For the individual who enters business, industry, the professions, or government service, it furnishes a broadly useful and well-rounded educational background. For all, it offers the opportunity to share in a rich intellectual heritage, in the adventures of the mind, and in the life of the educated imagination. A liberally educated person is identified not so much by specific knowledge as by quality of mind and by creative response to the challenges of the times.

The college is committed to educating men and women to lead socially useful and personally meaningful lives. It endeavours to accomplish this mission by:

1. offering a comprehensive liberal studies program for liberal arts majors and for students in the other colleges of the university;
2. providing appropriate professional and graduate study in the arts and sciences;
3. conducting research and engaging in creative activity; and
4. serving the public interest in ways commensurate with the land-grant status of the University.

Through the programs which embody these activities, the college strives to encourage the intellectual, social, and personal development of each student in an academic community of students, faculty, and staff.

**Association with the College**

(See page 28.)

**Programs of Study**

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

**Degrees Offered**

(1) **BACHELOR OF ARTS**

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

(a) **Basic Program**—The program appropriate for most B.A. students is developed around the basic skills and distribution requirements plus intensive study in one or more of the specified departmental or inter-departmental major fields described below.

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

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

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

(2) **BACHELOR OF SCIENCE**

The Bachelor of Science degree, offered in selected departments and programs, is designed for those students who wish to pursue a more scientifically or professionally oriented program of study. Three programs leading to this degree are open to the student:

(a) **Basic Program**—The Basic Program for the B.S. degree contains basic skills and distribution requirements similar to the Basic Program for the B.A., as well as a unique set of requirements for the major including
additional study in mathematics, statistics, or laboratory sciences.

(b) Bachelor of Science in Chemistry—The Bachelor of Science in Chemistry is a professional degree designed in accordance with standards set by the American Chemical Society to train students to go directly into positions in the chemical industry or to enter graduate study. Students may elect either the four year resident program or a five year cooperative program in which they alternate a quarter of study with a quarter of work in a chemical industry, and thus gain seven quarters of on the job experience while earning the degree.

(c) Bachelor of Science in Social Work—The program leading to the Bachelor of Science in Social Work is designed to prepare students for practice as beginning professional social workers. The program conforms to Council on Social Work Education Accreditation Standards.

(3) BACHELOR OF FINE ARTS

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

(4) BACHELOR OF MUSIC

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

Program Planning

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

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

A basic decision, of course, is the degree to be sought. If it is one of the four professional degrees (Bachelor of Fine Arts, Bachelor of Music, or Bachelor of Science in Chemistry, Bachelor of Science in Social Work), the student's program will be somewhat circumscribed, for these degrees are necessarily more prescriptive than the general liberal arts degree. If the student chooses to work for the Bachelor of Arts degree or the Bachelor of Science degree, all the elements which make up the curricula leading to that degree will need to be kept in balance: the broad requirements in the Basic Skills and Distribution requirements, the major area, and the elective courses which support and supplement the work in the first two categories. Most students find it desirable to lay a broad foundation by taking courses which will satisfy the Basic Skills and Distribution requirements in the first two years, thus reserving most of the final years for in-depth study in the area of concentration. Elective courses may be taken at any time.

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

Requirements for Degrees

GENERAL REQUIREMENTS: Bachelor of Arts and Bachelor of Science Basic Programs

Each student seeking a Bachelor of Arts or Bachelor of Science (excluding the Bachelor of Science in Chemistry and the Bachelor of Science in Social Work) must develop a program which includes the following:

1. All University degree requirements as stated in the front section of this catalog.
2. A minimum of 190 credit hours.
3. At least 60 credit hours in courses numbered 3000 or above.
4. Appropriate work to satisfy the basic skills requirements and the distribution requirements, counting no course in more than one area (not required in the College Scholars Program);
5. Completion of at least one major concentration (see below). Up to 8 hours in the major may also be used, where listed, to satisfy basic skills or distribution area requirements;
6. Students may take up to 30 hours of courses Satisfactory/No Credit in any area outside the major and minor, basic skills and distribution requirements;
7. Beginning in Fall 1987, no credits earned for removal of Basic Skills and Distribution requirements, except where noted on pages 148 and 149.

Basic Skills

(1) English Composition

Purpose:
1. To gain and improve the skills necessary to write English expository prose coherently and convincingly;
2. To improve reading skills;
3. To enhance critical and analytical abilities as applied to key issues and texts.

Requirement: Students may meet this requirement in one of the following five ways:

1. By completing nine credit hours in English writing courses in one of the following series:
   a. English 1010 or 1011, 1020, and three additional credits drawn from 1031, 1032, or 1033 (English Composition).
   b. English 1018-28-38 (Honors: English Composition). Students who complete 1020 with a grade of A have the additional option to satisfy the remaining three credits in any 3000-level or 4000-level writing course offered by the department.
   c. English 1431-41-51 (English Composition for Foreign Students).
2. By earning a score of 4 or 5 on the College Board Advanced Placement Test in English, or, with special permission, by earning a score of 3 on that examination and completing one 2000-level course in English at The University of Tennessee, Knoxville with a grade of B or better.
3. By completing three hours of freshman English followed by a minimum of six hours in courses which require substantial writing emphasis and are identified by the Committee on Writing Standards; a list of approved courses may be obtained in the office of the Department of English or the Liberal Arts Advising Center.
4. By earning a score of 25 or above on the English ACT exam and a composite ACT score of 25 or above and by passing a proficiency examination in writing administered by the Department of English in cooperation with the Committee on Writing Standards.
5. By obtaining CLEP credit for English composition (as described on page 34 of this catalog).

