE
Major: 36 hours in courses numbered 2000 and above. Majors should discuss their program with a member of the philosophy faculty.
Minor: 24 hours in courses numbered 2000 and above. It is suggested that minors discuss their programs with a member of the philosophy faculty.

American Studies. See Cultural Studies.

Russian and East European Studies. See Cultural Studies.

1510 Introduction to Philosophy: Human Nature and Values (4)
1520 Introduction to Philosophy: Consciousness and Reality (4) May be taken before 1510.
1600 Topics in Philosophy (4) May be repeated once for credit.
2310 Elementary Ethics (4) Theories of ethical values.
2410 Art and Experience (4) Introduction to various understandings of art.
2510-20 Elementary Logic (4, 4) 2510—Traditional or modern deductive logic, informal fallacies, uses of language, definitions. (3810 is recommended as introductory for students with mathematical aptitude), 2520—Inductive reasoning, elements of scientific method and statistical inference.
3111 Ancient Western Philosophy (4)
3121 Medieval Philosophy (4)
3131 Seventeenth- and Eighteenth-Century Philosophy (4)
3141 Nineteenth- and Early Twentieth-Century Philosophy (4)
3151 Contemporary Philosophy (4) Survey of recent movements in philosophy.
3270 Russian Philosophical and Theological Thought (4) Same as Russian 3270 and Religious Studies 3270.
3311-12 American Philosophy (4, 4) 3311—Colonial to late nineteenth century; 3312—Late nineteenth century to present.
3320 Philosophy of Law (4) Nature, sources, function of law.
3330 Philosophy of History (4) Speculative and critical aspects of philosophy of history.
3410 Philosophical Ideas in Literature (4) Philosophical assumptions and implications in major literary works.
3420 Philosophy of Literature (4) Study of the nature, functions, value and epistemical principles of literary arts.
3430 Concepts of Woman (4) Examination of some of theoretical foundations of feminism and anti-feminism.
3440 Social Ethics (4) Ethical theory as related to politics, econometrics, education, law, religion and the family.
3510 Existentialism (4)
3550 Marxism as Philosophy (4)
3570 Social and Political Philosophy (4) Philosophical problems relating to nature and justification of social policies and institutions.
3611 Religious and Philosophical Issues in Medical Ethics (4) (Same as Religious Studies 3611.)
3650 Philosophy and Religion in India (4) (Same as Religious Studies 3650.)
3660 Buddhist Philosophy and Religion (4) (Same as Religious Studies 3660.)
3671 Religion and Philosophy in China (4) (Same as Religious Studies 3671.)
3690 Philosophy of Religion (4) Analysis of basic issues of religion. (Same as Religious Studies 3690.)
3740-50 Conceptual History of Science (4, 4) 3740—The Scientific Revolution: historical evolution of thought in astronomy, mechanics, and philosophy of nature up to Newton. 3750—Development and decline of Newtonian science: historical evolution of thought on the nature of matter and of light, and the eight-hour physical science or consent of instructor.
3770 Introduction to Philosophy of Science (4) Standard topics in philosophy of science: scientific method, nature of laws and theories, problem of induction, explanation, measurement. No background in logic is presupposed.
3810 Introductory Symbolic Logic (4) Techniques for formal analysis of deductive reasoning (propositional logic and quantification theory).
3910 Contemporary Aesthetics (4) Philosophical discussion of contemporary art.
4000 Special Topics (4) A student- or instructor-initiated course to be offered at convenience of department. Subject matter to be determined by mutual consent of students and instructor with approval of department. Prerequisites to be determined by department. May be repeated for credit.
4101 Foreign Study (1-16) See page 187.
4102 Off-Campus Study (1-16) See page 187.
4103 Independent Study (1-16) See page 187.
4111-21 Modern Religious Philosophies (4, 4) (Same as Religious Studies 4111-21.)
4310 Intermediate Ethics (4) Topics in meta-ethics or ethics.
4370-71 Theoretical Issues in Medical Ethics (4, 4) 4370—Prereq.: 2310 or 3611 or consent of instructor. 4371—Prereq.: 4370 or consent of instructor. (Same as Religious Studies 4370-71.)
4410 Plato (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4420 Aristotle (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4450 Continental Rationalism (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4480 British Empiricism (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4470 Kant (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4480 Advanced Topics in Existentialism and Phenomenology (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4510 Intermediate Symbolic Logic (4) Axiomatic development of propositional calculus and first-order functional calculus. Prereq.: 3610 or equivalent.
4511 Advanced Topics in Logic (4) Prereq.: Consent of instructor. May be repeated for credit.
4610 Philosophical Analysis (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4620 Philosophy of Mind (4) Problems of mind and body in relation to consciousness and personal identity. Prereq.: 8 hrs of philosophy or consent of instructor.
4630 Philosophy of Language (4) Prereq.: Eight hrs of philosophy or consent of instructor.
4710 Philosophy of Natural Science (4) Consideration of standard topics pertinent to natural science including reduction of theories and teleological explanation. Familiarity with symbolic logic is recommended. Prereq.: 3770 or two years of natural science.
4720 Philosophy of Social Science (4) Examination of methods of inquiry and modes of explanation in social sciences. Prereq.: 3770 or two years of social science.
4810 Metaphysics (4) Prereq.: 8 hrs of philosophy or consent of instructor.

GRADUATE
Graduate Students, 5000 Thesis
5050 Symbolic Logic (4)
5080 Philosophy of Logic (4)
5110-20-30-40-50-60 Studies in History of European Philosophy (4, 4, 4, 4, 4, 4)
Astronomy (150)

2110-20-30 Introductory Astronomy (4, 4, 4) Surveys astronomical data and theories. 2110-20 concentrates on the solar system. 2130 introduces stellar astronomy including binary and variable stars clusters and nebulae. It is recommended that the courses be taken in sequence. 4 hrs including demonstration lab.

2118-28-38 Honors: Introductory Astronomy (4, 4, 4) Observation and theories of matter and space in the universe. Planets, stars, and the interstellar medium. Must be taken in sequence. 3 hrs lecture-discussion; 2 hrs lab per week. Coreq: Math 1810-20-30 or equivalent.

4110-20-30 Astrophysics (3, 3, 3) Physics of stars and interstellar matter, planets and interplanetary matter; atmospheres, interiors, and evolution; nebulae, quasars, pulsars, etc. Observational data and their interpretation. Current development. Approach will be interdisciplinary. Acceptable for major credit in physics. Prereq: Physics 2330 and consent of instructor.

Physics (773) UNDERGRADUATE

The undergraduate program in physics is designed to give the student a wide background which will permit ready specialization in various areas such as nuclear physics, solid state physics, high energy physics, molecular physics, etc. Students planning to major in physics are urged to consult advisers in the Department of Physics prior to registration in freshman year with regard to selection of proper first course in physics.

Major: Physics 1310 and Mathematics 1400-50-60 are prerequisites to a major in physics which includes the following courses: Physics 2318-38, Mathematics 2610-30-40, and 2210-20; either Physics 3710-20-30 or 4110-20-30; 4210-20; and at least six hours from 3510-20, 3610-20, 4230-40, 4510-20-30, 4540-50. Physics 1310-20 or Basic Engineering 1310-20-30 may be substituted for Physics 1318-28-38 and Physics 2310- 20-30 may be substituted for Physics 2318-28-38 as a graduation requirement. Transfer students from other schools or departments may substitute 2510 and 1330 for 1310-20-30 or 1318-28-38.

A major in physics with a concentration in health physics includes Physics 2310-20 or 2318-28, 3310-20, 4210-20, 4710-20, and Mathematics 2840-50-60. It is suggested that students also take Chemistry 1110-20-30, 3211-21-31, 3219-29-39, and 12 hours of an approved biological science.

Minor: A minor in physics shall consist of Physics 2310-20 or 2318-28 and 15 hours from physics and astronomy courses numbered 1300 and above. Specific course provisions in the major statement also apply to the minor.

An Engineering Physics Curriculum is also offered. The program is described on page 131, and listed in tabular form on page 131.

1210-20-30 Introductory Physics (4, 4, 4) General course for students whose major falls outside the physical sciences. Concepts of physics developed by observation and logic rather than mathematics analysis. Specific areas covered in the first quarter are mechanics, heat and energy. In the second quarter wave motion, sound, electricity and magnetism, and light are discussed. In the third quarter the main emphasis is on modern physics. It is required that the courses be taken in sequence. 1210-20 represents a survey of classical physics and are recommended as an introduction to the discipline for liberal arts non-science majors.


1410-20-30 Nature of the Physical World (4, 4, 4) Introductory course in physics which includes the following courses: Physics 2318-28, 3310-20, 4210-20-30, 4710-20, and Mathematics 2840-50-60. It is suggested that students also take one or two courses in the natural sciences which enables a student to establish a unified picture of the physical universe. In the first two courses mechanics, electricity, and wave motion are developed and applied to such varied fields as solar systems, atomic structure, molecular behavior, radiation, and exchanges in the atmosphere and in the earth's crust and to stellar and galactic phenomena. In the third term these principles are applied in more detail to such topics as nuclear energy, cosmology, atmospheric and oceanic phenomena, drifting continents and science and society. May be taken out of sequence only with consent of instructor. 4 hrs including demonstration lab.

1450 Physics of Athletic Activity (4) Principles of physics as applied to sports and physical education. Some principles of mechanics and electricity are introduced. Discussion of these ideas will emphasize their role in physical activity, particularly sports-related. Course topics include statics, equilibrium, linear and angular motion, momentum, force work, and energy. 4 hrs lecture demonstration.

1810 Physics of Music (4) Production, transmission, and reception of sound waves. Frequency, intensity, timbre, basic acoustics of instruments and voice. 4 hrs lecture and demonstration.

2210-20 Elements of Physics (4, 4, 4) Measurement, electricity and magnetism, sound. 2200- Optics, atomic and nuclear physics, radiation
protection. Basic physical principles and appli-
cations for professionals in pre-medical, pre-
dental, pharmacy, and pre-veterinary programs. Must be taken in sequence. Prereq: Math 1550-60 or Math 1840 with department consent. 3 hrs lecture and 3 hrs lab.

2240-50-60 Elements of Physics for Architects (4, 4, 4) 2240—Statics, dynamics, properties of fluids; coreq: Math 1840 or 1550. 2250—Heat and thermodynamics, sound and wave motion, optics; coreq: Math 1850 or 1560. 2260—Electricity and magnetism, alternate energy topics. Basic physical prin-
ciples with applications particularly as applied in architecture. Limited to students in School of Architecture. Must be taken in sequence. 3 hrs lecture. 3 hrs lab.


2460 Physical Acoustics (4) Considerations funda-
mentals of acoustics; propagation of acoustic waves in the insonic, the audible, the ultrasonic, and the hyperasonic ranges of frequencies. 3 hrs and 1 lab. Prereq: 2310-20-30.

2470-20-50 Electricity and Magnetism (3, 3, 3) In-
termediate level electrostatics; steady and alter-
crating currents; laws of electromagnetism; Max-
well’s equations; radiation of electromagnetic waves; reflection and refraction; electromagnetic fields of moving charges. Must be taken in se-
quence. Prereq: 2320 or 2220 and Math 2830.

2480-40 Modern Optics (4, 4) 4230—Geometrical Optics: Reflection and transmission of light at a dielectric interface; paraxial theory of interfaces, lenses, and mirrors; thick lenses, lens systems, ray tracing; polarization; imagery; laser light. 4240—Physical Optics: Mathematics of wave mo-
tion, superposition of waves; interference; Fraun-
hofer and Fresnel diffraction. Fourier optics; holo-
graphy. Prereq: 4210 or consent of instructor. 3hrs lecture and 3 hrs lab.

4510-20-30 Atomic Physics Laboratory (3, 3, 3) Ex-
periments in fundamental particle properties, photoelectricity, conduction of electricity through gases, atomic and molecular spectroscopy, X-ray, coreq or coreq: 3710-20-30. 31abs.

4540-50 Experimental Nuclear and Radiation Physics (4, 4) Interaction of charged particles and electromagnetic radiation with matter; theory and characteristics of various detectors; statistics of counting, nuclear properties. Experiments illus-
trate recent techniques for investigating the nu-
cleus and nuclear radiation. 1 hr lecture, 6 hrs lab. Prereq: 2330.

4580 Principles of Non-Destructive Testing (3) De-
tection and characterization of discontinuities in materials by non-destructive physical measure-
ments. Ultrasonic, electromagnetic, holographic and penetrating radiation techniques are dis-
cussed. Prereq: 2310-20-30 or consent of instruc-
tor. (Same as Engineering Science and Mechanics 4580.)

4610-20-30 Gaseous and Solid States (3, 3, 3) Kinetic theory of gases, with emphasis on trans-
port phenomena. Brownian motion and fluctua-

4710-30-30 Introduction to Health Physics (3, 3, 3) Radioactivity, interaction of electromagnetic radi-
tion with matter, radiation quantities and units, point-source and extended sources. X-rays and gamma rays, neutron activation, interaction of charged particles with matter, stopping power, range-energy relations, counting statistics, shielding, dosimetry, waste disposal, criticality prevention, radiation biology and ecology. Prereq: 3730.

4918-28-38-48-58-68-78-88-98 Honors: Research and Independent Study (1 hr each) Designed for excellent undergraduate majors. Provides oppor-
tunity for research and independent study with faculty guidance. Special consent of department is required. Maximum credit 9 hrs.

4990 Senior Seminar (1-3) Topic of current interest. May be repeated for credit with consent of department.

GRADUATE General requirements for the master’s degree and doctoral program are found in the Graduate Catalog.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5080 Graduate Research Participation (3)

5110-20-30 Introduction to Theoretical Physics (3, 3, 3)

5210-20-30 Advanced Modern Physics (3, 3, 3)

5310-20-30 Advanced Dynamics (3, 3, 3)

5410-20-30 Electromagnetic Theory (3, 3, 3)

5440 Experimental Methods of Infrared and Raman Spectroscopy (3)

5510-20-30 Advanced Thermodynamics and Statistical Mechanics (3, 3, 3)

5610-20-30 Mathematical Methods in Physics (3, 3, 3)

5640 Numerical Methods in Physics (3, 3)

5720 Physics of Polyatomic Molecules (3, 3)

5910-20-30 Special Problems (3, 3, 3)

5911-31 Special Problems in Teaching of Physics (1-1)

5990 Seminar (1)

6000 Doctoral Research and Dissertation

6110-20-30 Quantum Mechanics (3, 3, 3)

6210-20-30 Nuclear Structure (3, 3, 3)

6310 Electromagnetic Theory of Light (3)

6320 Special Relativity (3)

6330 General Relativity (3)

6420 Advanced Topics in Classical Theory (3)

6430 Advanced Topics in Quantum Theory (3)

6500-10 Electrical Conduction in Gases and Plasma Physics (3, 3, 3)

6610 Interaction of Electrons with Gases (3)

6620 Interaction of Electrons with Solids (3)

6630 Interaction of Radiation with Matter (3)

6710-20-30 Advanced Solid State Physics (3, 3, 3)

6810 Vibrational Problems in Molecular Spectra (3)

6820 Molecular Vibration-Rotation Theory (3)
United States Government and Politics/Public Administration
2510-20 United States Government and Politics (4, 4) 2510—Foundations: the Constitution, federalism, separation of powers, campaigns and elections, parties, interest groups, the media, public opinion. 2520—Institutions: Executive, legislative, judiciary, and bureaucracy at national, state, and local levels.

2518-28 Honors: United States Government and Politics (4, 4) Honors course designed for students of superior ability and interest. Entrance into 2518 requires an average of 3.0 in entering freshmen will be accepted on the basis of placement scores and high school record. A grade of B in 2518 is necessary for entrance into 2528.

2530 Tennessee Government and Politics (4)

3545 United States Constitutional Law: Sources of Power and Restraint (4) Analysis of judicial review, constitutional powers of President and Congress, federalism, sources of regulatory authority, and constitutional protection of political rights. 2510-20 desirable as preceding courses.


3555 Minority Group Politics in the United States (4) Content varies from quarter to quarter. May be repeated up to a maximum of 8 hrs credit with consent of department.

3565 Introduction to Public Administration Organization and Management (4) Organization and decision-making theory, line and staff services, policies of organization, leadership, personnel and fiscal management, administrative responsibility. 2510-20 desirable as preceding courses. (Same as Water Resources Development 3565.)

3566 Public Administration and the Policy-Making Process (4) Public bureaucracies and the policy-making process, their political environments, administrative problems associated with policy making. 2510-20 are desirable as preceding courses.

3710 State Politics (4) Focus on formal and informal setting of state government: governors, courts, legislatures, and state administrators. Attention will be paid to state government's role in formulating, enacting, and implementing state policy.

3720 State Government and Policy Making (4) Nature and functions of the institutions of state government: governors, courts, legislatures, and state administrators. Attention will be paid to state government's role in formulating, enacting, and implementing state policy.

3750 The Urban Polity (4) Analysis of political institutions and processes in metropolitan areas.

3780 Urban Policy Process (4) Analysis of urban problems and policies in metropolitan areas.

3880 American Political Thought (4) Examination of role of selected political ideas, doctrines, and themes in America, emphasizing their development and relationships to diverse political interests.

4410 Law and the Administrative Process (4) Power of, procedures of, controls over administrators.

4535-36 Political Attitudes, Opinions and Communication (4, 4) Nature, development, formation and distribution of political group attitudes and opinions; role of leadership, persuasion, and communication in opinion-policy process.

4540-50 Presidency, Congress and Public Policy (4, 4) The Presidency and Congress within framework of policy-making process.

4545-46 The Judicial Process (4, 4) The study of courts as components of political systems, and public policy formulation through judicial decision making. 2510-20 desirable as preceding courses.
3802 Studies in Medieval Political Thought (4) From Augustinianism to Machiavellianism (3) to the Enlightenment (3)
3803 Studies in Early Modern Political Thought (4) Machiavelli through the Enlightenment.
3804 Studies in 19th- and 20th-Century Political Thought (4) Political theories of industrial and technological societies; 19th and 20th century.
4815 Contemporary Soviet Marxism-Leninism (4) Soviet applications of Marxist-Leninist theory.
4831-32-33 The Systematic Study of Politics (4, 4, 4) Scope, methods and procedures of analysis in political science; intended primarily for seniors intending to pursue graduate work and entering graduate students who have not had such a course.
4875 Special Topics in Political Thought (4) May be repeated up to a maximum of 8 hrs credit with consent of department.

Other
4101 Foreign Study (1-16) See page 187.
4102 Off-Campus Study (1-16) See page 187.
4103 Independent Study (1-16) See page 187.
4975 Proseminar in Political Science (4) Selected reading for seniors; primarily for majors. May be repeated up to a maximum of 8 hrs with consent of department.
GRADUATE
General requirements for the master's degree and doctoral degree are found in the Graduate Catalog.
5000 Thesis
5002 Non-Thesis Graduation Completion (3-15)
5101 Foreign Study (1-12)
5102 Off-Campus Study (1-12)
5103 Independent Study (1-12)
5110-20 Seminar in World Political Theory (3, 3)
5140 Politics, Administration and Community in Non-metropolitan Areas (3)
5150 Internship in Political Science (3-9)
5210-20-30 Seminar in World Politics (3, 3, 3)
5211 Directed Readings in Political Science (3)
5250 Seminar in African Politics (3)
5270 Seminar in Politics of Development (3)
5310-20 Seminar in Comparative Government (3, 3)
5340-50 Seminar in Latin American Government (3, 3)
5370-80 Seminar in Soviet Politics and Government (3, 3)
5410-20 Seminar in Public Law (3, 3)
5440-50 Theory and Analysis of U.S. Foreign Policy Processes (4, 4)
5510-20 Seminar in International Organization (3, 3)
5540 Seminar in Comparative Public Administration (3)
5550 Seminar in Administration in Developing Countries (3)
5600 Public Administration (3)
5605 Research and Methodology in Public Administration (3)
5610-20 Seminar in Organization Theory (3, 3)
5611-21-31 Seminar in State-Local Administration (3, 3, 3)
5630 Seminar in Technology and Public Policy (3)
5635-45 Operations Research for Public Administrators (3, 3)
5640-50-60 Seminar in Metropolitan Areas (3, 3, 3)
5641 Seminar in Contemporary Public Policies (3)
5670-80 Seminar in Policy Analysis (3, 3)
5710 Seminar in Politics of Administration (3)
5740 Seminar in Organizational Analysis (3)
5750 Seminar in Public Management (3)
5755 Seminar in Public Management (3)
5760 Seminar in TVA Public Personnel Management Practices (3)
5765-75 Law and the Administrative Process (3)
5770 Practicum in Public Administration (3)
5780 Seminar in Fiscal Management (3)
5785-95 Seminar in Staff Functions (3, 3)
5810 The American Political Process (4)
5820 The American Political Process (4)
5850 Seminar in Comparative State Politics (3)
5910-20-30 Methodology and Bibliography (3, 3, 3)
6000 Doctoral Research and Dissertation
6210 Advanced Studies in International Politics (3)
6310 Advanced Studies in Political Theory (4)
6410 Advanced Studies in International Organization (3)
6440 Advanced Studies in Comparative Politics (3)
6510-20 Advanced Studies in American Constitutional Law (3, 3)
6610-20 Advanced Studies in Public Administration (3, 3)
6710 Directed Research in Political Science (3)
6810-20 Advanced Studies in the Political Process (3, 3)

Psychology (830)
Professors: W.H. Calhoun (Head), Ph.D. California (Berkeley); G.M. Burghardt, Ph.D. Chicago; J.F. Byrne, Ph.D. Georgia (Emory); J.D. Johns Hopkins; L. Handler, Ph.D. Michigan State; J.F. Lubar, Ph.D. Chicago; E.O. Milton (Director, Learning Research Center); Ph.D. Michigan; K.R. Newton, Ph.D. Tennessee; H.R. Pollio, Ph.D. Michigan; N.L. Rasch, Ph.D. Pennsylvania; F. Samejima, Ph.D. Kejo (Japan); R.R. Shadders, Ph.D. Tennessee; W.S. Verplank, Ph.D. Brown; R.G. Wahrer, Ph.D. Washington; J.A. Wiberley, Ph.D. Syracuse.
Associate Professors: C.P. Cohen, Ph.D. Kansas; L.F. Droppekon, Ph.D. Catholic; H.R. Friedman, Ph.D. Tennessee; M.G. Johnson, Ph.D. Hopkins; J.K. Kandlakus, Ph.D. Tennessee; W.W. Lounsbury, Ph.D. Michigan State; A. McIntyre, Ph.D. Yale; J.C. Malone, Ph.D. Duke; W.G. Morgan, Jr., Ph.D. Tennessee; E.D. Sundstrom, Ph.D. Utah; C.L. Travis, Ph.D. California (Davis).
UNDERGRADUATE
Major: (Concentration in General Psychology) Designed to give students a broad and current background in the science and application of psychological methods and principles. It is particularly suited for students who plan careers in areas such as business law, social work, or who for other reasons desire a liberal education concentrating on psychology. Psychology 2500 and two courses from 2520-30-40 or 2518-26 are prerequisite to a major consisting of Psychology 3150 or 4150, at least 4 hours of laboratory, field or practicum courses, and 32 or more hours of upper-division psychology courses.
(Concentration in Academic Psychology) Designed to prepare students for advanced work in the scientific, professional, and college level teaching areas of psychology. Prerequisites to the major include Psychology 2500, two courses from 2520-30-40 or 2518-26 Mathematics 1540-50-60 or 1840-50-60, and Biology 1210-20-30. The major consists of Psychology 3150 or 4150, 8 hours of laboratory, field, or practicum courses, and 28 or more hours of upper-division courses, of which 12 hours must be in courses at the 4000 level.
Minor: A minor in psychology shall consist of Psychology 2500 and 20 additional hours from 3000- and 4000-level courses.
Honors Program in Psychology. A two-year (Junior-Senior) program leading to the B.A. degree. Objective of the Honors Program is to enable superior students to accelerate development of grasp of science of psychology. Program encourages independent study.
Eligibility: Selection of participants is determined by Undergraduate Honors Committee. The interested student should apply to the psychology department. Successful applicants usually have a G.P.A. of at least 3.0. Requirements: Psychology 2500 or 2518 and one other 2000-level course in psychology, 3150, and one quarter of laboratory or field experience. Honors students will complete at least 4948-58-68 and Psychology 4978-88-98. Completion of the Honors Program is dependent upon submission of an acceptable Honors thesis and passing of a final Honors examination.

2500 General Psychology (4) An introduction to psychology, with emphasis on the development, methods, and contributions of the major movements and ideas which define contemporary psychology.
2518-28 Honors: General Psychology (4, 4) First quarter an enriched survey of general psychology. Second quarter participation is psychological research, either individually or group arranged. Prerequisite for 2518: Minimum ACT Composite 28; GPA 3.2. Prerequisite for 2528: Admission by consent of department.

2520 Biological Foundations of Behavior (4) Survey of theories and research pertaining to the biological foundations of behavior. General psychology recommended.

2530 Psychology as a Social Science (4) Introduction to individual behavior and experience in a social context. 2500 recommended.

2540 Psychology of the Individual (4) Study of individuals, their behavior, and the progressive changes in behavior that occur in natural envi-
roments; introduction to personality, developmental and abnormal psychology. Recommended: 2500.

3120 Social Psychology (4) General survey of theories, methods and research findings on individual and social behavior and behavior in social context. Prereq: 2500.

3129 Social Psychology Laboratory (2) Prereq: 3120; coreq: 3319.

3150 Psychological Statistics (4) Introduction to basic statistical methods used in behavioral sciences.

3210 Learning and Thinking (4) Study of theoretical and empirical bases of learning and thinking. General psychology recommended.

3219 Laboratory in Learning and Thinking (2) Prereq: 3210; coreq: 3319.

3220 Motivation and Emotion (4) Current theories, approaches and their development.


3240 Psychology of Music (4) Introduction to psychological study of musical sounds and instruments; theories of rhythm, melody, and their relation to the psychology of spoken language. Recommended prereq: 2520.

3319 Introduction to Research in Psychology (2) Basic techniques in research in behavioral science, including experimentation and naturalistic observation. Coreq: One of the following: 3129, 3219, 3550.

3550 Child Psychology (4) Origin and principles of behavior in infancy and childhood; physical, intellectual, social, emotional, and language behavior of the normal child. 2540 recommended. (Same as Educ. Psych. 3550.)

3559 Laboratory in Child Psychology (2) Field and laboratory studies of child development. Prereq: 3550; coreq: 3319.

3616-26 Human Relations (2, 2) Experience and study of human relations in dyads and small and large groups. S/JNC.

3650 Abnormal Psychology (4) Constitutional and environmental factors in abnormal behavior; neurolc and psychic reactions; non-technical discussion of diagnostic and therapeutic methods. 2540 recommended.

4101 Foreign Study (1-16) See page 187.

4102 Off-Campus Study (1-16) See page 187.

Psychology 4103, 4107, 4109 and 4110 are courses of independent study and research taken by consent of instructor only. Course requirements, meeting times, and grading procedures are established by agreement between the student and a member of the psychology faculty. For each credit hour, a student may expect to spend from two to three hours per week for the quarter. No more than 24 credit hours may be earned in courses 4103, 4107, 4109, and 4110 combined.

4103 Independent Study (1-16) May be repeated. Maximum credit 16 hrs.

4107 Experience in Individualized Instruction (1-4) May be repeated. Maximum credit 12 hrs. Graded by letter grade only. Prereq: Consent of instructor.

4109 Undergraduate Research (1-16) May be repeated for credit to maximum of 16 hrs. Prereq: Consent of instructor.

4110 Undergraduate Participation in Community Research (1-18) May be repeated. Maximum credit 16 hrs.

4120 Topics in Social Psychology (4) Intensive analysis of selected research topics. Prereq: 3120 or Sociology 3130. (Same as Sociology 4120.)

4150 Probability Models in Psychology (4) Introduction to the use of probability models in theory of binary test items, differential psychology, comparison of different populations in specific psychological parameters, individual choice behavior, and testing of psychological hypotheses in human and animal behavior; reliability theory and regression theory. Prereq: Math 1560 or 1860 or consent of instructor.

4230 Sensorv Processes and Perception (4) Survey of sensory and perceptual processes with emphasis on audition and vision. Prereq: 3150; 2520 recommended.

4239 Laboratory in Sensorv Processes and Perception (2) Prereq or coreq: 4230.

4460 Organizational Industrial Psychology (3) (Same as Management 4460.)

4510 Personality Theories (4) Prereq: 3650 or 3660.

4520 Personality and Social Systems (4) Prereq: 2540.

4610 Group Processes (3) Study and experience of theory and techniques of group processing and facilitation. Those participating in 4610 are expected to continue into 4620 and 4630. Prereq: 3616-26 and consent of instructor.

4620-30 Seminar in Group Processes (3, 3) Didactic and laboratory experience for those qualified for further training as group facilitators. Prereq: 4610 and consent of instructor.

4640 Psychological Tests and Measures (4) Theory and construction of individual and group measures; survey of various methods of assessment of intelligence, personality, special abilities, and educational achievement. Prereq: 3150.

4650 Symbolic Processes (4) Logic of signs and symbols; directed and associative thinking; memory, problem solving, and concept formation; nature, use, and development of language. Prereq: 3210 or consent of instructor.

4660 The Psychology of Language (4) Theories and descriptions of phonology, syntax, and semantics as applied to psychology and related disciplines. 4650 or linguistics background recommended.

4710 Physiological Psychology (4) Nervous system and physiological correlates of behavior. Prereq: One year of biology or zoology and Psychology 4710.

4719 Physiological Psychology Laboratory (4) Laboratory studies of nervous system and physiological correlates of behavior. Coreq: 4710.

4720 Comparative Animal Behavior (4) Methods and principles. (Same as Zoology 4720.)

4729 Comparative Animal Behavior Laboratory (4) Laboratory and field studies. Coreq: 4720. (Same as Zoology 4729.)

4750 Evolution and Ontogeny of Social Behavior (4) Genetic, evolutionary, ecological, and developmental processes as they apply to social organization and dynamics of vertebrates. Prereq: Consent of instructor.

4780 Psychology and Current Issues (4) Research and theory relevant to selected contemporary issues. 4 class hrs per week. Prereq: Consent of instructor.

4830 History and Systems of Psychology (4) Prereq: 9 hrs of upper-division psychology.

4850 Learning Theories (4) Historical and theoretical development of learning models. Prereq: 3210.

4860 Programmed Learning (3) (Same as Education C&I 4860.)

4870 Contemporary Research in Behavior of Women (4) Study of interaction of cultural and biological factors in determining the behavior of women, with emphasis on physiological mechanisms involved.

4880 Afro-American Psychology (4) Review and analysis of psychological literature on Afro-Americans. Prereq: Consent of instructor. (Same as Black Studies 4480.)

4900 Aspects of Urban Environment (4) (Same as Architecture 4900, Human Services 4900, and Real Estate 4900.)

4910 Senior Seminar in General Psychology (4) Integrative review of major problems in psychology. Intensive examination of selected topics. Prereq: Consent of instructor.

4948-58-68 Honors: Reading and Research (4, 4, 4) Honors candidates only.

4978-88-88 Honors: Senior Reading and Research (4, 4, 4) Honors candidates only.

GRADUATE

General requirements for the master's degree and doctoral degree are given in the Graduate Catalog.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5017 Colloquium in Experimental Psychology (1)

5019-29-39 Laboratory Techniques in Experimental Psychology (3, 3, 3)

5050 Methods of Research in Applied Psychology (3)

5070 Seminar in College Teaching (2)

5079 Practicum in College Teaching (2)

5100 Developmental Psychology (3)

5105 Developmental Assessment (3)

5110 Clinical Aspects of Human Sexuality (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 (1, 2, 2, 2)

5170-80-90 Proseminar in Organizational Psychology (3, 3, 3)

5200 Topics in Developmental Psychology (3)

5210 Readings in Psychology (1)

5220 Readings in Psychology (2)

5230 Readings in Psychology (3)

5240 Readings in Psychology (4)

5250 Readings in Psychology (5)

5260 Special Problems in Psychology (1)

5270 Special Problems in Psychology (2)

5280 Special Problems in Psychology (3)

5290 Special Problems in Psychology (4)

5300 Special Problems in Psychology (5)

5319 Field Work in School Psychology: Level I (2)

5325 Behavioral Interventions (3)

5340 Group Dynamics (3)

5350-60-70 Seminar in Psychology (3, 3, 3)

5400 Psychophysics and Scaling Methods (3)

5420-30-40 Advanced Psychological Statistics (3, 3, 3)

5450 Human Problems in Administration (3)

5490 Continuing Education in Mental Health (1-4)

5500 Fundamentals of Psychometrics (4)

5510 Instrumentation for Psychological Research (3)
5520 Theory of Mental Measurement (3)
5530 Issues in Applied Psychological Measurement (3)
5540 Probability Models in Psychology
5550 Advanced Social Psychology (3)
5560-70 Seminar in Social Psychology (3, 3)
5580 Theories of Personality (3)
5581-82-83 Clinical Psychology I: Human Development and Personality (2, 2, 2)
5589 Psychological Techniques Laboratory (2)
5590 Psychodynamics (3)
5591-92-93 Clinical Psychology II: Patterns of Adaptation (2, 2, 2)
5601-02-03 Clinical Psychology III: Behavioral Deviance and Psychopathology (2, 2, 2)
5610-20 Psychology of Learning (3, 3)
5650 Ethics in Professional Psychology (2)
5670 Forensic Psychology (2)
5680 Neural Basis of Behavior (3)
5690 Psychopharmacology (3)
5713 Learning Modules for Techniques in Professional Psychology (1-4)
5750 Ethological Psychology (3)
5760 General Vertebrate Neuroanatomy (3)
5769 Advanced Techniques in Physiological Psychology (3)
5790 Seminar in Psycholinguistic Concepts in Speech Pathology (3)
5810 Techniques of Psychological Examination (3)
5819 Practicum in Techniques of Psychological Examination (2)
5840 Student Appraisal (3)
5850-60-70 Psychological Appraisal (3, 3, 3)
5860-69-79 Practicum in Psychological Appraisal (2, 2, 2)
5890 Counseling Techniques (3)
5950-60 Theory and Practice of Consultation (3, 3)
5959-69 Practicum in Consultation (2, 2)
6000 Doctoral Research and Dissertation
6050 Seminar on Methods of Social Research (3)
6100 Community Psychology (3)
6150 Seminar in Program Evaluation (3)
6210-20-30 History, Systems, and Theories in Psychology (3, 3, 3)
6250-60-70 Seminar in Organizational Psychology (3, 3, 3)
6280-90 Factor Analysis (3, 3)
6310 Seminar in Motivation and Emotion (3)
6319 Field Work in School Psychology: Level II (2)
6320 Seminar in Research Methods (3)
6330 Seminar in Learning (3)
6340 Seminar in Developmental Psychology (3)
6350 Seminar in Thinking (3)
6360 Seminar in Sensation and Perception (3)
6370 Seminar in Theoretical Psychology (3)
6380 Seminar in Industrial Psychology (3)
6390 Seminar in Psychotherapy (2)

6395 Seminar in Assessment (3)
6400 Seminar in Changing Concepts in Clinical Psychology (3)
6405 Seminar in Psychopathology (3)
6410-20-30 Psychotherapy (3, 3, 3)
6411-12-13-14 Psychotherapy: Elective Concentration Learning Laboratory (2, 2, 2, 2)
6419-29-39 Psychotherapy Practicum (1-3, 1-3, 1-3)
6450-60 Advanced Psychometrics (3, 3)
6460 Continuing Education in Professional Mental Health (1-4)
6481 Field Placement in Clinical Psychology Level-1 (1-4)
6492 Field Placement in Clinical Psychology Level-2 (1-8)
6493 Field Placement in Clinical Psychology Level-3 (1-8)
6494 Field Placement in Clinical Psychology Level-4 (1-8)
6500 Seminar in Psychometrics (3)
6520 Experimental Design (3)
6550 Seminar in Advanced Social Psychology (3)
6575 Seminar in Mental Health Administration (3)
6580-60-70 Systems Approaches in Psychological Services (3, 3, 3)
6589-69-79 Practicum in School Psychology III (2, 2, 2)
6710 Seminar in Physiological Psychology (3)
6720 Seminar in Comparative and Ethological Psychology (3)
6730 Methods of Ethological and Naturalistic Research (3)
6780 Advanced Psychobiology (3)
6900 Field Work in Industrial Psychology (1-15)

Religious Studies (863)

Professors: R.S. Lusby (Head), B.D. Colgate (Rochester); D.L. Dungan, Th.D. Harvard; R.V. Norman, Jr. (Associate Vice-Chancellor for Academic Affairs), Ph.D. Yale.

Associate Professors: B.L. Daniels (Assistant Dean of the College of Liberal Arts), Ph.D. Duke; W.L. Humphreys, Th.D. Union; D.E. Linge, Ph.D. Vanderbilt; C. Reynolds, Ph.D. Harvard.

Assistant Professors: R.R. Earl, Jr., Ph.D. Vanderbilt; J. Kim, Ph.D. Chicago.

Instructor: J.L. Fitzgerald, M.A. Chicago.

UNDERGRADUATE

Major: Two options are available in religious studies. One religious studies 2000-level course is a prerequisite for either option, and Religious Studies 4850 is required in both options.

The basic option consists of 36 hours of courses at the 3000 level or above (including 4850) with a minimum of 12 hours selected from courses listed below under History and Literature of Religions and a minimum of 12 hours selected from courses listed below under Problematic of Religion. Majors are invited to discuss their programs with a member of the religious studies faculty.

The student-initiated option is to be specified in an individual program defined in consultation between each student and the Department of Religious Studies. At least 36 hours of courses at the 3000 level or above (including 4850) are required for this major. Students whose educational goals would best be served by such a major are encouraged to construct their own plans of study as early as possible. The student-initiated option is recommended for persons who plan to pursue graduate study in religion or a closely related field. Further details are available in the department office, located at 501 McClung Tower, or from any member of the religious studies faculty.

History and Literature of Religion:

3011, 3021, 3061-71, 3110, 3120, 3210-20-30, 3270, 3311-12, 3330, 3340, 3411-12-13, 3440, 3490, 3510-20, 3550, 3560, 3650, 3660, 3671, 3672, 3680, 3710, 3711, 3713, 3770, 4210, 4310, 4450, 4640, 4670, 4810-20-30.


Minor: Twenty-four hours of courses at the 3000 level and above. It is suggested that students minoring in religious studies discuss their programs with a member of the department faculty.

2610 Introduction to Religions of the World (4) Introduction to the study of religion through selected historical traditions, East and West.

2611 Introduction to Ancient Near Eastern Religions (4) Introduction to study of religion through selected ancient Near Eastern and Mediterranean traditions.

2612 Issues in Religious Studies (4) Introduction to study of religion through selected religious problems and alternatives.

HISTORY AND LITERATURE OF RELIGIONS

3060-70-80 History of Western Religious Thought and Institutions (3, 3, 3, 3) 3060—First century to fifth century; 3070—Sixth century to fifteenth century; 3080—Sixteenth century to 1900. (Same as History 3060-70-80.)

3110 Ancient Israel’s Historical and Religious Traditions (4) Political, religious and cultural history and traditions of ancient Israel from earliest period to Exile.

3120 The Rise of Judaism (4) Political, religious and cultural history and traditions of exilic and postexilic Israel and early Judaism through 135 A.D. Later literature of Old Testament, Apocalypse, and Dead Sea Scrolls.

3210 Early Greek Mythology (3) (Same as Classics 3210.)

3220 Greek Mythology in the Classical Period (3) (Same as Classics 3220.)

3230 Roman Mythology (3) (Same as Classics 3230.)

3270 Russian Philosophical and Theological Thought (4) (Same as Russian 3270 and Philosophy 3270.)

3311-12 Images of Jesus (4, 4) Introduction to ancient and modern portrayals of Jesus, understood within their cultural milieu. Must be taken in sequence.


3340 Judaism in the Common Era. (3) Survey of literature and traditions of Judaism in the Common Era.
3411-12-13 Renaissance and Reformation (3, 3, 3) (Same as History 3411-12-13.)

3440 Religion of Primitive Peoples (3) (Same as Anthropology 3440.)

3490 African Religions (4) Examination of religions of the indigenous peoples of Africa, including a study of functions of myth, rites, and symbols and an inquiry into how certain political movements in Africa have been and are informed by religious and cultural sensibilities. (Same as Anthropology 3490 and Black Studies 3490.)

3510-20 Religion in America (4, 4) Not a survey but a representative profile of religion in America past and present, organized each quarter around theme or problem. May be taken independently.

3550 Religion and Racism in America (4) Historical and critical survey of role played by religion in supporting and criticizing American racial injustice. (Same as Black Studies 3550.)

3560 Black Religion in America (4) Historical and critical examination of formation of and development of black religious thought and institutions in America. (Same as Black Studies 3560.)

3650 Philosophy and Religion in India (4) (Same as Philosophy 3650.)

3660 Buddhist Philosophy and Religion (4) (Same as Philosophy 3660.)

3671 Religion and Philosophy in China (4) (Same as Philosophy 3671.)

3672 Religion and Society in Japan (4) (Same as Sociology 3672.)

3680 Islam (4) Origin and early history, rapid spread as a world faith, development of Muslim theology and culture, interaction with modern cultures.