(2) Foreign Language

Purpose:
1. To learn the basic grammar, syntax, and vocabulary of a foreign language;
2. To be able to use a foreign language independently as a tool for oral communication and reading;
3. To acquire techniques of language learning;
4. To develop insight into the phenomenon of language;
5. To complement the study of certain aspects of a foreign culture or civilization.

Requirement: Completion of the intermediate level (for most languages, the
2. To understand the logical processes

3. Portuguese.

4. To develop an historical perspective on

5. To apply the methods of at least one scientific discipline in a "hands on" laboratory experience.

6. To be able to analyze a situation on a college level from one particular scientific perspective.

Requirement: All Bachelor of Science majors must complete a three-quarter mathematics or statistics package that includes at least two calculus courses and either an additional three-quarter mathematics or statistics package, or an additional three-quarter laboratory science sequence. This requirement has been incorporated into the major statement by each department offering a Bachelor of Science degree.

Part I: A three-course physical or biological science sequence that includes at least two quarters of laboratory experience (total: 12 hours). The following sequences satisfy Part I of this requirement:


Part II: A three-course package in science, mathematics, and/or computer science (total 9 to 12 hours). The following course packages or any sequence listed in Part I will satisfy this requirement:


Zoology 2920-30 Biochemistry 3110 Human Physiology - Introduction to Biochemistry; Zoology 2920-30 Microbiology 2910 Human Physiology - General Microbiology; Botany 3011-Zoology 3090 (Same as Botany 3090)-Zoology 3410 Plants and People - Biology and Human Affairs - Bioethics.

Botany 3010-20-30 Plants in Evolution - Field Botany; Botany 3010-20-31 Plants in Evolution Field Botany; Botany 3010-20-32 Plants in Evolution - Field Botany.


Physics 1210-20-30 Introductory Physics; Physics 1410-20-30 Nature of the Physical World.

Zoology 2510-20-30 Human Biology.

Social Science

Purpose:

1. To promote understanding of society and individual relationships;
2. To develop a critical understanding of one or more approaches, perspectives, or methodologies used in the social sciences;
3. To develop analytical skills relevant to current social, economic, or political problems, their origins in society and individuals, and possible perspectives for their resolution.

Requirement: Four or five courses (total: 15-16 hours) selected from at least two departments or programmatic areas. The following courses satisfy this requirement:
- Afro-American Studies 2010 Introduction to African-American Studies
- Afro-American Studies 2020 Introduction to African-American Studies
- Anthropology 2520 Prehistoric Archaeology
- Anthropology 2530 Human Cultures
- Anthropology 3420 Linguistic Anthropology (Same as Linguistics 3420)
- Anthropology 3670 Principles of Archaeology
- Botany 3050 Socio-economic Impact of Plants
- Economics 2510 Principles of Economics
- Economics 2520 Principles of Economics
- Geography 1610 Introduction to Geography
- Geography 3000 Man, Location, and Behavior
- Geography 3660 Cultural Geography
- Human Services 2690 Introduction to Human Services
- Linguistics 2000 Language, Linguistics and Society
- Music 3361 Introduction to Ethnomusicology, Music 3371 Introduction to Ethnomusicology
- Political Science 2020 Introduction to Political Science
- Political Science 2510 U.S. Government and Politics
- Political Science 2520 U.S. Government and Politics
- Political Science 3110 Political Community
- Psychology 2500 (2518-28) General Psychology (Honors); Psychology 2520 Biological Foundations of Behavior
- Psychology 2530 Psychology as a Social Science; Psychology 2540 Psychology of the Individual
- Religious Studies 3021 Religious Myth, Symbol and Ritual
- Sociology 1510 (1518) General Sociology (Honors); Sociology 1520 (1528) Sociology of Social Problems (Honors); Sociology 1530 Contemporary Social Change; Sociology 3130 Social Psychology
- Speech 1211 Communication and Society; Speech 1221 Introduction to Speech Communication; Speech 3031 Non-verbal Communication
- Women's Studies 2020 Women in Society; Women's Studies 3150 Gender in Society (Same as Sociology 3150)

Humanities

Purpose:
1. To learn to appreciate and interpret significant literary, philosophical, or religious texts by study and application of selected methods or traditions of thought;
2. To further develop abilities to reason critically, to construct arguments, to think creatively, to analyze objectively, to assess evidence, to perceive assumptions, and to respond to and appreciate values;
3. To further develop writing skills;
4. To learn to manipulate symbols (i.e., words, sounds, images, body movements) in a variety of ways and to employ these symbols critically, affectively, and eva luatively;
5. To develop abilities to participate as an enlightened observer or as an artist in a discipline within the visual, spatial, musical, theatrical, rhetorical, or written arts.