3710 Literature of English Bible (3) (Same as English 3710.)

3711 Literature of the English Bible (3) (Same as English 3711.)

3770 Zen Buddhism (3) Examination of historical, philosophical, and mediational materials of Zen. Special emphasis upon Zen theories of emptiness, no-mind, sudden enlightenment, and the Koan.

4210 Topics in Ancient Israelite and Ancient Near Eastern Religions (4) Prereq: 3110-20 or consent of instructor. May be repeated once for credit.

4310 Jesus and Paul Compared (4) Jesus’ teaching and activity in context of first-century Palestine in relation to that of what Apostles Paul made of the tradition of and about Jesus. 2610 or 2611 recommended.

4450 Topics in American Religion (4) Prereq: One of the following: 3510, 3520, 4410, or consent of instructor. May be repeated once for credit.

4640 Topics in Early Christianity and Hellenistic Religions (4) Selected figures, issues, and institutions. Prereq: 3510, 3520, 4410, or consent of instructor. May be repeated once for credit. Maximum of 12 hrs.

4670 Topics in Eastern Religions (4) Selected figures, issues, and institutions. Senior and graduate students only, except by consent of department. Prereq: 3650-60-70. May be repeated for credit. Maximum of 12 hrs.

4810-20-30 Readings and Research in Religious Studies (3-4, 3-4, 3-4)

PROBLEMATIC OF RELIGION

3011 Phenomenology of Religion (4) Examination of recurrent themes, forms and patterns in history of religion, such as: the gods of the ancient world, great spirits, myth, and ritual, symbols and symbols, and the function of ritual in religious life.

3021 Religious Myth, Symbol, and Ritual (4) Study of interrelationship of myths, symbols, and rituals among preliterate peoples through a specific cultural context, such as solar, lunar, and communal.

3600-10 Religious Ethics (4, 4) Historical and critical survey of religious ethics; basic theories and their application in social problems.

3611 Religious and Philosophical Issues in Medical Ethics (4) An examination of issues such as abortion, euthanasia, human experimentation, fairness in health care delivery and the doctor-patient relationship. (Same as Philosophy 3611.)

3620 Topics in Religious Ethics (4) Examination of particular theoretical issues and social problems from perspectives of religious ethics. May be repeated once for credit.

3690 Philosophy of Religion (4) (Same as Philosophy 3690.)

3715 Religious Thought in the Nineteenth Century (4) Major problems and themes in European and American religious thought between 1800 and the beginning of World War I.

3720 Contemporary Religious Thought (3) Major themes, issues, and thinkers.

3740 Issues in Science and Religion (3) Relation of religion to history, methods, and theories of science.

3750 Theology and Literature (3) Exploration of issues raised for religious inquiry by phenomena of literature. Relation of religious and moral considerations to problems of literary criticism. Relation of certain forms of human expression (symbol, metaphor, myth, image) identified in study of literature.

3760 Eastern Religions and Western Thought (3) Critique of the influence of Hindu and Buddhist philosophy on Western thinkers.

3780 The Literature of Dissent (3) Critique of religion in Western thought. Aspects of atheism, rebellion, and revolution in such thinkers as Luce, Spinoza, Voltaire, Feuerbach, Marx, Nietzsche, Russell, and Camus.

4101 Foreign Study (1-16) See page 187.

4102 Off-Campus Study (1-16) See page 187.

4103 Independent Study (1-16) See page 187.

4111-21 Modern Religious Philosophies (4, 4) Examination of the religious implications of major thinkers and movements. 4111—Nicolas of Cusa to Hume. 1421—Kant and the nineteenth century. Prereq: 9 hrs of philosophy other than logic. (Same as Philosophy 4111-21.)

4370-71 Theoretical Issues in Medical Ethics (4, 4) (Same as Philosophy 4370-71.)

4410 American Religious Thought (4) Selected figures, issues, and problems in American religious thought from colonial period to present.

4540 Social and Religious Change (4) (Same as Sociology 4540.)

4610 Topics in Western Religious Thought and Institutions (4) Selected figures, issues, and institutions. Prereq: 3510, 3520, 4410, or consent of department. May be repeated for credit. Maximum of 12 hrs.

4810-20-30 Readings and Research in Religious Studies (3-4, 3-4, 3-4)

4850 Prossemminar in Religious Studies (3) For advanced students in religious studies; staff of department will participate. Specific topics, e.g., nature and function of myth in religion, problem of transcendence, integrating various disciplines involved in study of religion. Prereq: Consent of instructor. May be repeated for credit. Maximum of 9 hrs.

4940 Sociology of Religion (4) (Same as Sociology 4940.)

4950 Theory of Religion (4) Elements for construction of a theory of religion drawing on resources from fields of psycho-history, social psychology, sociology of religion, cultural anthropology, theology and comparative religion.

4960 Tradition, Change and Modernity in Asia (4) Comparative study of processes of religious and social change seen in historical context in Asian societies. Comparative focus of course will vary each year (e.g., China and Japan, India and South Asia). May be repeated once for credit. (Same as Sociology 4960.)

GRADUATE

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

5310-20 Topics in Religion and Society (4, 4)

5510-20 Topics in the History of Religion (4, 4)

5710-20 Topics in Religious Thought (4, 4)

RELATED LANGUAGE STUDIES

3140-50-60 Elementary Classical Hebrew (3, 3, 3) 3140—Basic elements of Hebrew, phonology, script, morphology and syntax. 3150—Continued grammar study and selected reading and translation. 3160—Continued reading and translation. Introduction to basic elements of text, literary form, historical, and traditional criticism. 3170-80-90 Intermediate Classical Hebrew (4, 4, 4) 3170—Torah and Former Prophets. 3180—Prophets. 3190—Writings and Mishnaic Hebrew. Prereq: 3151 or consent of instructor.

4840 Readings in Selected Language Related to Religious Studies (3-4) Prereq: Consent of instructor. May be repeated. Maximum credit 12 hrs.

Romance Languages

Professors:

H.C. Rutledge (Head), Ph.D. Ohio State; W.R. Avrett (Emeritus), A.M. Texas, 2510.

P.E. Barret, Ph.D. California (Berkeley); C.W. Cobb, Ph.D. Tulane; P.J. Cooper, Ph.D. Columbia; T.B. Irving, Ph.D. Princeton.

H.E. Leal, Ph.D. Minnesota; F.D. Maurino, Ph.D. Columbia; J.O. Swain (Emeritus), Ph.D. Illinois; A.M. Vazquez-Biggi, Ph.D. Minnesota; C.E. Wade (Emeritus), Ph.D. Ohio State; A.H. Wallace, Ph.D. North Carolina.

Associate Professors:


Assistant Professors:

D. Arrington, Ph.D. Kentucky; E.J. Campion, Ph.D. Yale; M.H. Handelsman, Ph.D. Florida; K.D. Levy, Ph.D. Kentucky.

Instructors:

C.G. Cox, M.A. Tennessee; M.T. Rabot, Cert. de Lic. Poitiers; P.A. Wilson, M.A. Tufts.

Placement Examination: Students who have had two or more years’ work in French, Italian, or Spanish in high school or one year’s work in another college should register for French or Spanish 2110 or in French, Italian, or Spanish 2510. During the first week of the quarter a placement test will be given, and students will be advised if a change in registration is indicated.

Proficiency Examinations: Students who have acquired a knowledge of French, Italian, or Spanish through private study, tutelage, residence in foreign countries, or through any other legitimate source shall initiate a request for a proficiency test in the Office of the Dean of Admissions and Records. A student earning a grade of C or better on such a test will receive credit for a limited number of the courses. Superior students are encouraged to proceed as rapidly as their achievement permits.
Note to Majors and Minors in French, Italian, or Spanish and Minors in Portuguese: Students who have completed nine hours of upper-division courses in French, Italian, or Spanish literature at The University of Tennessee, or whose undergraduate work at other institutions must either (1) have a minimum grade point average of 2.0 in French, Italian, or Spanish before being accepted for a major's program, or (2) qualify by demonstrating during the first week of the quarter, not less than a minimum ability equivalent to a grade of middle C on the current examination in French or Spanish 2130 or French, Italian, or Spanish 2520.

All majors must take upper-division courses under more than one instructor, and must have an acceptable pronunciation and an adequate reading knowledge of the language.

Latin American Studies. See Cultural Studies.

Certification for Teaching French or Spanish in Tennessee
Consult Certification Clerk, Room 212 Claxton Education Building.

Arabic (127)

1510-20 Spoken Arabic (4, 4) Must be taken in sequence. Dialet will vary depending on instructor. Class meetings and 2 laboratory periods.

2110-20-30 Elementary Modern Standard (3, 3, 3) Must be taken in sequence. 3 class meetings and 2 laboratory periods.

3510-20 Intermediate Modern Standard (4, 4)

3610 Islamic Literature in English Translation (4) Survey from origins to modern period of major Islamic literatures, especially Arabic, Persian and Turkish. Readings include The Arabian Nights, The Rubaiyat of Omar Khayyam and Gibran's The Prophet.

4101 Foreign Study (1-16) See page 187.

GRADUATE

5070-80-90 Hispano-Arabic Literature and Culture (3, 3, 3)

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

French (405)

Major: Consists of 36 hours in courses numbered 3110 or above. Students whose primary interest is literature must have the following courses (or their equivalents, with consent of the department): 3110-20-30 or 3810-20-30 (aspects or survey of literature, 9 hours); 3410 or 3420 or 3430 (intermediate composition and conversation, 3 hours); 4210 (phonetics, 3 hours); 4220 or 4230 (advanced grammar, 3 hours); 6 hours selected from courses 3410-20-30 (intermediate composition and conversation, 4220-30 (advanced grammar), or 4250-60-70 (linguistics); 6 hours of literature at the 4000 level; 6 additional hours selected from courses in literature, language, or civilization. With either of the above options, students may substitute Foreign Study (4101) for certain courses; students with special interests, such as comparative literature, may make certain substitutions with consent of the department.

Minor: Consists of 24 hours in courses numbered 3110 or above, including the following: 3110-20-30 or 3810-20-30 (aspects or survey of literature, 9 hours); 3410 (intermediate composition and conversation, 3 hours); 4210 (phonetics, 3 hours); 9 additional hours selected from courses in literature, language, or civilization. Students pursuing a minor are strongly advised to consult with a departmental adviser.

Courses which are the equivalents of the Foreign 1000 Red course, with consent of the department; but courses in French literature in English translation may not be counted toward either a major or a minor.

1110-20-30 Elementary French (3, 3, 3) This sequence strongly recommended for students intending to take upper-division courses in French. Must be taken in sequence. 3 hrs and 2 labs.

1510-20 Elementary French (4, 4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

1518-28 Honors: Elementary French (4, 4) Honors course for students of superior ability. 1518 not open to students who have taken French in high school. Freshmen are admitted on the basis of a diagnostic test or conference with the instructor, high school average, and performance on the ACT. This class will be held to a maximum of 15 so that each student may receive more attention. This class will cover the normal French program for the first year, but will be enriched whenever possible. Students will be expected to spend only the normal amount of time in preparation. Those who find the course too difficult may easily transfer to a regular class. Potential majors in French are urged to take this course. Students who pass 1510 with a grade of B or higher may take 1528 instead of 1520.

2110-20-30 Intermediate French (3, 3, 3) This sequence strongly recommended for students intending to take upper-division courses in French. Must be taken in sequence. 3 hours and 2 labs.

2510-20 Intermediate French (4, 4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

2518-28 Honors: Intermediate French (4, 4) Honors course for students of superior ability in French. Incoming freshmen are admitted on the basis of a diagnostic test, high school average, and performance on the ACT. This class will be held to a maximum of 15 so that each student may receive more attention. Students will follow an enriched program with continuing emphasis upon speaking ability with special emphasis on reading, including literary selections. Must be taken in sequence. Students who earn an A or B in 2528 automatically receive credit for French 3000. Prereq: French 1110-20-30, 1510-20, 1518-28 or equivalent.

2610-20 Panorama of French Culture (4, 4) 2610: Topics include cultural forces which produced the French nation; art, literature, architecture, music under France I; e.m.p. classics; and the culture. 2620: Deals with arts in Age of Reason and trends in French culture dur-
4250 Introduction to Descriptive Linguistics (3) Phonetics and phonemics, morphology and syntax. Types of languages, linguistic groups, dialects and dialect geography. Application of descriptive linguistics—field linguistics, dialect study; its practical use in learning languages and in language teaching. Introduction to transformations grammar. Prereq.: 9 hrs of upper-division English or 9 hrs of upper-division courses in a modern language, or consent of the department. Spanish, German, and Russian 4250.

4260 Introduction to Historical and Comparative Linguistics (3) As Spanish, German, and Russian 4260.

4270 Romance Linguistics (3) Development of classical Latin through vulgar Latin into major Romance languages. (Same as Spanish 4270.)

4310-20-30 French Literature of Eighteenth Century (3, 3, 3) Prereq.: 2130, 2520 or equivalent.

4350-60-70 Medieval French Literature (3, 3, 3) Medieval works in modern French texts. Prereq.: 2130, 2520 or equivalent.

4410-20-30 French Civilization (3, 3, 3) Prereq.: 2130, 2520 or equivalent.

4510-20-30 French Literature of Nineteenth Century (3, 3, 3) Prereq.: 2130, 2520 or equivalent.

4610-20-30 Readings in French Literature (3, 3, 3)

4618-28 Honors: Readings in French Literature (3, 3) For students who have completed 3130 or equivalent and have at least 3.0 on all university work. No credit for grade less than B.

4640-50-60 French Literature of Sixteenth Century (3, 3, 3) Prereq.: 2130, 2520 or equivalent.

4710-20-30 French Literature of Twentieth Century (3, 3, 3) Prereq.: 2130, 2520 or equivalent.

GRADUATE

General requirements for the master's program are given in the Graduate Catalog.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5011 Techniques in Literary Analysis (3)

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

5110-20-30 Old French (3, 3, 3)

5121 College Teaching of Romance Languages (3)

5151-61-71 Bibliography and Methods of Research (1, 1, 1)

5210 French Study (1-12)

5210-20-30 French Literature of Sixteenth Century (3, 3, 3)

5310-20-30 French Directed Readings (3, 3, 3)

5350-60-70 The Philosophes (18th Century) (3, 3, 3)

5410-20-30 The French Novel (3, 3, 3)

5450-60 Lyric Poetry of Nineteenth Century (3, 3)

5470 Baudelaire and the Symbolists (3)

5610-20-30 Trends in Contemporary French Literature (3, 3, 3)

5650-60 Advanced Syntax and Stylistics (3, 3)

5670 Problems in Romance Linguistics (3)

5710-20-30 Seminar in French Literature (3, 3, 3)

5910 Literary Criticism: Foundations of Romance Criticism (3)

Italian (584)

UNDERGRADUATE

Major: Consists of 36 hours in courses numbered 3110 or above, to include the following (or equivalents, with consent of the department): 3410-20-30 (advanced grammar, composition and conversation, 9 hours); 3110-20-30 or 3610-20 (aspects of Italian literature, at least 8 hours); 9 hours of literature at the 4000 level; 10 additional hours selected from courses in literature, language, or civilization. Students may substitute Foreign Study (4101) for certain courses; students with special interests, such as comparative literature, may make certain substitutions with consent of the department.

Minor: Consists of 24 hours in courses numbered 3110 or above, to include the following: 3410-20-30 (advanced grammar, composition, and conversation, 9 hours); 3110-20-30 or 3510-20 (aspects of Italian literature, at least 8 hours); 7 additional hours selected from courses in literature, language, or civilization.

Courses in elementary Italian in English translation may not be counted toward either a major or a minor.

1510-20 Elementary Italian (4, 4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

2510-20 Intermediate Italian (4, 4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

2610-20 Panorama of Italian Culture (4, 4) 2610—Survey of Italian culture from Roman era through the 17th century. 2620—Survey of Italian culture in the 18th, 19th, 20th centuries.

3000 Italian Transition (3) Development of linguistic skills necessary for satisfactory work in courses above 3000. Recommended for students who feel they would benefit from additional training beyond 2520 in basic skills of reading, speaking and writing Italian.

3110-20-30 Aspects of Italian Literature (3, 3, 3) Prereq.: 2520 or equivalent. Recommended for literature majors.

3310-20-30 Italian Literature in English Translation (3-3, 3-3) 3300—Sicilian School, the Fiorentine School, Dante, Petrarch, Boccaccio, Machiavelli, Tasso and the Baroque through nineteenth century, commedia dell'arte, Vico Leopardi, 3350—Twentieth century: Carducci, Pirandello, Quasimodo, D'Annunzio, Croce, Moravia. No change in credit hrs after add deadline. Option of 4 hrs credit must present appropriate amount of extra work above that required for 3 hrs.

3410-20-30 Advanced Grammar, Composition, and Conversation (3, 3, 3) Laboratory work, drills, and tapes. Prereq.: 2520 or equivalent.

3510-20 Aspects of Italian Literature (4, 4) Prereq.: 2520 or equivalent. Recommended for literature majors.

4010-20 Italian Drama in English Translation (3, 3) 4010—La commedia dell'arte and major works of Machiavelli, Metastasio, Aristophanes, Goldoni. 4020—Twentieth-century theatre: operatic drama, the Grotta, Pirandello, De Filippo, Frati. No chance in credit hrs after add deadline. Option of 4 hrs credit must present appropriate amount of extra work above that required for 3 hrs.

4050-60-70 Dante and Medieval Culture (3, 3, 3) Readings and lectures in English for students majoring or minoring in other departments. Readings, research papers in Italian for students majoring or minoring in Italian. (Same as Comparative Literature 4050-60-70.)

4101 Foreign Study (1-16) See page 187.

4220 Petrarcc (3) Prereq.: 3130, 3520 or equivalent.

4230 Boccaccio (3) Prereq.: 3130, 3520 or equivalent.

4330 History of Italian Language (3) Prereq.: 3130, 3520 or equivalent.

4410-20-30 Literature of the Rinascimento (3, 3, 3) From Petrarch to Tasso, the Quattrocento and the Cinquecento. Prereq.: 3130, 3520 or equivalent.

4530 The Modern Novel (3) Prereq.: 2520 or equivalent.

4540 The Modern Theatre (3) Prereq.: 2520 or equivalent.

4610 Contemporary Theatre (3) Prereq.: 2520 or equivalent.

4620 Contemporary Poetry (3) Prereq.: 2520 or equivalent.

4630 Contemporary Prose (3) Prereq.: 2520 or equivalent.

GRADUATE

See Graduate Catalog for requirements.

5011 Techniques in Literary Analysis (2)

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

5151-61-72 Bibliography and Methods of Research (1, 1, 1)

5610-20-30 Readings in Italian Literature (3, 3, 3)

5710-20-30 Seminar in Italian Literature (3, 3, 3)

Portuguese (811)

UNDERGRADUATE

Minor: A minor only is offered in Portuguese, consisting of 8 hours in the 3510-20 sequence (aspects of Portuguese literature) and 18 hours in the 4310-20-30 sequence (directed readings in Brazilian and Portuguese literature, a course of variable content which may be repeated for credit). Students may substitute Foreign Study (4101) for any of the above courses.

1510-20 Elementary Portuguese (4, 4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

2510-20-30 Intermediate Portuguese (4, 4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

3510-20 Aspects of Portuguese Literature (4, 4) Prereq.: 2520 or equivalent. Recommended for literature majors.

401 Foreign Study (1-16) See page 187.

4310-20-30 Directed Readings in Brazilian and Portuguese Literature (3, 3, 3) May be repeated with consent of instructor.

GRADUATE

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

Spanish (924)

UNDERGRADUATE

Major: Consists of 36 hours in courses numbered 3310 or above. Students whose primary interest is literature must have a minimum of 8 hours chosen from the following sequences: 3310-20-30, 3510-20,
2510-20 Intermediate Spanish (4, 4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

2518-28 Honors: Intermediate Spanish (4, 4) Honors course for students of superior ability in Spanish. Incoming freshmen are admitted on the basis of a diagnostic test, high school average, and performance on the ACT. This class will be held to a maximum of 15 so that each student may receive more attention. Students will be enrolled in the normal Spanish program for the first year, but will be enriched whenever possible. Students will be expected to spend only the normal amount of time in preparation. Those who find the course too difficult may easily transfer to a regular class. Potential majors and minors in Spanish are urged to take this course. Students who pass 1510 with a grade of B or higher may take 1520 instead of 1520.

2110-20 Introductory Spanish (3, 3) This section is strongly recommended for students intending to take upper-division courses in Spanish. Must be taken in sequence. 3 hrs and 2 labs.

2420 Introduction to Historical and Comparative Linguistics (3) Same as French, German and Russian 4260.

2427 Romance Linguistics (3) Same as French 4270.

4410 Spanish Civilization (3) Prereq: 2130 or equivalent.

4420-30 Latin American Civilization (3, 3) Prereq: 2130, 2520 or equivalent.

450-70 Studies in Modern Spanish Style (3, 3) Prereq: 3410-20 or consent of instructor.

4510-20 Spanish Literature of Nineteenth Century (3, 3, 3) Prereq: 2130, 2520 or equivalent.

4618-38 Honors: Readings in Literature (3, 3) Prereq: 3550, 3520, 3620 or equivalent and at least 3.0 on all university work. No credit for grade less than B.

4710-20 Spanish Literature of Twentieth Century (3, 3, 3) 4710—Non-dramatic Prose. 4720—Drama. 4730—Lyric Poetry. Prereq: 2130, 2520 or equivalent.


GRADUATE
The Master's Program
See Graduate Catalog for requirements.

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)

5011 Techniques in Literary Analysis (3)

5070-80-90 Hispano-American Literature and Culture (3, 3, 3)

5101 Foreign Study (1-12)

5102 Off-Campus Study (1-12)

5103 Independent Study (1-12)

5110-20 Old Spanish (3, 3, 3)

5121 College Teaching of Romance Languages (3)

5151-61-71 Bibliography and Methods of Research (1, 1, 1)

5211-21 Don Quijote (3, 3)

5212-22-32 Gold Age Prose (3, 3, 3)

5231 The Exemplary Novels, Persiles y Sigismunda (3)

5250-60 The Generation of '98 (3, 3)

5270 The Contemporary Novel (3)

5310-20 Directed Readings (3, 3)

5311-21 Special Topics in Spanish or Spanish American Literature (3, 3)

5340 Problems in Hispanic Culture (3)

5510-20 Spanish Theatre after the Golden Age (3, 3, 3)

5550-60-70 Gold Age Theatre (3, 3, 3)

5610 Spanish American Prose to 1900 (3)

5611-21 Spanish American Lyric Poetry (3, 3)

5620-30 The Modern Novel in Spanish America (3, 3)

5631 Spanish American Essay (3)

5632 The Spanish American Short Story (3)

5633 Twentieth-Century Latin American Theatre and Film (3)

5640 Latin American Women Writers (3)
Russian

See Germanic and Slavic Languages.

Russian and East European Studies

See Cultural Studies.

Sociology (915)

Professors:
D.R. Focht-Head, Ph.D. North Carolina; J.A. Black, Ph.D. Iowa; D.J. Champion, Ph.D. Purdue; W.E. Cole (Emeritus); Ph.D. Cornell; L. Ebersole (Vice Chancellor for Planning and Administration); Ph.D. Pennsylvania; W.B. Jones (Emeritus); Ph.D. Vanderbilt; L.B. Knox (Emeritus); Ph.D. Harvard; S.E. Wallace, Ph.D. Minnesota.

Associate Professors:

Assistant Professors:

Instructor:
D. Harris, M.A. Tennessee.

UNDERGRADUATE

Major: Consists of 36 upper-division hours in sociology. Eight lower-division hours in sociology are a prerequisite to a major. The minor shall consist of 24 upper-division hours in sociology. Eight lower-division hours in sociology are a prerequisite to a minor.

Social Work: Students contemplating entrance into the field of professional social work will have an opportunity to plan their upper-division programs to this end. Suggested course offerings for students planning a social work career can be obtained from the Graduate School of Social Work catalog. The address and general information on the School are given on page 53.

Students who contemplate professional training in social work should discuss their upper-division programs with the Knoxville campus representatives of the School of Social Work.

American Studies. See Cultural Studies.

Latin American Studies. See Cultural Studies.

1510 General Sociology (4) Social origins, structures, forces, processes, and products.

1520 Sociology of Social Problems (4)

3010 Collective Behavior (4) Processual analysis of such collective phenomena as crowd behavior, social epidemics, fads, fashions, popular crazes, and mass movements; nature of the public, functional analyses of public opinion; problems of democracy as viewed from standpoint of organizing collective action.

3030 Political Sociology (3) Sociological analysis of American political system. Attention given to consideration of concept of power, elitist-pluralist controversy, end-of-ideology debate, and related topics.

3130 Social Psychology (4) Social basis of human behavior; socialization; social status and social roles; personality; social adjustment.

3140 Deviance and the Social Order (4) Examinations of relations between deviance and social order. Variations in social deviance considered, with focus on their structure, social factors related to process of becoming deviant, and consequences of deviant conduct.

3150 Sociology of Sex Roles (4) Sociological examination of the structure of current American sex roles utilizing various theoretical perspectives, e.g., role theory and bargaining. Development and effects of organized reactions to sex role expectations and social movements such as feminism are considered.

3160 Sociology of Medicine (4) Introduction to sociological approaches to study of health and medicine. Emphasis on relationship of demographic factors, prevalence of disease, organization of health care facilities and staff-patient relationships.

3220 The Family (4) Origin and evolution of the family; background of modern American family; the normal family; the family in social psychology of the family; reorganization and future of the family system.

3320 Sociology of Mass Communication (4) Sociological dimensions of mass communication and mass media; nature of mass communications organizations as bureaucratic structures, and effects of mass communication on social behavior are examined.

3330 Prejudice and Racism in the United States (4) (Same as Black Studies 3330.)

3340 Sociology of Poverty and Inequality (3) Factors contributing to condition of poverty and social construction of being poor. (Same as Black Studies 3340.)

3350 Social Stratification (4) Study of economic class, prestige, style life, and power hierarchies; causes and consequences of structured social inequality.

3410 Urban Environment (4) Introduction to urban environment includes: emergence of the city; cities of New World; rise of metropolitan America; urban society; social worlds within urban environment.

3420 Urban Problems (4) Crises and the urban conscience; urban problems and interventions; housing, urban renewal and neighborhood conservation; the urban poor, the dissident and alienated; planning for urban youth; the urban elderly; the social and physical planning process: new towns.

3510 Juvenile Delinquency (4) Critical assessment of nature of the delinquency problem, major sociological causes and their implications for control, and administration of juvenile justice.

3610 Sociology of Occupations (4) Introduction to occupations and their relation to the individual and society; technology and occupations; unique rewards and occupations; social organization and occupations.

3620 Occupations as Organizations (4) Occupations as interest groupings; their impact on work settings and life in society.

3672 Religion and Society in Japan (4) (Same as Religious Studies 3672.)

3690 Sociology of Aging (4) The aged as social minority and subculture in society; role changes in middle age and in old age; significance of increase in proportionate aged in terms of employment, welfare, retirement, and political power.

3810 Sociological Theory (4) Survey and analysis of sociological theory from time of Comte to present.

3910 Introduction to Social Research (4) Scientific method: formulating testing hypotheses; techniques for collecting data; measuring social variables; interpreting research findings, lectures and laboratory exercises.

3920 Elementary Statistical Methods (4) Statistics used in social research; elementary descriptive techniques; measures of central tendency, dispersion, elementary statistical inference; tests of significance for parametric and non-parametric data.

4000 Special Topics (4) Student-generated course offered at convenience of department upon student initiative. Scope of subject matter determined by students and instructor with consent of department. Elective credit only. Prerequisite determined by department.

4030 Society and Law (4) General treatment of social origins and consequences of law and legal process. Particular emphasis is placed on problems of law and social change, and on structure and functioning of legal sanctions. Some attention is paid to law and law-like phenomena in formal organizations and primitive societies.

4050 Sociology of Sport (4) Social organization and meaning of sport. Topics to be considered are the difference between sport and play and games, social status and sport, sport subcultures, social analysis of an occupation, place of sport in mass culture, sport and subcultures, reciprocal influences of sport and cultural milieu.

4102 Off-Campus Study (1-16) See page 187.

4103 Independent Study (1-16) See page 187.

4110 Population Problems (4) Demographic factors and social structure; trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

4120 Topics in Social Psychology (4) (Same as Psychology 4120.)

4130 Sociology of Punishment and Corrections (4) Traces development of correctional movement, develops a critical sociological perspective on contemporary correctional programs, and provides overview of evaluative research in corrections.

4310 Criminology (4)

4330 Urban Ecology (4) Examination of public, private, collective, and individual space, classical school of ecology, its neoclassical revisers, social area analysis, and cognitive symbolic ecology emphasized.

4410 Educational Sociology (3) (Same as Education C & 14410.)

4530 Community Organization (4) Structure; functions; linkages; development and important community studies are reviewed and discussed. Emphasis on sociological analysis, not on implementation of change.

4540 Social and Religious Change (4) Critical review of historical and contemporary theories and methods employed in study of social change. Attention given to both macro and micro group change. (Same as Religious Studies 4540.)

4560 Formal Organization (4) Analysis of bureaucratic process, division of labor, delegation of authority, channelled communication under system of rationality.

4820 American Minority Groups (4) Minority groups and social structure in American society; analysis of intergroup relations with attention given to both past and present relationships of selected groups to broader society.

4930 Social Movements (4) Development, organization, and function of social movements; attention is given to ideology, leadership and organization, varieties of political, religious and other types of social movements.
6140 Advanced Reading in Sociological Theory (4)
6150 Advanced Reading in Sociological Methods (4)
6160 Advanced Special Social Investigation (4)
6170 Cross-cultural Aspects of Human Fertility (3)
6180 Theory and Method in Human Ecology (3)
6190 Advanced Special Social Investigation (4)
6210 Advanced Issues in Criminological Theory (3)
6250 Sociology of Deviance (3)
6350 Sociology of Law (3)
6540 Readings in Criminology and Deviance (3)
6550 Advanced Studies in Community (3)
6610 Seminar in Formal Organization (3)
6710 Seminar in Class and Status (3)
6810 Advanced Studies in Social Psychology (3)
6840-50 Social Change (3, 3)
6940 Advanced Studies in Urban Sociology (3)

Spanish
See Romance Languages.

Speech and Theatre


Assistant Professors: R.S. Ambler, Ph.D. Ohio State; J.E. Buckley, Ph.D. Northwestern; M. Custer, M.F.A. Wisconsin; B.V. Daniels, Ph.D. Cornell; F.D. Julian, Ph.D. Tennessee.


UNDERGRADUATE

Major: The major, speech and theatre, offers three areas of concentration as follows:

Concentration in Speech: Eight hours from Speech 1211-21, Speech and Theatre 1441 are prerequisite to a concentration which consists of two courses from Speech 2021, 2311 (or 3551 by permission), 2331, 2351; 30 additional hours in speech courses numbered 2000 and above, 12 hours of which may be cognate areas approved by the department and 24 of which must be in courses numbered 3000 and above.

Concentration in Theatre: Theatre 1320-30-40 is prerequisite to a concentration which consists of Theatre 2111, 2211-21, 2231, 3252-53-54, 19 additional hours of theatre courses numbered 2000 or above, 12 hours of which may be cognate areas approved by the department. At least one-half of the hours in the concentration must be earned at the 3000 level or above. Coreq: 9 hours from courses listed in the Dramatic Arts option of the Language, Literature, Arts Triad.

Concentration in General Speech: Designed for students who anticipate teaching in broad-based high school programs or who desire a wide exposure to the whole discipline of speech. Prerequisite is a minimum of two courses selected from Introduction to Audiology and Speech Pathology 3040, Broadcasting 2750, Communications 1110, Speech 1211, 1221, Speech and Theatre 1441, Theatre 1310. The concentration consists of Speech 2311 (or 3551 by placement); one course selected from Speech 2021, 2331, 2351; 36 additional hours in courses numbered 2000 and above, no more than 20 of which can be in any one department or division (audiology and speech pathology, broadcasting, speech and theatre, or theatre). At least 24 hours must be earned in courses numbered 3000 and above.

Minors: Two minors are offered: speech and theatre. Speech 1211-21 is prerequisite to a minor in speech which consists of 24 hours in speech courses numbered 3000 and above. Theatre 1320-30-40 is prerequisite to a minor in theatre which consists of 24 hours in theatre courses numbered 3000 and above, 8 hours of which must be in history and criticism.

Certification for Teaching Speech or Speech and English. Consult Certification Clerk, Room 211, Claxton Education Building.

GRADUATE

General requirements for the master's degree are given in the Graduate Catalog.

Speech (943)

1211 Introduction to Rhetoric and Public Address (4) Major theories of communication from Plato to present; methods for describing and evaluating public address.

1221 Introduction to Speech Communication (4) Fundamental theories and practices with particular reference to interpersonal communication, persuasion, semantics, psycholinguistics; legal and ethical dimensions of communication.

2021 Voice and Diction (3) Voice production; attention to individual speech problems.

2311 Public Speaking (4) Basic principles of speech preparation and delivery.

2331 Argumentation and Debate (4) Recommended: 2311.

2341 Parliamentary Procedure (3) Various techniques and procedures for collective decision making in assemblies.

2351 Interpersonal Communication (4) Communication theory in its application to informal, face-to-face situations.

2361 Business and Professional Speaking (4) Basic principles of oral communication within organizations. Listening skills, interviewing techniques, formal presentations (including technical papers and reports), conference planning, selecting and employing visual aids, informal communication systems, communicating corporate image, and other aspects of business and professional communicating.

2410-20-30 Intercollegiate Forensics (1, 1, 1) Supervised work in tournament debate and individual events. Prereq: Consent of instructor.

3011 Persuasion (4) Persuasive theory: psychological, sociological, and cultural dimensions.
3012 Persuasion: Projects (2) Material presented in Speech 3011 is applied to on and off-campus projects. Emphasis on analysis of the persuasive situation, application of the relevant communication principles, and understanding and evaluating the results. May be repeated for credit.

3021 Group Communication (4) Communication through the application to small groups, especially discussion groups; communication barriers, non-verbal communication, business communication.

3031 Non-verbal Communication (4) Exploration of non-verbal communication from human communication perspective; origins and research, usage and coding of non-verbal behavior, research strategies and theoretical approaches.

3410-20-30 Intercollegiate Forensics (1, 1, 1) Continuation of 2410-20-30. Prereq: Consent of instructor.

3541 Rhetorical Theory and Criticism (4) Survey of Western rhetorical theory; contemporary approaches to criticism of public address. Recommended: 2121.

3551 Persuasive Speaking (4) Speech forms; principles and practice of speech composition.

4222 Advanced Argumentation and Debate (4) Prereq: 2351 or consent of instructor. Theoretical and practical development of argumentation.

4461 Quantitative Research Methods in Speech Communication (4) Designing experiments; planning field studies; using statistical analysis.

4551 Southern Oratory (4) Historical and critical study of public address in the South.

4560 Rhetoric of the Women's Rights Movement (4) Historical and critical study of public address in campaign for women's rights from the 1830s to present.

4571 British Oratory (4) Historical and critical study of British public address.

4582 Public Discussion of Race (4) History and criticism of racial advocacy in America.

459 Persuasive Uses of Imaginative Literature (4) Topics in social and political uses of novels, plays, and poems.

4811 Advanced Phonetics (4) Phonetic aspects of contemporary dialects of the English language. Prereq: Consent of instructor.

4911-21 History of American Public Address (4, 4) 4911—Colonial period to 1865, 4921—1865 to present.

4999 Colloquium in Speech Communication (1) May be repeated for credit.

GRADUATE

5140 Communications Theory (3)

5210 Topics in Group and Interpersonal Communications (3)

5220 Quantitative Projects in Speech Communications (3)

5430 Studies in Tennessee Oratory (3)

5440 Organizational Communication (3)

5550-60-70 Studies in Persuasion (3, 3, 3)

5750-60-70 Studies in Rhetoric (3, 3, 3)

5911 Directing the Forensic Program (4)

Theatre (976)

1310 Introduction to Theatre (4) Theatre as experience; materials and techniques.

1320-30-40 Fundamentals of Play Production (3, 3, 3) 1320—Play analysis, 1330—Acting and performance (acting and directing), 1340—Physical production (technique and design).

2111-21 Acting (4, 4) 2111—Realism: readings, improvisations, and scene study. 2121—Extended Realism: voice and movement for the stage, basic rehearsal techniques. Prereq: Consent of instructor for 2121.

2211-21 Stagecraft (4, 4) 2211—Techniques of scenery construction, 2221—Fundamental methods of stage lighting. Crew assignments on major productions.

2231 Basic Stage Costuming (4) Costume history and its application to the stage; basic techniques in costume construction.

3121-22 Advanced Acting (4) 3121—Historical styles of acting, 3121—Renaissance, 3122—Seventeenth and eighteenth centuries. Prereq: Consent of instructor.

3151 Theatre Practicum: Performance (1-4) Supervised work in departmental productions. Available for credit only to theatre majors or with consent of department. Prereq: Consent of instructor.

3152 Theatre Practicum: Production (1-4) Supervised work on departmental productions. Available for credit only to theatre majors or with consent of department. Prereq: Consent of instructor.

3153 Outdoor Repertory Productions (4) Supervised work on productions. Available only to members of summer company by consent of instructor.

3214-15 Technical Theatre (4, 4) Special techniques in scenery and property construction, stage management; problems in basic technical theatre practice. Must be taken in sequence. Prereq: 2511-12 or consent of instructor.

3221-22 Introduction to Scene Design (4, 4) 3221—Problems in stage design with reference to space and form, movement, scale, and style; rudi- ments of rendering and ground-plan preparation.

3222—Play interpretation through scenic means, setting as environment for dramatic action; rudiments of model making. Must be taken in sequence.

3252-53-54 History of the Theatre (4, 4, 4) Drama in performance with particular emphasis in theatre architecture, scene design, and acting styles. 3252—Antiquity to the Renaissance. 3253—The European Theatre, 1650-1825.

3254—Modern Theatre.

3263 History of the American Theatre (3, 3) Development of the theatre as social institution in American life. 3262—From its beginnings to 1900. 3263—From 1900 to present.

3321-22 Introduction to Lighting Design (4, 4) Mechanics of stage lighting; elementary theory; problems in basic lighting practice. Must be taken in sequence. Prereq: 2211-21 and consent of instructor.

3451-52 Play Directing (4, 4) Must be taken in sequence. Prereq: 2111.

3511-12 Introduction to Costume Design (4, 4) Costume as expression of character on stage; the application of costume history to specific design projects. Prereq: 2231 or consent of instructor.

4133-34 Special Problems in Acting (3, 3) Advanced exercises in voice and movement; preparation of major role under performance conditions. Prereq: 3121-22 and consent of instructor.

4151 Theatre Practicum: Performance (1-4) Continuation of 3151. Available for credit only to theatre majors. Prereq: Consent of instructor.

4152 Theatre Practicum: Production (1-4) Continuation of 3152. Available for credit only to theatre majors. Prereq: Consent of instructor.

4153 Outdoor Repertory Productions (4) Continuation of 3153. Available only to members of summer company by consent of instructor.

4214-15 Advanced Technical Theatre (4, 4) Advanced technical theatre management; advanced scenery and property execution; special problems in technical theatre.

4241-42 Advanced Scene Design (4, 4) 4241—Descriptive drawing as an approach to three-dimensional design; theatrical graphic standards and preparation of design drawings.

4242—Perception of surface color; construction of mood through color with reference to rendering, scene painting, and preparation of painter's elevations. Must be taken in sequence. Prereq: 2211-21, 3211-22 and consent of instructor.

4341-42 Advanced Lighting Design (4, 4) Relationship of light to setting in creating stage environment. Must be taken in sequence. Prereq: 3211-22 and consent of instructor.

4414-42 Advanced Play Directing (4, 4) Problems of play interpretation; directing period plays; preparation of a play for public performance. Must be taken in sequence. Prereq: 3451-52 and consent of instructor.

4541-42 Advanced Theatre Costume Design (4, 4) Advanced problems in costume design and construction; pattern drafting; draping. Prereq: 3511-12.

4751-52 Dramatic Theory and Criticism (3, 3) 4751—Theatre aesthetics. 4752—Dramatic theory.

4951-52 Playwriting (4, 4) Prereq: Consent of instructor.

GRADUATE

5011-12-13 Projects in Lieu of Thesis (3, 3, 3)

5250 Seminar in Playwriting (3)

5310 Studies in European Theatre History (3)

5320 Studies in American Theatre History (3)

5620 Projects in Lighting Design (3)

5630 Projects in Play Directing (3)

5640 Projects in Scene Design (3)

5650 Projects in Costume Design (3)

5660 Projects in Technical Theatre (3)

5670-71-72-73-74-75 Master Class in Acting (5, 5, 5, 5, 5)

5680-81-82 Design and Technical Theatre Seminar (6, 6, 6)

5890 Studies in Theatrical Production (3)

5912 Play Production in Secondary Schools (4)

5960-50-70 Studies in Dramatic Theory and Criticism (3, 3, 3)

Speech and Theatre (945)

1441 Introduction to Cinema (4) Development of motion pictures as a medium; film aesthetics; analysis and criticism of selected films.