Requirement:
- Part I: Literature or Philosophical Perspectives: A two-or three-course package in either literature or a philosophical perspective (total: 8-9 hours).
- The following course packages are designated as literature packages:
  - Asian Studies 3650-55-60 Japanese Literature in Translation (Classical, Traditional and Modern)
  - Classics 2510-20 Greek Literature in English Translation—Roman Literature in English Translation
  - English 2510-20 English Masterpieces
  - English 2531 and either 2532 or 2533
  - American Masterpieces; English 2560-70-80 (2 out of 3 in chronological order) Literature of the Western World; English 2660-70-80 (2 out of 3) Introduction to Literary Genres
  - French 2010-20-30 French Literature in English Translation
  - German 2210-20-30 German Literature in English Translation
  - Medieval Studies 2601-02 Literature of the Dark Ages (8th-10th centuries) - Literature of the Later Middle Ages (11th-15th centuries)
  - Religious Studies 3222-33 Themes in Classical Works; Religion and Literature: 20th century
  - Russian 2210-20-30 Russian Literature in English Translation
  - Spanish 2910-20-30 Spanish and Spanish American Literature in English Translation
- Women's Studies 2010-15 Biography and Autobiography Fiction, Poetry and Drama
- The following course packages are designated philosophical perspectives packages:
  - Classics 2210-20-30 Greek and Roman Mythology
  - Philosophy 1511-21 Value and Reality-Consciousness and Reality, 1611-21 Philosophy of Mind from 1500-1500 to Early 20th Century
  - Political Science 3801-02 Studies in Ancient Political Thought-Studies in Medieval Political Thought; Political Science 3803-04 Studies in Early Modern Political Thought-Studies in 19th and 20th Century Political Thought
  - Religious Studies 2210-20 Founders of Religion; Religious Studies 2310-20 Criticism of Religion; Religious Studies 3370-80 The Christian Tradition; Religious Studies 3805-06 Professional Responsibility-Responsible Professionalism (Same as Phil. 3605-06)
  - Women's Studies 3430-35 The Concept of Woman-Philosophy of Feminism (Same as Phil. 3430-35)
- Part II: Arts, Literature or Philosophical Perspectives: Either two courses in the study or practice of the arts; or a two-course package in literature if a philosophical perspectives package is chosen to meet Part I; or a two-course package in philosophical perspectives if a literature package is chosen for Part I (total: 6-8 hours).

The following are designated Practice of the Arts courses:

1. Three-course package required for completion of Part I; a two-course package will meet the minimum requirement for Part II.

Art 1105 Introduction to Studio Art
English 2410 Creative Writing: Fiction and Poetry
Music 1416 Music Performance
Speech & Theater 2031 Introduction to Oral Interpretation; Speech & Theater 3681 Oral Interpretation of Prose; Speech & Theater 3661 Literature and Oral Interpretation of Poetry

The following courses are designated Study of the Arts courses:
Art 1815 World Art I; Art 1825 World Art II
Classics 2320 Art and Archaeology of Ancient Greece; Classics 2330 Art and Archaeology of Etruria and Rome
Music 1002 Fundamentals of Music Theory
Music 1210 Orientation in Music Appreciation
Music 1220 Orientation in Music Appreciation
Music 1230 History of Rock
Theater 1320 Fundamentals of Play Production; Theater 1330 Fundamentals of Play Production; Theater 1340 Fundamentals of Play Production

(2) Upper Level Distribution
Bachelor of Arts students must satisfy two of the following three options. Bachelor of Science students must satisfy one of the following three options. It is recommended that these requirements be fulfilled after the student has achieved upper-division standing (completion of 96 hours).

U.S. Studies Option
Purpose:
1. To develop an appreciation and knowledge of U.S. culture and civilization;
2. To provide a basis from which to compare foreign cultures and civilization;
3. To develop a critical understanding of the sources of values and traditions that constitute contemporary U.S. civilization;
4. To develop an understanding of the relationship between individual and societal behavior;
5. To further develop writing skills.

Requirement: This option will be satisfied by taking any two of the following courses (total: 6-8 hours).
- Afro-American Studies 3630 History and Philosophy of Afro-American Education; Afro-American Studies 3640 Contemporary Issues in Afro-American Education; Afro-American Studies 4810 The Family (Same as Child & Family Studies 4810); Afro-American Studies 4830 Black Women in American Society
- Anthropology 2575 Afro-American Anthropology, Anthropology 3571 Ethnology of the United States and Canada I; Anthropology 4740 Southern Appalachian Folk Culture
- Economics 3240 Economics History of the United States; Economics 3340 Government & Business I
- English 3311 Women in American Literature; English 3320 Regional Identities in American Literature; English 3445 Film and American Culture; English 4640 Black American Literature and Aesthetics
- Geography 3910 Geography of the United States and Canada; Geography 3920 Geography of the Americas South; Geography 3930 Geography of Appalachia; Geography 4240 Historical Geography of the U.S.
- History 3201 American Issues: Individualism & Community; History 3202 American Issues: War and the Peaceful Ideas; History 4641 America: Mind, Mood & Society (Colonial Period-1865); History 4651 America: Mind, Mood & Society (1865-Present)
Music 3950 Evolution of Jazz; Music 4241 Evolution of the United States; Philosophy 3311 American Philosophy (Colonial Period-19th Century); Philosophy 3312 American Philosophy (19th-20th Century); Philosophy 3440 Ethics and American Society; Philosophy 3570 Philosophical Foundations of Democratic Societies.

Political Science 3190 Popular Culture & American Politics; Political Science 3390 Contemporary Politics; American Public Policy; Political Science 3415 Law in American Society; Political Science 3860 American Political Thought.

Religious Studies 3510 Religion in America (Colonial Period-19th Century); Religious Studies 3520 Religion in America (20th Century); Religious Studies 3550 Religion and Racism in America (Same as Afro-American Studies 3550); Religious Studies 3560 Black Religion in America (Same as Afro-American Studies 3560).

Sociology 3420 Urban Problems; Sociology 3780 American Society; Sociology 4030 Society and Law; Sociology 4820 American Minority Groups.

Speech 4930 Studies in American Public Address.

Theater 3262 History of American Theater; Theater 3263 History of American Theatrical; Woman's Studies 3010 Emergence of the Modern American Woman; Women's Studies 4290 Women in American History (Same as History 4290); Women's Studies 4580 Rhetoric of the Women's Rights Movement.