2031 Oral Introduction to Oral Interpretation (3) Art of reading aloud; development of interpretive techniques and their application to selected passages of prose, poetry and drama.

3651 Oral Interpretation of Prose Literature (4) Prereq: 2031 or consent of instructor.

3661 Oral Interpretation of Poetry (4) Prereq: 2031 or consent of instructor.

3671 Oral Interpretation of Drama (4) Prereq: 2031 or consent of instructor.

4101 Foreign Study (1-16) See page 187.

4102 Off-Campus Study (1-16) May be repeated for major credit to maximum of 12 hrs. See page 187.

4103 Independent Study (1-16) May be repeated for major credit to maximum of 8 hrs. See page 187.

4170-80-90 Film History and Theory (3, 3, 3) Analysis of cinematic forms and styles. 4170: Narration. 4180: Exposition and persuasion. 4190: Experimental forms; films and other media.
Women's Studies
See Cultural Studies.

Zoology (995)

Professors:
J. H. Abel (Head), Ph.D. Brown; R. M. Bagby, Ph.D. Illinois; D. L. Bunting, Ph. D. Oklahoma State; J. G. Carlson (Emeritus), Ph.D. Pennsylvania; A. C. Cole (Emeritus), Ph.D. Ohio State; J. C. Daniel, Jr., Ph.D. Colorado; D. A. Elsner, Ph.D. Minnesota; R. C. Fraser, Ph.D. Minnesota; R. F. Grell, Ph.D. Tennessee; B. Hochman, Ph.D. California (Berkeley); J. C. Howes, Ph.D. Cornell; W. K. Jeon, Ph.D. London (England); A. W. Jones (Emeritus), Ph.D. Virginia; J. R. Kennedy, Ph.D. Iowa; J. N. Lise, Ph.D. Colorado State; L. E. Rom (Vice Chancellor for Graduate Studies), Ph.D. Chicago; C. A. Shivers, Ph.D. Michigan State; J. T. Tanner, Ph.D. Cornell; S. R. Tiplon (Emeritus), Ph.D. Duke; G. L. Whiston, Ph.D. Iowa.

Associate Professors:
H. M. Ambrose III, Ph.D. Cornell; K. D. Burnham, Ph.D. Iowa; A. C. Echtermacht, Ph.D. Kansas; A. A. El-Banna, Ph.D. Washington State; D. J. Fox, Ph.D. Johns Hopkins; E. T. Howley, Ph.D. Wisconsin; A. M. Jungreis, Ph.D. Minnesota; J. A. MacCabe, Ph.D. California (Davis); M. L. Pan, Ph.D. Pennsylvania; S. E. Plechert, Ph.D. Wisconsin; D. L. Vaughn, Ph.D. Duke; M. C. Whiteside, Ph.D. Indiana.

Assistant Professors:
E. C. Frederick, Ph.D. Northern Arizona; K. P. Forsman, Ph.D. Idaho; N. P. Greenberg, Ph.D. Rutgers; M. A. Handel, Ph.D. Kansas State.

Visiting

UNDERGRADUATE

Requisites to upper-division courses: Biology 1210-20-30 is a prerequisite for all upper-division courses, with the exception of 5060. Additional prerequisites are included with course descriptions. Courses numbered in the 4000s are no more advanced than those in the 3000s except as may be indicated by prerequisites.

Major:
Consists of Biology 3110, 3120, 3130; 18 hours of upper-division zoology courses (except 3010-20-30), and 3 quarters of chemistry or biochemistry at the 2000 level or above. The 18 hours of upper-division zoology courses a minimum of 6 hours must be at the 4000 level, and at least one laboratory or field course. Prerequisites to this major are: Biology 1210-20-30 or Zoology 1118-28 (Zoology 2920-30 may be substituted for Zoology 1118 or Biology 1220), and Chemistry 1110-20-30. Corequisites are Mathematics 1841-51, or 1840-50 or 1560-50 (Mathematics 1841-51 is the recommended choice); and a year sequence in physics (except 1410-20-30).

Note: Students majoring in zoology are advised to exercise care in fulfilling the Science and Mathematics Triad requirements. Mathematics 1840-50 or 1540-50 and Chemistry 1110-20-30 or equivalent (20 or 21 hours altogether) must be completed by all zoology majors.

Minor:
Consists of 24 hours of zoology, or zoology and biology, courses. (Zoology courses must be at the upper-division level; but 2000-level biology courses may be used, e.g. Biology 2110, 2120, 2130.) Prerequisites to this minor are Biology 1210-20-30 or Zoology 1110-20-30 or 1118-28 and Chemistry 1110-20-30.

Note: Certain zoology courses require organic chemistry or other prerequisites—consult the catalog description for each course. Many courses in this department are offered only in specified quarters. Students should plan in advance for the proper sequence. Information on the quarter a course is to be offered is available in the department office.

1118-28 Honors: General Zoology (6, 6) Course designed for superior students in any major field who are interested in obtaining a solid foundation in zoology. This two-quarter sequence is equivalent to the two-quarter Biology 1118-28 sequence and students may register for the core biology sequence (Biology 3110-20-30) following its completion. Honors zoology is open to students of any curriculum with a minimum ACT composite score of 28, or with a minimum grade point of 3.2 in college. Students must register and at least a B in whichever quarter is completed to be eligible for the second quarter. Students who do not satisfy this requirement must complete the sequence with appropriate quarters of Biology 1210-20-30. 1118—Chemical basis of life and organismal biology: origin and diversity of organismal biology, 1120—Genetics and evolution of populations and communities. Six hrs of combined lecture and lab. Students who receive credit for 1118-28 may not also receive credit for Biology 1210-20-30 or Botany 1110-20 or 1118-28.

4860-70-80 Human Anatomy and Physiology for Nurses (4, 3, 3) Fundamentals of human anatomy and physiology. 2 hrs and 1 lab.

4621-71-81 Human Anatomy and Physiology for Nurses (4, 4, 4) Same as 4620-70-80 except 2 hrs and 2 labs.

2120-20 Human Biology (5, 4) Human biology for non-majors. Not available for major credit in zoology and biology. 2110—Human biology: 2120—Human genetics and embryonic development with emphasis on applied aspects of embryology and genetics. Does not satisfy a laboratory course requirement.

2920-30 Human Physiology (4, 4) Fundamentals of biology principles of human physiology and anatomy. Must be taken in sequence. Prereq: One year of college chemistry. 2 hrs and 2 labs.

3040 Natural History of the Vertebrates (5) Behavior, life history, phylogeny, and classification. 3 hrs and 2 labs or 3 hrs and 1 lab.

3050 Comparative Vertebrate Embryology (5) Developmental morphology of selected vertebrates. 2 hrs and 3 labs.

3060 Comparative Vertebrate Anatomy (4) Anatomy of organ systems. Dogfish shark and catfish used in laboratory. 2 hrs and 2 labs.


3090 Biology and Human Affairs (3) Same as Botany 3090.

3110 General Entomology (5) Introduction to insects; basic structure, development, behavior; classification of insect orders and representative families; interpretation and use of keys. Prereq: Biology 3130, or consent of instructor. 3 hrs and 2 labs.

3150 Invertebrate Zoology (5) Biology of invertebrates (except insects) with emphasis on ecology and behavior. Prereq: Biology 3130. 3 hrs and 2 labs.

3220 Physiology of Reproduction (3) Same as Animal Science 3220.

3230 Histology (4) Study of animal tissues. Prereq: Biology 3120. 2 hrs and 2 labs.

3410 Bioethics (3) Relationship between biological discoveries and human values. Open dis-
cussion of selected dilemmas arising from new knowledge about medicine, behavior, resources, and technology.

3520 Introduction to Microbiology II: Immunology (2) (Same as Microbiology 3520.)
3920 Hormones and Endocrine Function in the Human (4) Basic course in human endocrinology with emphasis on the practical diagnosis of hormone levels for analysis of glandular function and treatment of endocrine abnormalities. 3 lectures and 1 discussion. Prereq: A course in physiology.
4007-4010 12-13-14-15-16-17 Minicourse in Zoology (2, 2, 2, 2, 2, 2) Selected, advanced topics in zoology, concentrated in time and subject matter. Consult departmental listings for actual topics offered. Prereq: As posted. May be repeated for credit.
4050 Developmental Biology (4) Experimental morphogenesis, fertilization, cellular interactions, hormonal effects and related topics with examples drawn primarily from invertebrates and vertebrates. Prereq: 3050. 2 hrs and 2 labs.
4110-20-30 Undergraduate Research Participation (2, 2, 2) Experience in active research projects under supervision of staff members. Prereq: Junior or senior standing and prior consent of instructor.
4140 Practicum in Zoology (1-3) Participation in practical application of zoology in community institutions, government organizations and industry. Approximately 5 hrs involvement per week. Prereq: Biology 3110, 3120, 3130 and senior standing.
4190 Mammalogy (4) Classification, evolution, distribution, reproduction, populations, and behavior. 2 hrs and 2 lab or field periods. (Not open to students with credit for 3190.)
4200 Ichthyology (5) Classification, collection and identification, distribution, life histories, and ecology of fishes. Prereq: Biology 2120, or consent of instructor, 2 hrs and 2 lab or field periods. (Not open to students with credit for former 3200.)
4210 Cell Physiology (5) Development of modern concepts in cell physiology from point of view of information and control which examines kinetics and integration of cellular activities. Prereq: Cell Biology 3010, or permission of instructor. 3 lectures and 1 lab.
4240 Animal Ecology (4) Environmental factors determining distribution and numbers of animals; intra-specific relations; problems and methods. Prereq: Biology 3130. 2 hrs and 2 labs.
4250 Comparative Animal Physiology I (3) Environmental role and adaptive features of fishes. Survey of physiological mechanisms and their relation to ability of animals to survive in diverse physical environments. Prereq: Biology 3120-30, 2 yrs of chemistry. 3 hrs.
4299 Comparative Animal Physiology Laboratory I (1) Coreq: 4250. 1 hr.
4269 Comparative Animal Physiology Laboratory II (1) Prereq: 3080 and consent of instructor; coreq: 4260.
4270 Advanced Immunology (2) (Same as Microbiology 4270.)
4280 Comparative Endocrinology (5) Comparative analysis of the endocrine glands and morphology of endocrine glands in vertebrates and invertebrates. Their role and interaction in maintenance of the organism and species. Prereq: 3080 or 3920. 3 hrs and 1 (3-3) lab.
4290 Herpetology (4) Classification, distribution, life histories, collection and identification of amphibians and reptiles, primarily of local species. 2 hrs and 2 lab or field periods. (Not open to students with credit for 3210.)
4300 Ornithology (4) Morphology, physiology, behavior, reproduction, populations, evolution, field identification. 2 hrs and 2 lab or field periods. (Not open to students with credit in 3230.)
4310 Nuclear Cytology (4) Chromosome structure and behavior in mitosis and meiosis. 1 hr lecture and 3 labs. Prereq: Biology 3110.
4320 Microtechnique (4) 3320 recommended. 2 hrs and 2 labs.
4330 General Cytology (4) Study of cellular organelles at the light and electron microscope levels and the functioning of these organelles. Prereq: Biology 3120.
4369 General Genetic Laboratory (2) (Mainly Drosophila experiments designed to illustrate basic principles of inheritance. Prereq: Biology 3110. 2 hrs and 2 labs.
4380 Organic Evolution (3) Modern concepts of animal evolution. Prereq: Biology 3110.
4410 General Parasitology (4) Morphology, taxonomy, and ecology of parasitic worms and protozoa, with emphasis on host-parasite relationships. 3 hrs lecture and 1 lab. Prereq: Biology 3130 or consent of instructor.
4430 Medical Entomology (4) Distinctive morphological features, distribution, life histories, and control of arthropods that parasitize man or serve as vectors of human pathogens. Prereq: Agricultural Biology 3210 or Biology 3130. (Not open to students with credit for 3430.)
4450 Protozoology (4) Morphology, taxonomy, and physiology of protozoa in relation to fundamental biological concepts. Recommended: Biology 3120. 2 hrs and 2 labs.
4619-29 Comparative Animal Pathology (2, 2) 4619—Cell and tissue changes. 4629—Organ, organ system, and organ system changes. Coreq: 4610-20.
4660-70 Limnology (4, 4) 4660—Effects of origin, age, and location of lakes on their physical and chemical nature. 4670—Lake communities, productivity and pollution. Prereq: Chemistry 1110-20 and Biology 3130. Botany 1120, 21, 250-30 recommended. 2 hrs and 2 labs (4660); 3 hrs and 1 lab and 4670. Must be taken in sequence, except with consent of instructor. Not open to students with credit in 3650 or 4650.
4700 Arachnology (4) Biology of spiders, mites, scorpions, and relatives. Prereq: 3110 or 3150. 2 hrs and 2 labs.
4720 Comparative Animal Behavior (4) Methods and principles. (Same as Psychology 4720.)
4729 Comparative Animal Behavior Laboratory (4) Laboratory and field studies. Coreq: 4720 (Same as Psychology 4729.)
4810-20-30 Insect Morphology and Taxonomy (4, 4, 4) 4810—Internal morphology of both generalized and specialized forms. 4820—Taxonomy of major orders. 4830—Taxonomy of minor orders and immature forms. Prereq for 4820-30: 3110, or consent of instructor. 2 hrs and 2 labs.
4940 Physiology of Exercise (4) Functions of body in muscular work; physiological aspects of fatigue, training, and physical fitness. Prereq: 2920-30 or 3080. 3 hrs and 1 lab. (Not open to students with credit for 3840.)
GRADUATE
5000 Thesis
5080 Graduate Research Participation (3)
5110-20-30 Special Problems (2, 2, 2)
5150 Zoological Bibliography (1)
5180 Fresh-Water Invertebrates (4)
5210 Plant Parasitic Nematodes (4)
5290 Physiology of Hormones (4)
5270 Advanced Neuroanatomical Physiology (5)
5280 Insect Physiology (4)
5290 Quaternary Problems (4)
5310-20 Seminar in Teaching of College Zoology (2, 2)
5350 Biometry (3)
5410 Advanced Parasitology (4)
5430 Advanced Medical Entomology (3)
5510-20 Advanced Animal Physiology (5, 5)
5550 Advanced Ornithology (4)
5570 Animal Populations (3)
5610-20 Foundations of Radiation Biology (4, 4)
5630 Methods of Experimentation with Laboratory Animals (3)
5660 Physiology of Development (3)
5670 Cellular Immunology (4)
5780 General Vertebrate Neuroanatomy (3)
5780 Radiation Physiology (4)
5790 Transport of Ions Across Epithelia (4)
5820 Methods of Taxonomy (4)
5840 Aquatic Insects (4)
5860 Geographic Distribution of Animals (4)
5870 Insect Synecology (4)
6000 Doctoral Research and Dissertation
6110 Seminar in Cellular Biology (2)
6140 Seminar in Immunobiology (2)
6210 Seminar in Physiology (2)
6310 Seminar in Cytology (2)
6350 Seminar in Developmental Biology (2)
6410 Seminar in Parasitology (2)
6510 Seminar in Genetics (2)
6610 Seminar in Ornithology (2)
6650 Seminar in Aquatic Biology (2)
6710 Seminar in Ecology (2)
6810 Seminar in Entomology (2)
8910 Seminar in Radiation Biology (2)
College of Nursing

Sylvia E. Hart, Dean
Barbara M. Reid, Associate Dean
Dorothy B. Stephens, Assistant Dean

The College of Nursing at The University of Tennessee, Knoxville, was established in July, 1971, in response to a long-recognized and well-established need for nurses prepared at the collegiate level and as a part of a statewide comprehensive plan approved for The University of Tennessee system by its Board of Trustees and for the state by the Tennessee Higher Education Commission.

The undergraduate program offered by the college is fully accredited by the National League for Nursing. It combines the unique resources of the University with those of several cooperating health agencies in a manner which enables both faculty and students to become aware of and responsive to an evolving dynamic culture, rapid scientific and technological advances and changing concepts of health, of human beings and of society.

The baccalaureate nursing program has as its central focus and frame of reference human beings, society and health. It is based on the belief that nursing has equal concern for the prevention of illness, the promotion of health, and the care of the sick.

General education courses, Nursing courses and electives are organized in a manner designed to promote creative thinking and innovative approaches at both the theoretical and practical levels. General education courses are incorporated into the nursing curriculum at both lower-and upper-division levels. Certain aspects of general education, primarily in the natural and behavioral sciences, are prerequisite to any courses in the nursing major. Other supporting courses are taken concurrently with Nursing courses.

Since nursing is a humanistic science and an art, Nursing courses provide theoretical content which draws heavily from the theories and principles of related sciences and disciplines. This content is organized, integrated and synthesized in a manner which promotes a comprehensive understanding of the life process from conception through senescence. In nursing practice, this knowledge and understanding is combined with intellectual judgments, practical skills and human compassion. Opportunities to develop this kind of expertise in a variety of settings and situations are integral components of all Nursing courses.

A broad base of general education, a thorough study of human behavior, emphasis on health maintenance and promotion, and a strong family and community orientation are essential components of baccalaureate education in nursing. It is these characteristics which differentiate it from other types of basic nursing education.

Because of the expanding role of the professional nurse, the increasing complexity of health care delivery and the ever-changing health needs of society, the goals of the program are to prepare graduates who are able to:
1. Assume beginning leadership positions in nursing in a variety of settings.
2. Work collaboratively with other health professionals.
3. Function as socially conscious and contributing citizens.
4. Pursue advanced education on either a formal or an informal basis.

GENERAL REQUIREMENTS:
In order to obtain a Bachelor of Science in Nursing Degree, 12 quarters of full-time study or their equivalent are required. Students may enroll in Nursing courses following successful completion of 90 quarter hour credits in prescribed general education courses. These courses may be taken at The University of Tennessee or at any accredited junior or senior college or community college. One hundred eighty-nine quarter hour credits must be successfully completed in order to be awarded the Bachelor of Science in Nursing Degree.

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 of Nursing.

GRADING POLICY:
The Satisfactory-No Credit option is not permitted for any Nursing course.
The minimum acceptable grade for all courses in the nursing curriculum, other than electives, is a C; a course in which a grade of D or F is achieved may be repeated once. If a grade of D or F is achieved on the second attempt, the student will be required to withdraw from the program.

Any student who achieves a grade of D or F for more than two clinical Nursing courses will be required to withdraw from the program even if previous courses in which the grades of D or F were achieved have been repeated and a grade of C or better has removed the D or F. Clinical courses are: 3010, 3150, 3210, 3330, 4220, 4250, 4420, 4560, 4760.

If a student receives an incomplete (I) in a required Nursing course the Incomplete must be removed before the student may enroll in any other required Nursing courses.

If a student's clinical laboratory performance for any Nursing course is deemed unsatisfactory, the grade for that course will be an F regardless of any grades related to the theoretical component of the course. If the unsatisfactory clinical performance is characterized by dangerous, inappropriate or irresponsible behavior, behavior which actually or potentially places the patient's or family's welfare in jeopardy, the student will be required to withdraw from the program.

ADMISSION AND PROGRESSION PROCEDURES
(1) Nursing students must achieve a course grade of C or better in all required lower-division courses, exclusive of electives.
(2) When the student has completed all required lower-division courses, having met all the above stated grade requirements, a petition for admission to upper-division courses must be made to the Progression Committee in the College of Nursing. The Progression Committee will review the record of each student who has submitted a petition in order to verify that the student has successfully completed all lower-division requirements. The College will then notify, in writing, those students who are eligible to begin upper-division Nursing courses.

Student petitions for admission to upper-division courses must be submitted to the Program Office during the spring quarter which immediately precedes the fall quarter in which they expect to enter the upper division. The deadline for submitting a petition is the third day of enrollment for each spring quarter.

(3) Students who wish to enroll in The University of Tennessee, Knoxville College of Nursing, once they have completed all course requirements elsewhere, should contact the Associate Dean for Student Affairs at the UTK College of Nursing as soon as they begin their lower-division courses. Transfer students who believe they have met lower-division requirements should submit a petition to begin upper-division courses as soon as they are admitted to the University. The number of students qualified to begin upper-division Nursing courses exceeds the number that can be accommodated during the following fall quarter, the cumulative grade point average will be utilized to select those students who may enroll in upper-division Nursing courses. Qualified students not selected are eligible to reapply for progression during the next review period.

(4) Transfer students who have been accepted by the University must complete all course requirements identified in the nursing curriculum. Transcripts will be evaluated on an individual basis. Students are free to take proficiency or challenge examinations in order to determine whether it is necessary for them to enroll in a course or whether they have met those course requirements in another way.

(5) Registered nurses seeking a baccalaureate degree in nursing must also apply for admission to the University and must be accepted on the same basis as others. They must complete all prerequisites and all required courses identified in the nursing curriculum. They may also take challenged or proficiency examinations in required courses whenever these are appropriate and available.

Registered nurses who have completed Chemistry 1410-20 with a grade of C or better, within ten years prior to their admission to the College of Nursing, have satisfied the chemistry requirement.

For registered nurses the following courses must be substituted for those required in the nursing curriculum if a grade of C or better was achieved and if the courses were taken within ten years prior to admission to the College of Nursing: Microbiology 2110 for Microbiology 2610; Nutrition 1230 for Nutrition 3202.

Registered nurses must successfully complete Nutrition 4450, 4460, 4660, and 4860. They may challenge up to a maximum of 40 hours of other required clinical Nursing courses and they will receive credit for Nutrition 3110 (Pharmacology) if they take and pass the NNL Pharmacology Achievement Test and achieve a score at or above the 50th percentile.

**COURSE LOAD**

The maximum credit hours per quarter allowed for any student without special permission is 18.

**BACHELOR OF SCIENCE IN NURSING CURRICULUM**

The following curriculum leads to the Bachelor of Science in Nursing degree. A minimum of 189 quarter hours of credit is required.

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<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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<tr>
<td>English 1010-20, 1031, 1032, or 1033</td>
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<td>Chemistry 1510-20, 20-30</td>
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<td>Math 1540</td>
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<td>Psychological majors</td>
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<td>Sociology majors</td>
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<td>Elective</td>
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<td>Zoology 2920-30</td>
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<td>Microbiology 2110-19</td>
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<tr>
<td>Child and Family Studies 2110</td>
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<td>Nutrition 3020</td>
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<td>Nursing 4230, 4560</td>
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<td>Nursing 4440, 4660, 4760, 4860</td>
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<tr>
<td>Electives</td>
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<td><strong>TOTAL: 189 hours</strong></td>
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At least 14 of the elective hours must be in humanities courses.

**Nursing (720)**

Professor: S.E. Hart (Dean), Ph.D. New York.

Associate Professors: D.H. Goodfellow, M.S.N. SUNY (Buffalo), M.E. Groer, Ph.D. Illinois; K.J. Kant, Ph.D. Illinois; J.M. Mallan, Ph.D. Purdue; J.N. Mozingo, M.S.N. Emory; B.M. Reid, M.S.N. Columbia.

Assistant Professors: M.E. Banks, M.S.N. Wisconsin; M.T. Boynton, M.S.N. Emory; S.L. Brunoing, M.S.N. Columbia; K.P. Conton, M.S.N. SUNY (Buffalo); C.H. Davidson, M.S.N. Florida; M.W. Davis, M.S.N. Emory; R.B. Dossert, M.S.N. Kentucky; S.N. Evans, B.S.N. East Tennessee State; M.M. Fenkse, M.N. Florida; N.R. Heintz, M.S.N. Medical College of Georgia; M.L. Jolly, M.S.N. Columbia; K.F. Knapper, M.S.N. SUNY; M.B. Kollor, M.A. Vanderbilt; V.M. Kraemer, M.S. Colorado; P.R. MacMorran, M.S.N. Vanderbilt; D.R. Oddle, M.S.N. Emory; H.E. Overton, M.P.H. Tennessee; M.P.H. Tennessee; C.M. Sampelselle, M.S.N. Ohio State; D.H. Shoffner, M.S. Tennessee; P.L. Smith, M.S.N. Medical College of Georgia.

Instructors: S.M. Bowen, M.S. Tennessee; P.G. Droppleman, M.S.N. Tennessee; N.E. Gray, L.M.S. Tennessee; L.L. Harrison, M.S.N. Delaware; N.B. Helms, B.S.N. Mercy College; L.S. Kettenring, M.S.N. Tennessee; D.R. Maupin, M.S.N. Vanderbilt; D.W. Patschke, B.S.N. UT Center for Health Sciences; J.H. Turner, M.N. Florida.

Lecturer: D.B. Stephens, M.S. Tennessee.

2710 Family Health Promotion (4) (Same as Nutrition 2710)

3010 Nursing Process (8) Theory and related laboratory experiences necessary for beginning development of basic nursing skills. History of development of traditional and expanding professional nursing role: philosophy of health and nursing; the health-illness continuum: determinants and indices of health and illness. 5 lectures, 3 labs. Prereq: All required lower-division courses with grade of C or better; coreq: 3110, 3410. For nursing majors only.

3110 Pharmacology (4) Biochemical and pharmacological effects of drugs and medications on the human body. Positive and negative pharmacological reactions and interaction effects between and among drugs. Prereq: Chemistry 1610-20, Zoology 2920-30.

3210 Acute Care Nursing I (6) Content and clinical laboratory experiences related to care of patients whose health problems require hospitalization. Physiological and behavioral deviations which underlie or are associated with more common, relatively uncomplicated acute illnesses of children and adults are stressed. Clinical laboratory experiences are coupled with instruction to enable students to apply their knowledge and skill to the care of patients in acute care settings as well as to the provision of continuity of care for those patients and their families. 5 hrs, 3 labs. Prereq: 3010, 3110, 3410. For nursing majors only.

3220 Acute Care Nursing II (10) Analysis of physiological and behavioral deviations which underlie or are associated with more complex and critical illnesses. Laboratory experiences provide opportunities to apply increasing knowledge and skill to care of acutely ill patients as well as to provision of continuity of care for those patients and their families. 5 hrs, 5 labs. Prereq: 3210. For nursing majors only.

3410 Children and Health (4) Theory and laboratory experiences related to systematic, comprehensive assessment of children and adolescents at various levels of health-illness. Emphasis on normal growth and development, interactions of relationships with parents, children and health workers and responses to illness and hospitalization. Coreq: 3010, 3110.

3710 Individual and Family Health Problems (4) (Same as Nutrition 3710)

3790 Sexual Adaptation in Illness and Health (3) Anatomy, physiology and biochemistry of human sexuality; clinical sex problems of various age groups; sexual changes during pregnancy; inferred treatments and application of sexual assault; sexuality and chronic illness. Prereq: Upper-division nursing student or consent of instructor.

4110 Family Health Nursing (10) Nursing needs of families in health and illness. Emphasis on provision of comprehensive care to families in the childbearing and childrearing phases of family development. Application of theories of human growth and development, family dynamics, and crisis intervention. Focus on development of skills necessary to provide quality nursing care to families experiencing normal pregnancy and childbirth, as well as to development of such as complications of childbearing, congenital anomalies and other high-risk parental-child relationships, and gynecologic disturbances. 5 hrs, 5 labs. Prereq: All 3000-level Nursing courses or their equivalent. For nursing majors only.

4230 Psychosocial and Long Term Nursing (10) Nursing needs of clients whose primary problems are of a developmental, behavioral or long term nature. Equal emphasis on prevention,
health promotion and rehabilitation. Laboratory experiences in a variety of psychiatric, extended care and out-patient clinics. 5 lectures, 5 labs. Prereq: All 3000-level Nursing courses or their equivalent. For nursing majors only.

4330 Nursing in the Specialties (2-4) Application of principles from behavioral, physical, social and nursing sciences to solution of nursing problems. Includes exploration of nursing intervention needed to maintain or restore homeostasis in clients experiencing selected physiological and/or behavioral deviations. Specific topics to be determined by faculty and students. May be repeated with consent of instructor. Maximum credit 12 hrs. Prereq: Consent of instructor.

4350 Oncology Nursing (3) In-depth exploration of the cancer problem, medical and nursing intervention. Relates cellular kinetics to theories of carcinogenesis and metastasis, and examines treatment modalities and nursing intervention employed in all phases of the disease. Interdisciplinary approach analyzed. Prereq: Nursing 4230, R. N. status or consent of instructor.

4420 Long Term Nursing (6) Nursing needs of patients with long term congenital, developmental, or other chronic health problems. Focus on development of knowledge and skills needed to achieve total patient and family involvement in rehabilitative process. 3 hrs, 3 labs. Prereq: All 3000-level Nursing courses or their equivalent and Nursing 4220 and 4250. For nursing majors only.

4440 Scientific Inquiry in Nursing (3) Introduction to language of research, types of research design, methodological approaches, sampling, data analysis and significance of findings. Evaluation of existing and ongoing nursing research studies. Prereq: 10 hrs of 4000-level Nursing courses. For nursing majors only.

4560 Nursing in the Community (6) Content and laboratory experiences with focus on health patterns, needs and problems of the community. Particular emphasis on the health assessment of small and large groups, comparison of variations in health needs and patterns within and between communities, involvement in preventive and promote community health programs at the national, state and local levels. 3 hrs, 3 labs. Prereq: All 3000-level Nursing courses. For nursing majors only.

4860 Professional Nursing Seminar (3) Critical examination of legislative, legal, ethical, social and educational issues and trends which have immediate or long-range implications for professional nursing practice. Prereq: 10 hrs of 4000-level Nursing courses. For nursing majors only.

4760 Management of Health Care (6) Theories of administration, supervision, organization, management and leadership as they apply to the delivery of health care services. Emphasis on role of the nurse in health care management and delivery. Laboratory experiences to develop skills necessary to function as an effective member of the health team. 2 hrs, 1 lab. Prereq: 10 hrs of 4000-level Nursing courses. For nursing majors only.

4770 Comprehensive Health Assessment (6) Principles and theories underlying health screening of children and adults, including health history, interviewing and physical examination. Practicum included. 2 hrs and 2 labs. (4 hrs each). Prereq: All 3000-level Nursing courses or their equivalent or consent of instructor.

4860 Independent Study in Nursing (3) In-depth study of some aspect of nursing in which student has developed special interest. Study is pursued independently utilizing guidelines developed by the student with appropriate faculty guidance, supervision and evaluation. May be repeated with consent of instructor. Maximum credit 9 hrs. Prereq: 10 hrs of 4000-level Nursing courses. For nursing majors only.

GRADUATE

5000 Thesis

5002 Non-Thesis Graduation Completion (3-15)
Independent Departments

Department of Air Force Aerospace Studies

Air Force ROTC Program

Professor of Air Force Aerospace Studies:
Col. E.H. Hiteshew (Head), M.A. East Carolina.

Assistant Professors:
Major G.D. Johnson, M.B.A. George Washington; Capt. L.E. Cool, M.B.A. Texas; Capt. P.M. Hanks, M.S. Troy State; Capt. S.A. Morris, M.S. Mississippi State.

GENERAL INFORMATION

Any student may enroll voluntarily in Air Force ROTC at the same time as registration for other undergraduate courses. There is no active duty obligation resulting from enrollment in the first two years of AFROTC classes unless the student is on AFROTC scholarship.

AIR FORCE ROTC SCHOLARSHIP PROGRAM

Scholarships are available to qualified students who enroll in the four-year cadet program. These scholarships cover full tuition, all fees, and reimbursement for all required books. In addition, cadets are paid $100 per month during the entire period of the scholarship. Scholarships are awarded to cadets on a competitive basis for two through four years at all levels of the Air Force ROTC program, including college freshmen, sophomores, and juniors. High school seniors should contact the Professor of Air Force Aerospace Studies on campus early in the academic year.

PURPOSE OF THE AIR FORCE ROTC

The Air Force ROTC Program is designed to qualify for commissions those college men and women who desire to serve in the United States Air Force. The program provides education that will develop skills and attitudes vital to the professional Air Force officer. Upon graduation from the University and the Department of Air Force Aerospace Studies, students are commissioned second lieutenants in the United States Air Force Reserve. Opportunities exist throughout the initial period of active duty for the graduate to receive a Regular Commission in the Air Force and to pursue commissioned service as a career.

UNIVERSITY CREDITS

The following credits are granted for Air Force Aerospace Studies work and are creditable toward a degree in some colleges. See respective PAS for further information.

Aerospace Studies 1000 series
(Freshman)—6 quarter hours per year
Aerospace Studies 2000 series
(Sophomore)—6 quarter hours per year
Field Training Academics
(Sophomore)—6 quarter hours
Aerospace Studies 3000 series
(Junior)—9 quarter hours per year
Flight Instruction Ground School—
3 quarter hours
Aerospace Studies 4000 series
(Senior)—9 quarter hours per year.

COURSES AVAILABLE

The first two years (freshman and sophomore) of the Air Force curriculum are known as the General Military Course. The last two years of the curriculum (junior and senior) are known as the Professional Officer Course.

Flight training is offered free of charge to qualified pilot candidates who are senior AFROTC cadets. The cadet receives 25 hours of flight instruction. University credit is granted for the Ground School portion of the Flight Instruction Program.

Field Training is offered at Air Force bases across the country. Normally, this is the cadet's first extended exposure to an Air Force environment. It is here that the cadet receives junior officer and leadership development training. Also at this time, the Air Force has an opportunity to personally evaluate each cadet as a potential member of its officer corps.

Four-year ROTC members are required to complete a four-week session and two-year applicants attend a six-week session, adding two intensive weeks of academics comparable to the academics taught in Aerospace Studies 1000 and 2000 courses. Credit is granted for this two-week period, provided the student registers for credit, attends five one-hour pretraining sessions before attending Field Training, and attends two one-hour seminars conducted during the fall quarter following completion of Field Training.

ELIGIBILITY FOR THE PROFESSIONAL OFFICER COURSE (FOR PURPOSE OF EARNING A COMMISSION)

(Junior and Senior Years)

All cadets enrolled in the Professional Officer Course (junior and senior years) of the Air Force ROTC (for purpose of earning a commission) must:

a. Have either completed the General Military Course (freshman and sophomore years), or the off-campus, six-week Field Training, or have the required amount of prior military service.

b. Have two academic years of college remaining (either graduate or undergraduate).

c. Execute a written agreement with the government to complete the program, contingent upon remaining qualified and in school, and attend the off-campus, four-week Field Training between the sophomore and junior years and accept an Air Force Reserve Commission, if tendered.

d. Be selected by the Professor of Air Force Aerospace Studies and the President of the University or the duly authorized representative.

e. Meet certain specified age, mental, and physical requirements.

EXEMPTIONS FOR PREVIOUS ROTC, PREVIOUS ACTIVE MILITARY SERVICE, OR CERTAIN CIVIL AIR PATROL AWARDS

A student may request exemption from portions of the General Military Course on the following bases: (1) previous
honorable active military service in any branch of the Armed Services; (2) at least two years of high school ROTC; or (3) holding certain awards in the Civil Air Patrol. Exemption will be on an individual basis, and no University credit is given for those hours or portions of the General Military Course exempted.

PAY AND ENTITLEMENTS
All cadets enrolled in AFROTC are furnished texts and uniforms by the government through the Air Force Material Control Clerk, University of Tennessee. Enrollees are required to deposit $35 as security to the University against loss or damage of uniforms or equipment for which the University is accountable to the government. At the completion of AFROTC, or when the student withdraws from the program, with the exception of a nominal fee covering the cost of shoes the deposit is returned to the student provided proper clearance for uniforms and equipment is obtained. Professional Officer Course cadets receive a subsistence allowance of $100 per month, not to exceed the amount that is paid mileage to and from Field Training, plus pay commensurate with active duty rates. A four-week Field Training is normally required between the sophomore and junior years for those students enrolled in the four-year program. A six-week camp is required for two-year applicants.

ACTIVE DUTY COMMITMENTS
Commissioned graduates going into non-officer duties will be required to serve four years of active duty. Those graduates going into pilot assignments will be required to serve six years active duty after completion of pilot training. Those graduates going into navigator assignments will be required to serve five years active duty after completion of navigator training.

CONDUCT, ORGANIZATION, AND ADMINISTRATION
Air Force Regulations provide for the following: "For the effective conduct of instruction at civilian colleges and universities, subject to coordination with general institution, proper campus arrangements and the approval of the head of the institution, the Professor of Air Force Aerospace Studies will be empowered to draft rules and orders, relating to the organization, control, and training of the members of the AFROTC and the appointment, promotion, and reduction of Cadet Officers and Cadet Non-Commissioned Officers."
The Department of Air Force Aerospace Studies sponsors the following organizations:
(2) Angel Flight National auxiliary of the Arnold Air Society. Composed of selected cadets who are inspired to enhancing the esprit, morale, and appearance of the Air Force ROTC Cadet Corps.
(3) Sabres Team. Provides interested cadets an opportunity to serve as honor guard for all official Cadet Corps functions.
(4) Air Commando Flight. Provides opportunity for additional military training for those cadets volunteering to participate.

Curriculum
Air Force Aerospace Studies (094)
1210-20-30 Air Force Aerospace Studies (2, 2, 2)
Surveys the missions, functions, and organization of the Air Force. Emphasis on the Air Force Commands, the environment in which the Air Force operates and how the Air Force works with the Army and Navy, providing foundation upon which study of the Armed Forces and the Air Force can build. 1 hr and 1 hr lab (Leadership Laboratory).

2210-20-30 Air Force Aerospace Studies (2, 2, 2)
Introduction to study of air power. Course is developed from a historical perspective starting before the Wright Brothers and continuing into the 1970s. 1 hr and 1 hr lab (Leadership Laboratory).

2240 Field Training (Academic Program) (1-6)
Role of United States military forces in contemporary world, with particular attention to United States Air Force, its organization and mission, various component forces of U.S. military power, organization of America's defense structure, policies of major powers, and elements and processes in making of defense policy. Conducted at Field Training bases in the country. Approximately 60 class hrs.

3210-20-30 Air Force Aerospace Studies (3, 3, 3)
Air Force leadership at junior officer level, including theoretical, professional, and legal aspects, with emphasis on personal skills. Military management functions, principles, and techniques are covered. 3 hrs and lab (Leadership Laboratory).

3240 Flight Instruction Ground School (Private Pilot) (3)
Part of Air Force ROTC Flight Instruction Program and is designed to prepare student to operate safely as an observer to enable student to pass FAA private pilot's written examination. Thirty quarter hrs of classroom instruction. Subject areas covered are: Pre-flight Facts—Acquaints students with factors affecting flight; Meteorology—involves student in learning weather phenomena affecting flight, weather information, and services available to pilots; Flight, Computer, Navigation and Radio—Covers the requirements to plan a cross-country, use of appropriate maps, charts, logs and regulations that must be known to operate safely and legally.

3250 Flight Instruction Ground School (Instructor) (3)
Consists of audio-visual aids and discussion covering Federal Aviation Agency (FAA) Instrument Flight Rules, Exam-O-Grams, Advanced Meteorology, planning and use of instrument charts for flight and procedural instruction of instrument flying techniques and application. Emphasizes safety in operation of small aircraft and provides necessary instruction for the FAA written examination instrument pilot's license. Prerequisite 3240 or an FAA private license.

3255 Commercial Pilot (3)
Audio and visual presentation, supplemented with discussion, of following topics: Advanced Flight Computer; Advanced Meteorology; Advanced VFR Navigation and Radio; Commercial Pilot Federal Aviation Regulations and Examinations; Alcohol, Drugs, and Flight; Weather; Oxygen, Altitude, and the Body; Weight and Balance; and Oxygen Systems. Course provides necessary instruction to take Federal Aviation Agency (FAA) written examination for Commercial Pilot's License.

4210-20-30 Air Force Aerospace Studies (3, 3, 3)
Role and function of professional officer in a democratic society; socialization process, public attitudes, and value orientations associated with professional military service; requisites for maintaining national security; decision-making processes of Department of Defense; political, economic, and social constraints affecting formulation of U.S. defense policy; impact of technological and international developments upon strategic preparedness; emphasis on developing communicative skills. 3 hrs and 1 lab (Leadership Laboratory).

Department of Military Science
Army Reserve Officers' Training Corps

Professor of Military Science:
Colonel Daniel H. Bauer (Head), M.A. Illinois.
Assistant Professors of Military Science:
J.R. Light, M.S., Tennessee; W.G. McNamara, M.P.S., Western Kentucky; Captains R.K. Brown, M.A. Murray State; Dr. M. E. Peppardine; E.R. Edmondson, M.B.A. Tennessee; D.J. Schmus, M.B.A. Tennessee.

UNIVERSITY ROTC PROGRAM
The University of Tennessee offers a voluntary ROTC program leading to appointment as an officer in the United States Army.

PURPOSE AND OBJECTIVE
The purpose is to provide professional education which will prepare students for appointment as commissioned officers in the Regular Army or the United States Army Reserve.

Objectives of the program are to provide students with an understanding of the fundamental concepts and principles of military art and science; to develop in them a basic understanding of associated professional knowledge; and to build a sense of personal integrity, honor, and individual responsibility, and an appreciation of the requirements for national security; and to establish a sound basis for the students' future professional development.