Foreign Studies Option
Purpose:
1. To develop an appreciation and knowledge of a foreign culture and civilization;
2. To provide a basis from which a student can analyze his or her own culture;
3. To develop a critical understanding of the sources of values and traditions that constitute a foreign culture and civilization;
4. To develop an understanding of the relationship between individual and societal behavior in a highly interdependent world system;
5. To further develop writing skills.

Requirement: This option will be satisfied by taking two upper-division courses in one of the following areas: Africa, Asia, Europe, Latin America, Middle East, or Critical Issues in Foreign Studies (total: 6-8 hours). If Western Civilization is taken to satisfy the history requirement, the European concentration may not be elected here. This requirement may also be satisfied by Literature courses in Arabic, Chinese, French, German, Greek, Hebrew, Italian, Japanese, Latin, Portuguese, Russian, Sanskrit, or Spanish. (Literature courses in English translation will not meet this requirement.

Africa
Anthropology 3530 Peoples and Cultures of Africa; Anthropology 4610 African Pre-history; Geography 3830 Geography of Africa; Political Science 3615 Dynamics of Black African Politics; Political Science 3616 Dynamics of Black African Politics.

Asia
Art 3775 Art of India; Art 3776 Art of China; Art 3777 Art of Japan; Asian Studies 3310 Indian Culture; Asian Studies 3320 Chinese Culture; Asian Studies 3330 Japanese Culture; Asian Studies 3610 The Literature of India in English Translation; Economics 4232 The Political Economy of Asian Development.

Europe
Classics 3310 Art and Archaeology of the Aegean Bronze Age & Early Greece (Europe and the Middle East); Classics 3340 Cities of the Greek and Roman World (Europe-Africa); Classics 3310 Greek Civilization; Classics 3820 Roman Civilization.

English
English 3050 English Culture (Up to 1660); English 3051 English Culture (1660-1900); English 3052 Comparative European Literature; English 3950 Comparative European Literature.

Geography 3880 Geography and the Soviet Union.

German 3610 Culture of the German-Speaking Peoples; German 3620 Culture of the German-Speaking Peoples; German 3630 Culture of the German-Speaking Peoples.

History 3124 Modern Europe 1750-1900; History 3125 Contemporary Europe 1900-Present.

Medieval Studies 4010 Seminar in Medieval Studies.

Philosophy 3110 Ancient Western Philosophy; Philosophy 3121 Medieval Western Philosophy; Philosophy 3131 17th & 18th Century Philosophy; Philosophy 3141 19th Century Philosophy.

Political Science 3631 Government & Politics in the Soviet Union; Political Science 3632 Government & Politics in the Soviet Union; Political Science 3635 Politics of Western Democracies; Political Science 3636 Politics of Western Democracies.

Russian 3710 Background and Main Currents of Russian Culture; Russian 3720 Background and Main Currents of Russian Culture.

Women's Studies 3240 Women in French Culture; Women's Studies 3830 Women in the Greek and Roman World.

Latin America
Anthropology 3880 Peoples and Cultures of Mesoamerica.

Economics 4231 The Political Economy of Latin America.

Geography 3790 Geography of Middle America; Geography 3800 Geography of South America.

History 3870 History of Latin America (to 1825); History 3880 History of Latin America (1825-Present).

Latin American Studies 4001 Cultural Plurality in Latin America; Latin American Studies 4002 Institutional Changes in Latin America.

Political Science 3625 Latin American Government; Political Science 3626 Latin American Government.

Middle East
Asian Studies 3340 Islamic Culture; Asian Studies 3670 Islamic Literature in Translation; History 3780 The Traditional Middle East; History 3790 The Modern Middle East.

Religious Studies 3110 Ancient Israel's Historical & Religious Traditions; Religious Studies 3120 The Rise of Judaism; Religious Studies 3680 Islam.

Critical Issues in Foreign Studies

History 3050 The West and the Third World Since 1870; History 3051 Revolutions in Historical Perspective.

Political Science 3650 Political Change in the Developing Areas; Political Science 3701 Introduction to International Relations; Political Science 3766 Contemporary Problems of Soviet Foreign Policy.

Sociology 3340 Comparative Poverty and Inequality (Same as Afro-American Studies 3340); Sociology 4540 Development and Underdevelopment.

Capstone Experience Option
Purpose:
1. To offer an intensive integrative experience which will substantially broaden the student's comprehension of the major;
2. To significantly increase an understanding of the ways in which the ideas, methods, and achievements in a major area of study have affected modern society;
3. To examine a major field of study from a value-oriented perspective;
4. To enhance student's mastery of prose communication within the professional context of their major.

Requirement: This option will be satisfied by taking six to eight upper-division hours chosen from the courses listed below. Consult with major department for additional approved courses. Course credits should be taken in the major area unless otherwise approved by the department. It is recommended that this option be satisfied during the senior year (within 45 credit hours of graduation).

Chemistry 4000 Topics in the Development of Chemistry; Chemistry 4811 Senior Seminar; Chemistry 4812 Senior Seminar; Chemistry 4813 Senior Seminar.

Classics 4220 Seminar in Classical Studies.

History 4000 Reflections on History; History 4010 Colloquium in History.

Human Services 4300 Working within the System.

Mathematics 4910 Senior Topics; Mathematics 4940 Mathematical Modelling.

Physics 4010 Background of Physics; Physics 4300 Forefront of Physics.

Psychology 4910 Senior Seminar on Great Ideas in Psychology.