ROTC draws young men and women for training from all geographical, economic, and social strata of our society as well as from the many educational disciplines required for the modern Army. The program insures that men and women educated in a liberal and broad spectrum of American institutions of higher learning are commissioned annually into the officer corps.

ARMY ROTC SCHOLARSHIP PROGRAM
The Army ROTC scholarship program offers financial assistance to outstanding young men and women in the Army ROTC program who are interested in the Army as a career. Each scholarship provides for free tuition, textbooks, and laboratory fees in addition to a subsistence allowance of $100 per month for the period that the scholarship is in effect. Scholarships may be awarded for either one, two, three, or four years. High school seniors should contact their guidance counselors early in November or December of their senior year to apply for the four-year scholarship. One-, two-, and three-year scholarship applicants should contact the Professor of Military Science for further information. Certain other privately financed scholarships and grants are available to ROTC cadets.

UNIVERSITY CREDIT
The University of Tennessee grants the following credit for military science:
Military Science I—3 quarter hours (MS 1110)
Military Science II—3 quarter hours (MS 2110-20)
Military Science III—12 quarter hours (MS 3110-20-30)
Military Science IV—12 quarter hours
(4110-20-30)
Army ROTC Summer Studies—6
quarter hours (MS 4000)

BASIC ACADEMIC REQUIREMENTS FOR
APPOINTMENT AS SECOND LIEUTENANT
Academic prerequisites for appointment as Second Lieutenant in the
United States Army through the ROTC Program at The University of Tennessee,
Knoxville, include the following minimum requirements. The sequence and
selection of courses not specified will be determined by the adviser in concert with
the head of the Department of Military Science. In cases where a student is
pursuing a discipline which is narrowly restricted (excluding Military Science Core Curriculum) with few elective options, any
conflict in scheduling or course selection will be resolved in favor of academic
degree requirements.

MILITARY SCIENCE CORE CURRICULUM

Basic Military Studies
MS 1110 Fundamentals of Military
Organization Leadership and
Management .......................... 3
MS 2110-20 Applied Leadership
and Management (3, 3) ......... 6

Advanced Military Studies
MS 3110-20-30 Advanced Leadership
and Management (4, 4, 4) ....... 12
MS 4000 Army ROTC Summer
Studies ................................ 6
MS 4110-20-30 Seminar in Leadership
and Management (4, 4, 4) ..... 12

TOTAL: 39 hours

Substitution
The following courses may be substituted for military courses with
permission of adviser and ROTC department head:
Management 4460, History 4380 for MS
4130. Certain other upper-division courses may be substituted with permission
of PMS.

OTHER ACADEMIC COURSES
Since each degree field at the University is designed to provide a well-
balanced education in diversified fields, no specific hour requirement is levied for
courses outside the Military Science Core Curriculum.

Freshman and Sophomore Years
The University requirements for subjects in the field of communications
(English grammar, composition, speech, etc.); physical, natural and biological
sciences; humanities; social sciences; and applied sciences (engineering,
mathematics, computer science, etc.) will satisfy the Army’s desire for its officers to
have a well-rounded liberal education.

Junior and Senior Years
The cadet is expected to pursue at least one quarter of upper-division work in
each of two different divisional course areas (other than major) as follows:
mathematics, computer sciences, natural sciences, anthropology, economics,
political science and international relations, history, psychology, sociology,
foreign languages, management, urban studies, mass communications, or
accounting.
Students seeking an Army commission are permitted to substitute military studies
for non-technical electives, social studies, and/or humanities to satisfy degree
requirements. This substitution is at the sole discretion of the commander of the
separate schools and colleges.

ENROLLMENT AND CONTINUANCE
REQUIREMENT
The general requirements for enrollment and continuance in the ROTC program are:

(1) Basic Course—MS I and II
a. Be a citizen of the United States.
b. Be physically qualified.
c. Be not less than fourteen years
   of age and have not reached twenty-three
   years of age at the time of enrollment.

(2) Advanced Course—MS III and IV
All cadets applying for enrollment in the Advanced Course Army ROTC who seek a
Commission must:
 a. Have either completed the Basic
   Course, or an off-campus six-week Field
   Training Course, or have the required
   amount of prior military service.
 b. Have two academic years of college
   remaining (either graduate or
   undergraduate).
 c. Be enrolled as a full-time student,
   either at The University of Tennessee or at
   a nearby institution in a cooperative
   program.
 d. Meet military screening and physical
   requirements.

Regularly enrolled students who meet the academic prerequisites and do not
desire a commission may take individual courses as electives with the permission
of the department head and academic adviser.

ADVANCED MILITARY STANDING
FOR MILITARY TRAINING
On the basis of previous honorable active military service in any branch of the
Armed Services, or participation in the Junior ROTC Program at Secondary
Schools, a student may request exemption from portions of the Basic Course.
Exemption allowed will be determined by the academic adviser.

PROFICIENCY EXAMINATIONS
Students may apply for proficiency examinations in Military Science 110, 2110 and 2120.
These examinations are offered mainly for graduates of the 6
weeks of intensive training at the Basic
Camp at Fort Knox, Kentucky. A student applying for a proficiency examination
should present evidence that he or she has developed those abilities and attitudes
expected of a student who has taken the course in question. The application must be
approved by the department head.

EMOLUMENTS
All students enrolled in the Army ROTC program are furnished texts by the Army
through the Military Property Officer. Students enrolled in the ROTC Advanced
Course receive uniforms and equipment plus an allowance of $100 per month
during the academic year. While attending the ROTC summer studies, each cadet
receives approximately $480 plus meals,
clothing, and requisite special equipment.

COURSES AVAILABLE
The curriculum of the Army ROTC program is designed to qualify the cadet
for appointment as an officer. Selection for assignment to the various branches of
the Army is based upon:
 a. The personal interests of the cadet.
b. The branch of service.
c. Academic accomplishment.
d. Leadership potential.
e. The needs of the Service.

Under this system a cadet may be commissioned in any branch for which he
or she is qualified and in which a need for officers exists. After graduation and
commissioning, the officer will attend a service school for further specialization
in military training which will qualify him or her for the branch to which he or she is
assigned.

Curriculum
Military Science (688)

1100 Fundamentals of Leadership and Management (3) Development of American military institutions, policies, experiences and traditions in peace and war from colonial times to present. Historical examination of effective and ineffective leadership and application of principles of war. Practical exercise in leadership development.

2110 Applied Leadership and Management (3) Concentration is directed toward the student's study of leadership. Factors affecting human behavior. Leadership functions, principles, and traits. Development of leadership qualities through practical exercises. Military teaching principles and development of teaching skills.

2120 Applied Leadership and Management (3) Contemporary world scene and impact on the military. Planning, preparation, and presentation of briefings and continued development of leadership skills through practical exercise. Discussion of ROTC Advanced Course. Prereq: 2110.

3110-20-30 Advanced Leadership and Management (4, 4, 4) Applied leadership to include operation of the military team, electronic communications, land navigation, small unit leadership and internal defense/development. Two field trips. Leadership Laboratory: Philosophy of organization and operation of military in tactical and administrative roles. Prereq: 2120.

4000 Army ROTC Summer Camp (6) Six-week encampment (forty-four hours of instruction are scheduled each week) to include commissioning and normally scheduled upon completion of 3130. Camp is conducted at an Army installation with instruction presented by ROTC faculty from colleges and universities. Course of instruction is an extension of leadership and management curriculum. Prereq: 3130.

4110 Theory and Dynamics of the Military Team (4) Organization and management of division military team, development and function of military staff, and coordination and planning of the military team. Leadership Laboratory: Staff and Tactical Planning, presentation of briefings, preparation, evaluation and supervision of plans. Prereq: 4000 or consent of instructor.

4120-30 Seminar in Leadership and Management (4, 4) Analysis of selected leadership and management problems involved in unit administration, military justice, Army Readiness Program, and officer-ensign relationships. Leadership Laboratory. Prereq: 4110.
Division of Continuing Education

Charles H. Weaver, Vice President for Continuing Education
Charles W. Hartsell, Assistant Vice President for Continuing Education
Raymond A. Shirley, Assistant Vice President for Continuing Education

The Division of Continuing Education is responsible for the operation of all statewide continuing education programs, both on campus and off campus. The Division is concerned with policies and programs required for effective offering of educational opportunities, including attainment of college-level degrees, to qualified students of all ages and walks of life who pursue knowledge outside the traditional on-campus setting. All continuing education programs of the University are coordinated through the Division.

Information concerning continuing education programs of the various campuses is set forth in the respective catalogs. Information on continuing education programs of The University of Tennessee, Knoxville, is given on page 102 of this catalog.

Joint University Center (UT/MSU)
Coordinator: J.A. Rhodes, Jr., Ph.D. Georgia State.

The Joint University Center is administered cooperatively by The University of Tennessee and Memphis State University, and the Division has coordinative and developmental responsibilities only.

Center for Extended Learning
Associate Directors: B.W. Wallace, M.S. Tennessee; R.H. Considine, Ph.D. Tennessee.
Editor: A. Gittelfinger, B.A. Tennessee.

CLEP Open Center: Administers College Level Examination Program tests each month.

College Credit for High School Seniors: Coordinated in cooperation with the State Board of Education.

Conferences: For specific clientele statewide.

Independent Reading: The student should contact the academic department for the desired reading course and then register for credit through the CEL.

Independent Study: Extends instructional services of the University from all campuses to the citizens of the state. Courses may be started at any time.

College Entrance Courses: To remove entrance deficiencies or to complete high school requirements.

Non-Credit Courses and Certificate Programs: In areas of general interest and in technical, business, and professional fields.

Statewide Media Programs: Courses for credit by cable and open-circuit television, radio, and newspapers.

Undergraduate Cooperative Education Program: For students desiring to work alternate quarters while going to school.

For information on enrollment, costs, books, and credit, write: Center for Extended Learning, 447 Comm. & Univ. Ext. Bldg., The University of Tennessee, Knoxville, Tennessee 37916. Telephone: (615) 974-5135.

Head Start State Training Office
Director: L.C. Biggs, M.S. Wisconsin.
Assistant Director: R.J. Hamilton, B.S. Tennessee.
Handicap Coordinator: R.B. Popp, M.S. Tennessee.

Training Officers: L.J. Champion, Ph.D. Tennessee; K.J. Davis, B.S. Iowa State; M.D. Griffin, M.S. Tennessee; C.L. Hammond, M.S. Memphis State; L.L. Horn, B.S. Tennessee; C.J. Howard; W.H. Wiggins, M.S. Tennessee Tech; L.H. Wynn, B.S. Livingston College.

The State Training Office of Head Start is a program of services to the 20 area Head Start programs in Tennessee. The services include organizing training programs for personnel of the various local programs, development of special workshops, publication of a newsletter, and organizational work with parents of children in the Head Start program. This office provides training through the coordination of Head Start Supplementary Training and the State Training Office grants.

Library Services
Director: D.J. Harkness, M.S. Columbia.

This is a statewide service, administered by the system Division, and has four major facets.

Package Library and Book Services provide material for use by clubwomen, teachers, librarians, and other individuals in preparing talks and papers and in doing special study and reference work. Books from the Extension Library and the University Library are loaned to individuals within the state and to students taking courses by correspondence. Study club outlines, bibliographies, suggestions for club yearbooks, reading lists, and information-reference services are provided.
Club Program Service includes a series of program manuals on historical, literary, and bibliographical subjects designed to help clubwomen, teachers, and librarians in their work and individuals in their reading and study in informal adult education.

Drama Loan Service makes it possible for directors of drama in schools, colleges, universities, Little Theatres, and church drama groups to borrow copies of one-act and three-act plays and material for special days for reading and examination. Information on sets, costumes, and the original Broadway productions, along with material on playwrights, actors, and actresses, is also available.

School Program Service includes aids to teachers, librarians, and directors of speech and drama through package libraries, drama loans, and production aids.

Publications
Publications are a direct means of extending to Tennesseans the information resulting from studies by University departments and various extension materials designed for general enrichment of civic, cultural, and economic understanding. The University of Tennessee Continuing Education Series is used as an outlet for these materials. A list of available titles, most of them free to Tennessee residents, may be had upon request.

Radio Services
Director:
R.A. Shirley, M.A. Tennessee.

Associate Director:
N.L. Dryer, B.M. Indiana.

Assistant Directors:
G.D. Francis, B.S. Syracuse; S.D. Williamson, Jr., B.M. Tennessee.

Staff:
J.C. Adkins, M.S. Tennessee; M.J. Bell, B.A. North Carolina; D. Burns; J.A. Chasteen; W.G. Hauser, B.A. New Mexico; P.J. Rebmann, B.S. Middle Tennessee State; J.E. Toher, B.A. Tennessee; R.W. Stagg.

This department conducts an extensive statewide program of adult education and information by radio, offering hundreds of different cultural and educational experiences. Its activities may be grouped into three categories. (1) WUOT, the University's 100,000-watt stereo FM station, operating 19 hours a day every day of the year, with a high quality and varied program of music, public affairs, discussion, drama, and documentaries from local, state, national, and international sources. The station is a member of the National Public Radio Network.

(2) A network of over 150 Tennessee radio stations which provide without charge the time for over 22,000 quarter-hour programs on subjects of public interest, with production, duplication on audio tape, and distribution accomplished by the department. Its close contact with all broadcasting, and its staff and facilities, equip the department ideally for work with the other campuses in the production, duplication, and distribution of audio materials for educational use. It will upon request assist all of the campuses in communications development.

(3) A technical service which includes highspeed duplication of reel-to-reel or cassette audio tapes for University departments, recording conferences and workshops, audio consulting, and educational radio consulting.

Teaching Materials Center
Director:
J.T. Benton, M.S. Tennessee.

This department provides educational films for the public schools, colleges, churches, civic clubs, and other interested organizations on a wide variety of subjects, ranging from agriculture to technical material on the space age, and also films for industrial use. Film councils throughout the state encourage the use of these materials for forum discussions and general adult education. An advisory service on effective film use is also provided by the department. Films, equipment, and other services are made available to the academic faculty for classroom instruction and experimentation and educational films are provided for the students both on and off campus for student teaching, previews, and special projects.

Television Services
Director:
F.A. Lester, M.A. Tennessee.

Assistant Directors:
D.L. Bower; W.R. Terry, B.A. Tennessee.

Producers:
S.H. Gordon, B.S. Tennessee; W.P. Wilson, B.S. Tennessee.

Television services include the complex closed-circuit administration and production work which results in many lower-division resident classes being taught to some 8000 students by television on the campus; the production of 52 half-hour programs each year on WSJK-TV, the State Department of Education station in East Tennessee; and instruction for three resident courses in broadcasting for the College of Communications. The department jointly administers an off-campus secondary school accelerated entrance program by television tape and the Video Tape Electrowriter Remote Mode program of professional development studies.
The University Library

Donald R. Hunt, Director
Kenneth E. Marks, Associate
Director/Public Service
Richard C. Pollard, Associate
Director/Technical Services
George W. Shipman, Associate
Director/Administrative Services

Professors:
Donald R. Hunt (Director), M.A.L.S. Michigan;
G.M. Abel (Emeritus), M.S. Chicago;
R.J. Bassett, M.A.L.S. Michigan; O.H. Branch,
S.A.L.S. Emory; J.H. Dobson, M.S. Columbia;
E.E. Goehring (Emerita), B.S.L.S. Columbia;
L.B. Vandiver, M.A. Florida State.

Associate Professors:
P.S. Bayne, M.S.L.S. North Carolina;
M.F. Crawford, M.S.L.S. Kentucky; F.H. Felder,
M.S.L.S. Atlanta; H.S. Garrett, M.A. Peabody,
D.W. Jeff, M.S.L.S. Florida State; A.W. LeClercq,
M.L.S. Emory; K.E. Marks, Ph.D. Iowa State;
A.E. Mitchell, M.A.L.S. Peabody; A.M. Nichols,
M.S. Florida State; G.K. Phillips, M.L.N. Emory;
R.C. Pollard, M.S.L.S. Southern California;
M.J. Sharp, M.L.S. Emory; G.W. Shipman,
M.A.L.S. Michigan; B.C. Wolfe, Jr., J.D.
Kentucky.

Assistant Professors:
P.P. Barkalow, M.L.S. Rutgers; C.S. Carver, M.L.S.
Peabody; K.M. Crowther, M.L.N. Emory;
D.C. Livingston, M.L.S. Oregon; D.K. Freeman,
M.L.S. Indiana; J.W. Granade, M.S.L.S. North
Carolina; S.S. Leach, M.L.N. Emory;
A.H. Mitchell, M.S.L.S. Tennessee; L.L. Phillips,
M.L.S. Rutgers; R.R. Rodda, M.L.S. Western
Ontario; J.H. Worley, M.S.L.S. Tennessee.

Instructors:
D.C. Pickert, M.S.L.S. Tennessee; D.L. Ream,
M.A. Southern Florida; J.K. Shelby, M.L.S.
Tennessee; R.H. Smith, M.S. Illinois;
N.B. Watkins, M.L.S. Tennessee; H.L. Wells,
M.S.L.S. North Carolina; N.H. Wiest, M.S.
Drexel.

The UTK Library, as the premier library
of the state, seeks to acquire and service
all necessary recorded information, both
print and non-print, that meets the needs
of the University's teaching, research, and
service programs.

The books, periodicals, non-print and
any other materials contained in the six
UTK Library units are available to all
students, faculty and staff of The
University of Tennessee, Knoxville.

Included among the holdings are 1,390,541
books, 1,159,463 microforms, 4,568
audiotapes, 1,371 slide carousels, 655
videotapes, 8,341 phonodiscs, 1.9 million
manuscripts, and various ephemeral
materials. More than 24,900 periodical and
other serial titles are received annually.
The library in its six locations is open
to all students and faculty, regardless of
their fields of study. The James D.
Hoskins Library at 1401 West Cumberland
is the main library where administrative
and technical services offices are located.
The index catalog, listing the library
holdings for the entire campus, is in Main,
as are the general and research
collections, comprehensive reference,
interlibrary services, documents,
4000/5000-level reserves, newspapers,
non-print materials, and Special
Collections, the last a repository of local
and regional source materials.

The John C. Hodges Undergraduate
Library, on Volunteer Boulevard at Andy
Holt Ave., has a limited collection of
150,000 volumes selected to meet the
needs of students in undergraduate
courses. Reserve materials for 1000-3000
level courses are available in this library
as is a large collection of audiotapes,
slides, and videotapes.

Other libraries serving specialized
areas are Agriculture-Veterinary Medicine
in the Veterinary Medicine building, Law in
the Taylor Law Building, Music in the
Music Building, and Science/Engineering
in Dabney-Buehler.

The libraries are administered by a
director, three associate directors (for
public, technical, and administrative
services) and a number of department
heads. Questions and comments are
invited in person or through
the suggestion boxes located in each library.
Continuing evaluation and building of the
collections is the responsibility of the
Collections Development Librarian. While
most materials are selected by faculty,
recommendations for purchase are invited
from all students and staff.

Copies of Your Libraries, the library
handbook for students and faculty, are
available at all libraries.
Computing Center

Gordon R. Sherman, Director
Martha F. Bowen, Associate Director
Terry Feagin, Associate Director
Sara A. Phillips, Associate Director
Timothy P. MacKenzie, Assistant Director

Faculty Associates
Professors:
G.R. Sherman (Director), Ph.D. Purdue;
R.E. Cline, Ph.D. Purdue.

Associate Professors:
A.O. Bishop, Jr., Ph.D. Clemson; D.T. Feagin*,
Ph.D. Texas.

Assistant Professor:
D.W. Straight, Ph.D. Texas.

*On leave.
*Space Institute, Tullahoma.

The University of Tennessee Computing Center (UTCC), the largest computing facility in the University of Tennessee system, provides computing facilities and services for the needs of the University’s teaching, research, public service, and administrative activities. In particular, UTCC maintains close contact with the UTK academic community by supporting research and instructional users with professional computer staff.

UTCC is principally located in the Stokely Management Center and in Andy Holt Tower. From the Stokely location, UTCC supplies computing services to all campuses in the UT system through job entry facilities located on each campus. At UTK, UTCC maintains five job entry stations for batch work and eight sites for interactive computer work.

UTCC’s equipment consists of an IBM 370/148, an IBM 360/65 and a DECSysterm-10 which are used for research, instruction and administrative computing work. UTCC also maintains an IBM 360/40 which is used exclusively for administrative work. The IBM 370/148 has two million bytes of memory, and the IBM 360/65 has 2.75 million bytes of memory. The DECSysterm-10 is a 1080 configuration with 256K words of memory.