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

Requirements for specific majors vary by program and are discussed under each department or program. A major consists of at least 36 credit hours in courses numbered 2000 or above as specified by the department or program. Up to 6 credit hours taken in the major may also be used to satisfy basic skills or distribution requirements where listed. A minor must be earned in every course counted as part of a major. Students transferring from other institutions must complete at least 12 credit hours at UTK in each major awarded on this campus. Students may elect as many courses as desired in any department or program. In lieu of a major, students may develop an Individualized Program (described below). Majors available in the Basic B.A. or B.S. include: Anthropology, Art, Art History, Audiology, Biology, Botany, Chemistry, Classics, Computer Science, Cultural Studies, Economics, English, French, Geography, Geology, German Services, Italian, Mathematics, Microbiology, Music, Philosophy, Physics, Political Science, Psychology, Religious Studies, Russian, Sociology, Spanish, Speech Pathology, Speech and Theatre, Statistics, and Zoology.

(2) Optional Multiple Majors

After the general requirements of basic skills, distribution and a major have been satisfied, additional majors may be recorded on the transcript. Up to 12 credit hours taken in the major may be used in any course overlap among majors or, among the additional majors and Basic Skills and Distribution requirements. Students developing multiple majors may declare this intent at the time of application for graduation. Once a student has graduated, the establishment of additional majors becomes subject to University second-degree requirements.

Students who satisfy the requirements of a degree in a college other than Liberal Arts may also major inside the College of Liberal Arts with the approval of the degree granting unit. These students need complete only the unit. These students need complete only the requirements for Liberal Arts major requirements, not the Basic Skills or Distribution requirements. Students developing multiple majors or interdepartmental majors specified in the respective colleges of The University of Memphis (UTCHS), as well as those required for the Bachelor of Arts degree in the College of Liberal Arts at The University of Tennessee, Knoxville.

(3) Optional Minors

At the time of application for graduation, single or multiple minors may be recorded on the academic record without regard to course overlap among minors and majors or among minors and Basic Skills and Distribution requirements.

The minimum requirement for a minor is 24 credit hours in courses numbered 2000 or above. Minors are available in most departments or programs in which majors are offered and also in Biochemistry, Physical Sciences, Portuguese, and Women's Studies. Minors may be developed in other colleges or schools of the University, but must be approved by the department head in which the minor is proposed and by the Associate Dean for Student Academic Affairs in Liberal Arts. At least 6 of the 24 credit hours required for a minor must be completed at The University of Tennessee, Knoxville.

A business minor is available to students who successfully complete the following required courses: Accounting 2110-20-30; Economics 2010-20-30; and Statistics 2100. Also, 16 hours of upper-division electives must be taken at UTK. No more than six upper-division hours of accounting, economics, or statistics may be used for the minor. Students are responsible for meeting prerequisites for any upper-division courses taken in a particular concentration.

(4) Supplementary Elective Courses

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

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

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

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

II. Individualized Program

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

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

III. College Scholars Program

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

The College Scholars Program affords the highest degree of freedom to the student in developing a meaningful curriculum. Each program is worked out individually with a special advisor (tutor) who under ordinary circumstances continues to advise the student throughout the college career. Together they determine what kind of course work and/or other learning experiences will best fulfill the student's objectives, while at the same time achieving the kind of liberal education the college believes is important for every student. In the final two years of the program students will be heavily involved in independent study or research, required of all College Scholars. When College Scholars fulfill departmental requirements for additional majors or minors, these will be recorded on the Scholars' transcripts. Scholars will not be required to meet Basic Skills or Distribution requirements, either as general requirements or in order to have such majors or minors officially recognized.

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

IV. Preparation for the Health Professions

Pre-Dental
Pre-Dental Hygiene
Pre-Medical
Pre-Medical Record Administration
Pre-Medical Technology
Pre-Nursing
Pre-Physical Therapy
Other Health Professions

Pre-health professional programs are available for students who plan a career in one of the health professions. The programs preparing students for the study of medicine, dentistry, and pharmacy include the specified courses required for admission to the respective colleges of The University of Tennessee Center for the Health Sciences at Memphis (UTCHS), as well as those required for the Bachelor of Arts degree in the College of Liberal Arts at The University of Tennessee, Knoxville.

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

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

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

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

PRE-DENTAL PROGRAM

The college offers both three-year and four-year programs leading to the degree of Bachelor of Arts for students preparing for the study of dentistry. Both programs are based upon the curriculum outlined below. In the three-year program the student must complete at least 138 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of the first year of study at UTCHS. In the four-year program the degree is granted upon completion of 190 or more credit hours while enrolled in the college, including a major of 36 or more hours in addition to the courses listed below. The requirement for a major is waived for those completing their fourth year at UTCHS. Students in either the three-or four-year program must complete the last 45 hours of credit in residence at The University of Tennessee, Knoxville, before entering UTCHS.

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

Freshman

| Hours Credit | English 1010-11; 1020; 1031 or 1032 of 1033 or equivalent | 1 |
|             | Chemistry 1110-20-30 | 3 |
|             | Biology 1210-20-30 or Zoology 1118-30-30 | 12 |
|             | Mathematics | 8 |
|             | Basic Skills B. Foreign Language (Intermediate Level Sequence) | 9 |

Sophomore

| Hours Credit | Chemistry 3211-21-31 and 3219-29-39 | 12 |
|             | Advanced Biology and/or Zoology | 12 |
|             | Divisional Distribution (A) Non. U.S. History | 8 |
|             | Divisional Distribution (B) Social Sciences | 7-8 |

Junior

| Hours Credit | Physics 2210-20-30 | 12 |
|             | Speech 2211 | 4 |

Senior

| Hours Credit | Divisional Distribution (C) Social Science | 7-8 |
|             | Divisional Distribution (D) Humanities | 8-9 |
|             | U.S. Studies | 8-9 |
|             | Foreign Studies | 6-6 |