UTCC supports remote job entry stations (card reader/line printer) with the IBM 370/148-IBM 360/65-DECSysterm-10 combination and a CalComp plotter. The IBM 370/148 and 360/65 run under OS/360 MVT with HASP II. The DECSysterm-10 runs under the TOPS-10 Monitor. The time sharing system supported by the two machines includes ATS/360, Coursewriter III, APL, FORTRAN, BASIC, COBOL, Assembler language, and other special purpose application programs.

UTCC publishes a User’s Guide which describes the use of the IBM 370/148 and 360/65 and policies and procedures and the DECSysterm-10 Programmer’s Guide, which is a general handbook for the use of the DECSysterm-10. The two guides are available at the UT Book and Supply Store. UTCC also publishes a monthly Newsletter which announces systems, equipment and procedural changes and contains other items of interest to the user community. Program writeups and special user’s guides are also published.

UTCC periodically offers intensive training seminars of several days duration in computer utilization on the IBM 370/148 and 360/65 and the DECSysterm-10. These seminars are planned primarily for faculty, staff and graduate students who use or plan to use UTCC facilities. UTCC offers non-credit short courses each quarter in topics such as programming languages and special purpose programs. These courses are announced in the Newsletter and in the UT Daily Beacon.

Computing services can be requested via the Request for Services form available from the business office in the Stokely Management Center. All users of UTCC facilities are assigned a consultant to provide user assistance.

248
Public Service

Vice President for Public Service:
C.E. Smith, Ph.D. George Peabody

Institute for Public Service
Executive Director:
R.S. Hutchison, M.B.A. Chicago.
Associate Director:
L.R. Rogers, B.S. Tennessee.
Director of Communication Services:
T.B. Ballard, B.S. Tennessee.
Manager of Request-for-Service System:
W.S. Evans, B.S. Tennessee.
Business Manager:
G.W. Baskette.

The Institute for Public Service was established in 1971 within the Office of the Vice President for Urban and Public Affairs. The purpose of the Institute is to coordinate and promote public service activities throughout the University system, excluding services provided through the Institute of Agriculture.

The basic goal of the University public service effort is to bring to the citizens of Tennessee— their business, their industry, and their governments—the problem-solving capabilities uniquely embodied within their statewide University system.

Public service at the University of Tennessee includes all services offered to those outside the University, including teaching in certain non-degree situations, technical assistance, and applied research which is conducted specifically at the request and for the benefit of non-University organizations in Tennessee.

The Institute provides: (1) a system-wide focal point for urban and public services; (2) a means to coordinate the various system-level public service activities; and (3) an organizational base for communication and program development that relates to both outside service clientele of the University and the campuses of the University system.

The Institute is headquartered in Knoxville and maintains regional offices in Chattanooga, Cookeville, Jackson, Johnson City, and Nashville.

The Institute is comprised of the system-level public service operations listed below.

County Technical Assistance Service
Executive Director:
J.H. Westbrook, Jr., B.S. Tennessee.
Executive Assistant:
C.R. Phebus, M.S. Vanderbilt.
Assistant Director for Administration:
T.D. McNally, M.A. Austin Peay State.

Legal Specialists:
W.C. McIntyre, J.D. YMCA Law School;

Director of County Law Enforcement Services:
G.L. White.

Law Enforcement Consultants:
S.F. Glaser, B.S. Tennessee;
W.G. Hall, B.S. Middle Tennessee State.

Financial Specialists:
R.L. Addins, B.S. Bethel; R.A. Pierce, B.A. Alabama; R.M. Wormley, B.S. Cumberland.

Engineering Specialists:
J.R. Hight, M.S. Tennessee; B.M. Levine, B.S. St. Peter's.

Communications and Publications Specialist:
M.C. Walker, B.S. Tennessee.

Special Projects Coordinator:
M.J. Frank, B.A. Tennessee.

County Field Advisers:
J.B. Gardner, M.A. Memphis State;
M.R. Garfield, M.C.M. East Tennessee State;
J.E. Headrick, B.S. Tennessee; B.C. Rodgers, B.S. Tennessee Tech; G.W. Smith, B.A. Western Kentucky; J.R. Cramaric, B.S. Austin Peay State;
S.L. Yarbrough, M.S. Tennessee.

The County Technical Assistance Service was established by the Board of Trustees at the 1973 mid-year meeting and began operation September 1, 1973.

Establishment of the Service was authorized by the 86th General Assembly for the purpose of providing "studies and research in county government, publications, educational conferences and attendance thereat, and to furnish technical, consultative and field services to counties of the state in problems relating to fiscal administration, accounting, tax assessment and collection, law enforcement, improvements, and public works, and in any and all matters relating to county government. This program shall be carried on in cooperation with and with the advice of counties in the state acting through the Tennessee County Services Association and its Board of Directors, which is recognized as their official agency or instrumentality."

The Service is headquartered in Nashville, with regional offices in Chattanooga, Cookeville, Jackson, Johnson City, and Knoxville.

Municipal Technical Advisory Service
Executive Director:
V.C. Hobday, Ph.D. Syracuse.
Assistant Director:
J.P. Hartman, M.P.A. Tennessee.

Specialist Consultants:
C.T. Butts Jr., B.S. Tennessee (Police);
J.M. Crabtree Jr., B.S. Tennessee Tech (Personnel); J.W. Crawford, B.A. Miami (Personnel); J.A. Fitzgerald, B.A. Memphis State (Police); D.W. Huffer, J.D. Tennessee (Ordinance Codification); W.K. Jones, B.S. Tennessee Polytechnic (Finance and Accounting); J. Kersh, B.S. Tennessee (Municipal Information); F.E. Kirk, B.S. in C.E. Southern Methodist (Public Works); J.H. Leuty, B.S. Tennessee Polytechnic (Finance and Accounting); A.D. Lewis, B.S. Missouri (Energy); A.C. Lock Jr., B.S.G.E. Oklahoma State (Public Works); R.A. Lovelace, M.P.A. Kansas (Intergovernmental Affairs); G. Musick (Police); D.W. Ovency, J.D. Tennessee (Ordinance Codification); M.T. Pentecost, B.S. Murray State (Finance and Accounting); E. Puett, J.D. Tennessee (Municipal Law).
NSF Special Project Manager: D.F. Norris, Ph.D. Virginia.
Librarian: E.M. Sodeman, B.L.S. Wisconsin.

The Seventy-Fifth General Assembly (1949) established a Municipal Technical Advisory Service at The University of Tennessee. The legislation designated the purposes to be “studies and research in municipal government, publications, educational conferences and attendance thereat, and furnishing technical, consultative, and field services to municipalities in problems relating to fiscal administration, accounting, tax assessment and collection, law enforcement, improvements and public works, and any and all matters relating to municipal government.” Services are currently provided in the fields of municipal law, municipal management, public works, finance and accounting, ordinance codification, municipal information, personnel, and police administration. The state is divided into eight districts and a Municipal Consultant is assigned to each district. Most of the staff are located in the headquarters office on the Knoxville campus; regional offices are maintained in Cookeville, Jackson, and Nashville. This program is carried on in cooperation with the Tennessee Municipal League.

Center for Industrial Services

Executive Director: R.E. Harris, M.S. Tennessee, P.E.
Assistant Director for Field Services: R.L. Highers, B.S. Tennessee Tech, P.E.
Assistant Director for Energy Services: S.E. Clapp, M.B.A. Tennessee.
Field Engineers: P.L. Dannisley, M.B.A. Memphis State; J.O. Grisby, B.S. Georgia Tech; B.R. Wiggs, Jr., B.S. Tennessee, P.E.
Industrial Engineer: T.C. Parsons, M.S. Tennessee, P.E., CPA.
Industrial Librarian: N.W. Wiesheugel, M.L.S. Peabody.
Engineering Specialist: W.J. Fesmire, M.S. Tennessee.

The Center for Industrial Services has the primary role of assisting Tennessee’s manufacturing firms by providing technical and managerial assistance to those companies seeking assistance. By the Tennessee Public Acts of 1963, the assigned objectives for the Center are “to render services to the industries in this state by providing information, data, and materials relating to the needs and problems of industry which might be supplied and solved through research; by providing information about available research facilities and research personnel in Tennessee colleges and universities, and in governmental and private research laboratories; by keeping Tennessee’s industries informed about the supply of and demand for trained qualified personnel; and by cooperating with the Governor’s Staff Assistant for Industrial Development and the Tennessee Industrial and Agricultural Commission in carrying out its duties.”

This statewide program encourages and assists managers of Tennessee firms to draw upon the intellectual resources of the colleges and universities to upgrade the firm’s performance. Field engineers experienced in manufacturing operations take the initiative in encouraging the upgrading and expansion of management in their plant environment.

The Center for Industrial Services is headquartered in Nashville. Regional offices are maintained in Chattanooga, Cookeville, Jackson, Johnson City, and Knoxville.

Center for Government Training

Executive Director: D.M. Sullivan, D.P.A. Nova.
Associate Director: A.D. McLeod, M.P.A. Washington.
Assistant Directors: E.K. Smith, M.D. Traugher, B.S. Middle Tennessee State; G.T. Himes, Jr., B.S. Belmont.
Regional Managers: T.R. Carpenter, Jr., M.S. Tennessee; J.W. Fort, M.A. Austin Peay State; P.J. Gipson, B.S. Belmont College; A.C. North, Jr., B.S. Middle Tennessee State; D.R. Waynick, B.S. Lambuth.
Program Coordinator: H.V. Price, M.S. Tennessee.

The Center for Government Training has responsibility for providing professional assistance and establishing training and career development programs for state and local government officials and employees throughout the state. Headquarters is located in Nashville, but regional offices are also maintained in Jackson and Knoxville. The Center is charged with identifying and analyzing needs for public service education and training at the state and local levels in Tennessee, and with developing and conducting programs for training of public agency employees, working with institutions of higher education in the state and other educational facilities. The Center acts as a clearinghouse for information relative to public service personnel education and training programs. In addition, the Center serves as the central administrative agency in a statewide local government training network which includes four campuses of the University and the six senior institutions in the Board of Regents system.
THE UNIVERSITY OF TENNESSEE GENERAL SUMMARY

Administration

Trustees:
- Appointed by the Governor ........................................ 18
- Ex-Officio ......................................................... 5

Officers of Administration:
- President ................................................................... 1
- Vice Presidents ...................................................... 8
- Associate/Assistant Vice Presidents ...................... 10
- Chancellors ............................................................ 5
- Vice Chancellors and Provost .................................... 19
- Associate/Assistant Vice Chancellors ................. 11
- Deans and Directors .............................................. 290

Full-Time and Part-Time Faculty 1978-79

<table>
<thead>
<tr>
<th></th>
<th>Center for the Health Sciences*</th>
<th>Chattanooga</th>
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Instruction, Research, and Public Service

- Officers of the Agricultural Experiment Station ........... 37
- Officers of the Agricultural Extension Service .......... 429
  (Includes County Agents)
- Lecturers ......................................................... 133
- Graduate, Research, and Teaching Assistants, Fellows, Trainees 2,013
- Officers of the UT Center for the Health Sciences-Knoxville Unit 78

* Includes two vice presidential titles held by one person.
\* Includes two vice presidents.
\* Includes UTCHE-Knoxville Unit.
<table>
<thead>
<tr>
<th></th>
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**NOTE:**

- The enrollment data in this statewide summary of the University of Tennessee System represents students enrolled for degree credit. Students enrolled only on a non-credit or audit basis are not included.
- The Fall 1978 center for the Health Sciences does not include graduate medical students (residents and fellows).
### Index

**Academic Calendar**, 4, 5  
**Academic Continuation**, 26  
**Academic Regulations**, 24  
**Accelerated Program**, 28  
**Accounting**, 82, 87, 89  
**Accreditation**, 56, 61, 97, 104, 239  
**Administration**:  
- Knoxville, 6  
- Statewide, 8  
**Summary**, 251  
**Admission**, 14-24  
**Application Directory**, 14  
**Center for the Health Sciences**, 14, 181  
**Colleges and Schools**:  
- Agriculture, 16, 56  
- Architecture, 16, 74  
- Business Administration, 16, 81  
- Communications, 16, 97  
- Education, 16, 104  
- Engineering, 16, 126  
- Home Economics, 16, 157  
- Law, 172  
- Liberal Arts, 16, 177  
- Nursing, 16, 239  
- Veterinary Medicine, 70  
**Evening School**, 14  
**General Requirements**, 14  
**Graduate School**, 14, 46  
**High School Unit Requirements**, 14, 16  
**International Students**, 15  
**Readmission**, 26  
**Specific Categories**, 16  
**Specific Programs**, 18  
**Special Student**, 16  
**Transfer**, 16  
**Unclassified Students**, 15  
**Advanced Placement Examination**, 15  
**Advanced Standing**, 15  
**Advertising**, 98, 99  
**Advising**, 15  
**Aerospace Engineering**, 129, 133, 153  
**Agriculture**:  
- Animal Science, 59, 66  
- Biology, 57, 64  
- College of, 56  
- Cooperative Program, 63  
- Economics and Rural Sociology, 57, 64  
- Education, 58, 112, 123  
- Engineering, 58, 65, 130, 134, 143  
- Experiment Station, 55  
**Extension Education**, 59, 66  
**Extension Service**, 56  
**Food Technology and Science**, 61, 67  
**Forestry**, 61, 68  
**Wildlife and Fisheries Science**, 62, 68  
**Air Force Aerospace Studies**, 242  
**Advanced**, 28  
**American History Requirement**, 14, 15, 27  
**American Studies**, 199  

<table>
<thead>
<tr>
<th>Category</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ancient Mediterranean Civilization</td>
<td>202</td>
</tr>
<tr>
<td>Animal Science</td>
<td>56, 66</td>
</tr>
<tr>
<td>Anthropology</td>
<td>188</td>
</tr>
<tr>
<td>Application Directory</td>
<td>14</td>
</tr>
<tr>
<td>Arabic</td>
<td>231</td>
</tr>
<tr>
<td>Architecture</td>
<td>74</td>
</tr>
<tr>
<td>Army</td>
<td>28, 243</td>
</tr>
<tr>
<td>Arrowmont School of Crafts</td>
<td>190</td>
</tr>
<tr>
<td>Art</td>
<td>190</td>
</tr>
<tr>
<td>Education</td>
<td>108, 112</td>
</tr>
<tr>
<td>Exhibitions</td>
<td>43</td>
</tr>
<tr>
<td>Asian Studies</td>
<td>200</td>
</tr>
<tr>
<td>Assistantships</td>
<td>47</td>
</tr>
<tr>
<td>Astronomy</td>
<td>224</td>
</tr>
<tr>
<td>Athletics</td>
<td>41, 44</td>
</tr>
<tr>
<td>Audiology and Speech Pathology</td>
<td>192</td>
</tr>
<tr>
<td>Auditors</td>
<td>24, 26, 30</td>
</tr>
<tr>
<td>Automobile Regulations</td>
<td>43</td>
</tr>
<tr>
<td>Average, Required</td>
<td>26</td>
</tr>
<tr>
<td>Aviation Systems</td>
<td>54</td>
</tr>
<tr>
<td>Awards</td>
<td>35</td>
</tr>
<tr>
<td>Bachelor of Arts</td>
<td>177, 178</td>
</tr>
<tr>
<td>Bachelor of Fine Arts</td>
<td>177, 182</td>
</tr>
<tr>
<td>Bachelor of Music</td>
<td>177, 183</td>
</tr>
<tr>
<td>Bachelor of Science in Chemistry</td>
<td>178, 185</td>
</tr>
<tr>
<td>Bachelor's Degree, Requirements</td>
<td>27, 56, 75, 82, 98, 106, 128, 158, 178, 240</td>
</tr>
<tr>
<td>Bands</td>
<td>43</td>
</tr>
<tr>
<td>Banking</td>
<td>83</td>
</tr>
<tr>
<td>Binary Engineering Program</td>
<td>127</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>193</td>
</tr>
<tr>
<td>Biology</td>
<td>194</td>
</tr>
<tr>
<td>Biology, Agriculture</td>
<td>57, 64</td>
</tr>
<tr>
<td>Biomedical Engineering</td>
<td>130, 150</td>
</tr>
<tr>
<td>Biomedical Sciences</td>
<td>47, 49</td>
</tr>
<tr>
<td>Black Cultural Center</td>
<td>188</td>
</tr>
<tr>
<td>Black Studies</td>
<td>201</td>
</tr>
<tr>
<td>Board of Trustees</td>
<td>7</td>
</tr>
<tr>
<td>Bookstore</td>
<td>40</td>
</tr>
<tr>
<td>Botany</td>
<td>194</td>
</tr>
<tr>
<td>Broadcasting</td>
<td>43, 98, 100</td>
</tr>
<tr>
<td>Business Administration, College of</td>
<td>81</td>
</tr>
<tr>
<td>Business Administration</td>
<td>95</td>
</tr>
<tr>
<td>Business and Economic Research, Center for</td>
<td>81, 96</td>
</tr>
<tr>
<td>Business Law, 90</td>
<td></td>
</tr>
<tr>
<td>Business: Cooperative Program</td>
<td>82</td>
</tr>
<tr>
<td>Education</td>
<td>83, 111, 123</td>
</tr>
<tr>
<td>General</td>
<td>84, 87</td>
</tr>
<tr>
<td>Calendar</td>
<td>4, 5</td>
</tr>
<tr>
<td>Campus Map</td>
<td>10</td>
</tr>
<tr>
<td>Carousel Theatre</td>
<td>43</td>
</tr>
<tr>
<td>Center, University</td>
<td>39</td>
</tr>
<tr>
<td>Center for Extended Learning</td>
<td>245</td>
</tr>
<tr>
<td>Center for the Health Sciences</td>
<td>14, 180</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>130, 134, 143</td>
</tr>
<tr>
<td>Chemistry</td>
<td>195</td>
</tr>
<tr>
<td>Cooperative Program</td>
<td>185</td>
</tr>
<tr>
<td>Child and Family Studies</td>
<td>159, 164</td>
</tr>
<tr>
<td>Chinese (Asian Studies)</td>
<td>200</td>
</tr>
<tr>
<td>Choral Groups</td>
<td>43</td>
</tr>
<tr>
<td>Church Centers</td>
<td>42</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>130, 135, 146</td>
</tr>
<tr>
<td>Class</td>
<td>25, 26</td>
</tr>
<tr>
<td>Classics</td>
<td>197</td>
</tr>
<tr>
<td>Classification of Students</td>
<td>26</td>
</tr>
<tr>
<td>CLEP</td>
<td>28</td>
</tr>
</tbody>
</table>

**Clothing, Textiles and**, 163, 170  
**College Scholars Program**, 180  
**Commencement Dates**, 4, 5  
**Communications**, 99  
**Communications, College of**, 97  
**Community Nutrition**, 162  
**Comparative Literature**, 201  
**Computer Science**, 198  
**Computing Center**, 248  
**Concentrations**, 18  
**Conferences and Institutes**, 102  
**Continuing and Higher Education**, 113  
**Continuing Education, Division of**:  
- Knoxville, 102  
- Statewide, 245  
**Cooperative Programs**:  
- Agriculture, 63  
- Business Administration, 82  
- Chemistry, 185  
- Communications, 98  
- Engineering, 127, 133  
**Coordinated Undergraduate Program in Dietetics (ADA)**, 162  
**Correspondence Study**, 27, 245  
**Counseling, Student**, 15, 41  
**County Technical Assistance Service, 249  
**Course Changes in Registration**, 25  
**Course Numbers and Levels**, 26  
**Crafts**, 160, 165  
**Crafts, Interior Design and Housing**, 160, 165  
**Credit Hours, 24**  
**Cultural Opportunities**, 43  
**Cultural Studies**, 199  
**Curriculum and Instruction**, 113  
**Dean's List, 35 Degrees**, 18, 28, 47  
**Deferred Payment Service Fee, 30**  
**Dental Hygiene**, 181  
**Dentistry**, 180  
**Deposits, Military**, 29  
**Disabled and Elderly Persons**, 24  
**Distributive Education**, 111, 124  
**Doctor of Education Degree**, 47  
**Doctor of Jurisprudence Degree**, 172  
**Doctor of Philosophy Degree**, 47  
**Dormitories**, 31  
**Dropping Courses**, 25  
**Ecology**, 204  
**Economics**, 83, 90, 205  
**Agricultural, 57, 64**  

**Education**:  
- Administration and Supervision, 116  
- Agricultural, 58, 112, 123  
- Art, 108, 112  
- Business, 83, 111, 123  
- Continuing and Higher, 113  
- Curriculum and Instruction, 113  
- Distributive, 111, 124  
- Elementary, 106  
- Health and Safety, 109, 118  
- Home Economics, 112, 124, 158, 164, 170  
- Industrial, 111, 124  
- Music, 108, 112  
- Physical, 106, 109, 119  
- Psychology and Guidance, 116  
- Recreation, 109, 117, 121  
- Secondary, 107, 186  

---

253