Freshman

| Hours Credit | English 1010-11; 1020; 1031 or 1032 of 1033 or equivalent | 1 |
|             | Chemistry 1110-20-30 | 3 |
|             | Biology 1210-20-30 or Zoology 1118-30-30 | 12 |
|             | Mathematics | 8 |
|             | Basic Skills B. Foreign Language (Intermediate Level Sequence) | 9 |

Sophomore

| Hours Credit | Chemistry 3211-21-31 & 3219-29-39 | 12 |
|             | Physics 2210-20-30 | 12 |

Junior

| Hours Credit | Divisional Distribution (D) Humanities | 8-9 |
|             | Divisional Distribution (A) Non. U.S. History | 8 |
|             | Electrolytes | 4 |

Senior

| Hours Credit | Divisional Distribution (C) Social Science | 7-8 |
|             | Divisional Distribution (D) Humanities | 8-9 |
|             | U.S. Studies | 8-9 |
|             | Foreign Studies | 6-6 |

PRE-DENTAL HYGIENE PROGRAM

A Bachelor of Science in Dental Hygiene is granted by UTCHS upon completion of a program which includes 96 hours of prescribed courses in the College of Liberal Arts and six quarters of study at UTCHS.

Students interested in the pre-dental hygiene program are encouraged to consult with a health professional advisor in the Liberal Arts Advising Center or the Coordinator of the Health Professions Office for more information. Bulletins describing the pre-dental hygiene program and requirements in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-MEDICAL PROGRAM

The college offers both three-year and four-year programs leading to the degree of Bachelor of Arts for students preparing for the study of medicine. Both programs are based upon the program outlined below. In the three-year program the student must complete at least 139 credit hours while enrolled in the college and the B.A. degree is granted upon satisfactory completion of the first year of study at UTCHS. In the four-year program the degree is granted upon completion of 190 or more credit hours while enrolled in the college, including a major of 36 or more hours in addition to the courses listed below. The requirement for a major is waived for those completing their fourth year at UTCHS. Students in either the three-or four-year program must complete the last 45 hours of credit in residence at UTCHS.

Although the B.A. degree is not required for admission to the College of Medicine at E.T.S.U. required two quarters of credit in medical technology from The University of Tennessee, Knoxville. Students interested in the pre-medical program are encouraged to plan to complete all requirements for the B.A. degree before enrolling in the College of Liberal Arts.

Freshman

| Hours Credit | English 1010-11; 1020; 1031 or 1032 of 1033 or equivalent | 1 |
|             | Chemistry 1110-20-30 | 3 |
|             | Biology 1210-20-30 or Zoology 1118-30-30 | 12 |
|             | Mathematics | 8 |
|             | Basic Skills B. Foreign Language (Intermediate Level Sequence) | 9 |

Sophomore

| Hours Credit | Chemistry 3211-21-31 & 3219-29-39 | 12 |
|             | Physics 2210-20-30 | 12 |

Junior

| Hours Credit | Divisional Distribution (A) Non. U.S. History | 8 |
|             | Mathematics | 8 |

Senior

| Hours Credit | Divisional Distribution (C) Social Science | 7-8 |
|             | Divisional Distribution (D) Humanities | 8-9 |
|             | U.S. Studies | 8-9 |
|             | Foreign Studies | 6-6 |

PRE-MEDICAL RECORD ADMINISTRATION PROGRAM

Admission to the medical record administration program at UTCHS, leading to a Bachelor of Science in Medical Record Administration, requires completion of 13 hours of prescribed courses. Classes are admitted in September; applications must be filed by April 15. The selection process usually includes interviews with members of the faculty.

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

PRE-MEDICAL TECHNOLOGY PROGRAMS

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

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

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

Science-Medical Technology Curriculum

The Science-Medical Technology Curriculum is a three-year program consisting...
of a minimum of 140 credit hours in college. Students who complete this curriculum satisfactorily may apply for admission to the course of study in medical technology at The University of Tennessee, Knoxville (UTMCH). Successful completion of this course, which results in the granting of 50 credit hours, makes the student eligible for a Bachelor of Arts degree with a major in medical technology from The University of Tennessee, Knoxville. In addition, a Certificate of Laboratory Training will be awarded by UTMCH. Students will then be eligible for examination by the Board of Registry of the American Society of Clinical Pathologists in order to be certified as registered medical technologists.

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1010-11; 1020; 1031 or 1032</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Biology 1210-20-30 or Zoology 1118-36</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Chemistry 1110-20-30</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Basic Skills B. Foreign Language (Intermediate Level Sequence)</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
| Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry 3110</td>
<td>4</td>
<td>45</td>
</tr>
<tr>
<td>Zoology 2320-30</td>
<td>4</td>
<td>46</td>
</tr>
<tr>
<td>Biology 3110-20</td>
<td>4</td>
<td>46</td>
</tr>
<tr>
<td>Divisional Distribution (C) Social Science</td>
<td>6</td>
<td>46</td>
</tr>
<tr>
<td>Microbiology 3250 and 3519</td>
<td>5</td>
<td>46</td>
</tr>
<tr>
<td>Divisional Distribution (D) Humanities (1)</td>
<td>8-9</td>
<td>46</td>
</tr>
<tr>
<td>Divisional Distribution (A) Non U.S. History</td>
<td>8</td>
<td>46</td>
</tr>
</tbody>
</table>

Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology 3420-29</td>
<td>5</td>
<td>48</td>
</tr>
<tr>
<td>Chemistry 2140-49</td>
<td>4</td>
<td>48</td>
</tr>
<tr>
<td>Immunology 4270</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divisional Distribution (C) Social Science</td>
<td>7-8</td>
<td>48</td>
</tr>
<tr>
<td>Divisional Distribution (D) Humanities (2)</td>
<td>6-8</td>
<td>48</td>
</tr>
<tr>
<td>Upper Level Distribution (A) U.S. Studies</td>
<td>6-8</td>
<td>48</td>
</tr>
<tr>
<td>Upper Level Distribution (A) Foreign Studies</td>
<td>6-8</td>
<td>48</td>
</tr>
<tr>
<td>Total Minimum Required: 140 hours</td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

Senior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical technology course of study at UTMCH</td>
<td>50</td>
<td>153</td>
</tr>
</tbody>
</table>

Total Minimum Required: 190 hours

1. Students who have had considerable background in biology in high school (e.g., two years of biology or an unusually good one-year course) and have completed general chemistry may be eligible to go directly into Biology 3110 or 1110. Consult the coordinator of the biology program for more information. Such students must include at least eight hours in biological science in their electives to satisfy the requirement for admission to the medical technology course of study. This requirement assumes a student has had adequate background in high school to begin an intermediate language sequence at UTK. The pre-medical technology students are required to complete an entire mathematics sequence (1550-60 or 1549-50). Calculus is required if graduate work is planned. Math placement depends on high school courses and grades, ACT scores, and B.A./B.S. requirements. Math placement handout is available in the Liberal Arts Advising Center, 220 Ayres Hall.

PRE-MEDICAL TECHNOLOGY PROGRAM

Students planning to seek admission to the medical technology course of study at UTCHS must complete 90 credit hours of prescribed courses while enrolled in the College of Liberal Arts. The program at Memphis is 7 quarters in length and leads to the degree of Bachelor of Science in Medical Technology from UTCHS. Classes are admitted in September and application must be made one year in advance. Students interested in the medical technology program of study at UTCHS are encouraged to consult with a health professions advisor in the Liberal Arts Advising Center or the Coordinator of the Health Professions Office for the specific requirements for admission. Bulletins describing both pre-medical technology programs and requirements in detail may be obtained from the Health Professions Office, 218 Ayres Hall.

PRE-NURSING PROGRAM

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

Students interested in the pre-nursing program are encouraged to consult with a health professions advisor in the Liberal Arts Advising Center or the Coordinator of the Health Professions Office for more information. Bulletins describing the pre-nursing program in the Health Professions Office, 218 Ayres Hall.

Note: A degree program in nursing is also available at The University of Tennessee, Knoxville. Information may be obtained from the dean of the College of Nursing.

PRE-PHARMACY PROGRAMS

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

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

The three-year and four-year programs, which lead to a Bachelor of Arts degree from The University of Tennessee, Knoxville, as well as to the professional degree in pharmacy from UTCHS, are based upon the program outlined below. In the three-year program, the student must complete at least 134 credit hours while enrolled in the College of Liberal Arts, and the B.A. degree is granted upon satisfactory completion of the first year of study at Memphis. In the four-year program the degree is granted upon completion of 190 or more credit hours while enrolled in the college, including a major of 36 or more hours in addition to the courses outlined below. The requirement for a major is waived for those taking their fourth year at UTCHS. Students in either the three-or four-year program must complete the last 45 hours of credit in residence at The University of Tennessee, Knoxville, before enrolling in the College of Pharmacy.

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1010-11; 1020; 1031 or 1032</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Chemistry 1110-20-30</td>
<td>4</td>
<td>12</td>
</tr>
</tbody>
</table>

Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 1210-20-30 or Zoology 1118-36</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Chemistry 1110-20-30</td>
<td>4</td>
<td>12</td>
</tr>
<tr>
<td>Basic Skills B. Foreign Language (Intermediate Level Sequence)</td>
<td>9</td>
<td>12</td>
</tr>
</tbody>
</table>

Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting 2110</td>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>Physics 2120-22</td>
<td>3</td>
<td>8</td>
</tr>
</tbody>
</table>

Senior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Completion of major program and B.A./B.S. requirements or completion of one year of the UT Center for the Health Sciences...</td>
<td></td>
<td>41-43</td>
</tr>
</tbody>
</table>

Note: Total: Minimum 134 hours

PRE-VETERINARY MEDICINE PROGRAM

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

PRE-VETERINARY MEDICINE PROGRAM

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

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

PRE-VETERINARY MEDICINE PROGRAM

The following program is designed for students who wish to pursue a Liberal Arts degree while preparing for the study of Veterinary Medicine. Students in this program must complete at least 153 credit hours while enrolled in the College of Liberal Arts, must satisfy the Basic Skills and Distribution requirements, and must complete the last 45 hours in residence at UTK before enrolling in the College of Veterinary Medicine. A
A recommended sequence of courses from such areas as business, education, and sciences are designed to help the student combine art with other fields for possible careers in art administration, gallery and museum management, scientific illustration, non-certificate teaching, and other art related occupations. Up to 60 elective hours may be used by applying the 20-credit-hour requirements of non-art electives (III.C.) to a career preparation sequence. See Option II under Electives. Counseling and programs of study are available in the Art Center Student Advisement Center, Room 213.

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

I. Art Core

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Art 1000 (to be completed during freshman year)</td>
<td>4</td>
</tr>
<tr>
<td>B. Art History</td>
<td>12</td>
</tr>
<tr>
<td>1. Art 1815, 1825, 3750</td>
<td></td>
</tr>
<tr>
<td>2. Elective art history</td>
<td>12</td>
</tr>
<tr>
<td>C. Studio</td>
<td></td>
</tr>
<tr>
<td>1. Art Fundamentals 1115, 1125, 1135 (to be completed during the freshman year)</td>
<td>12</td>
</tr>
<tr>
<td>2. Introduction to Media (to be completed prior to junior year)</td>
<td></td>
</tr>
<tr>
<td>a. Art 2105, 2205 or 2305, 2405 (or 2407 or 2408 or 2409)</td>
<td>12</td>
</tr>
<tr>
<td>b. A minimum of 12 hours selected from</td>
<td></td>
</tr>
<tr>
<td>Art 2250, 2255, 2260, 2265, 2950</td>
<td>12</td>
</tr>
</tbody>
</table>

Subtotal: 64 hours

II. Art Concentration (A OR B)
A. Recommended courses of study in ceramics, graphic/design illustration, drawing, fiber-fabrics, painting, printmaking, sculpture, and watercolor are available in the Art Office.
B. Inter-Area: A combination of courses from the various formal areas (listed in II.A above) to be approved by the department.

Subtotal: 36 hours

III. General Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. English Composition</td>
<td>9</td>
</tr>
<tr>
<td>B. Non-U.S. History or Social Science</td>
<td>8</td>
</tr>
<tr>
<td>C. Natural Science</td>
<td>8</td>
</tr>
</tbody>
</table>

D. Philosophy 3210 | 4 |
E. Liberal Arts Non-art Electives | 20 |

Subtotal: 49 hours

IV. Electives

Option I: Additional art or non-art electives
Option II: Career preparation electives

Subtotal: 40 hours

TOTAL: 189 hours

COLLEGE ARTISTS PROGRAM
A program of 189 hours is to be determined by the student and approved by the Department of Art honors committee. This program allows the gifted student greater opportunity for establishing a unique education in studio art, which may include independent study, off-campus study, or foreign study in addition to formal class work. Participation and graduation in the College Artists Program will be noted on the student’s transcript.

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

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

STUDIO HONORS COURSES
Courses are designed for the exceptional student. Honors courses may be taken in any of the areas of studio instruction, and admittance is based on the following criteria:
A. Grade-point average of 3.2 in studio art courses
B. Portfolio of class and/or outside work
C. Recommendation of the studio faculty, and/or approval of the instructor
D. Students qualified for honors courses will enroll in course numbers which most closely parallel their present level, i.e., sophomores in 2008, juniors in 3008, seniors in 4008. Each course number may be repeated for a maximum of 24 hours credit.

Bachelor of Music
The Department of Music offers the degree of Bachelor of Music with concentrations in music theory, composition, electronic music, music history and literature, and applied music (vocal; piano; organ; church music—organ or piano; church music—vocal; piano—literature; strings; woodwind, brass, and percussion instruments; multiple keyboard instruments; multiple woodwind instruments; studio music and jazz; Suzuki string pedagogy). The study is designed to prepare students for graduate study or for positions in music for which a professional degree is required.

Students who plan to work for this degree are assigned an advisor in the Department of Music at the time they enter the program. Continuation in the program at the 3000 level requires the achievement of an average of 2.5 or better in all music courses taken. The minimum requirement for the degree is 180 credit hours, including the specified courses outlined below.
### Music 4111
- Music 4035
- 2 Junior Recital

### Music 4011
- Music 4035
- 2 Music 2300

### Senior Keyboard Literature
- 9

### Applied Music
- 3

### Music 4121 or 4131
- Music 4141

### Music 3112-22
- Music 4261

### Music 2111-21-31
- Music 3111-21-31

### Junior Recital
- 0

### Music 2000
- 0

### Ensemble
- 3

### Music 3199
- 3

### Principal studies
- 9

### Applied Music
- 3

### Music 2300
- 3

### Music 2310
- 3

### Music 2340
- 3

### Music 3199
- 3

### Principal applied study
- 12

### Music 3111-21-31
- Music 3112-22

### Senior recital
- 0

### Music 3699
- 3

### Music 2000
- 0

### Ensemble
- 3

### Music 2320-30-40
- 9

### Music 4011
- 3

### Full-Time Academic Year
- 180 hours

---

### Music History/Literature

#### Freshman
- English 1010 or 1011; 1020; 1031 or 32 or 33
- Music 1111-21-31
- Music 1112-23-33
- Music 1199
- Music 2300
- Applied music
- Ensemble
- Liberal arts electives (not in music)
- Music 2000

#### Sophomore
- Music 2310
- Music 3111-21-31
- Music 3112-22
- Music 3113-23-33
- Music 3121 or 4131
- Applied music
- Ensemble
- Music electives
- Music history/literature (3000 level and above)
- Electives
- Music 2000

#### Senior
- Music 2340
- Music 3112
- Music 3113-23
- Music 4261
- Music history/literature (3000 level or above)
- Ensemble
- Music theory (3000 level or above)
- Applied music
- Philosophy elective
- Electives
- Music 2000

#### Junior
- Music 2340
- Music 3112
- Music 3113-23
- Music 4261
- Music history/literature (3000 level or above)
- Ensemble
- Comparative literature or religious studies
- Electives
- Music history/literature or theory electives (3000 level or above)
- Applied music
- Music 2000

#### Total: 180 hours

---

### PIANO

#### Freshman
- English 1010 or 1011; 1020; 1031 or 32 or 33
- Music 1111-21-31
- Music 1112-23-33
- Music 1199
- Music 2300
- Principal applied study
- Applied Music
- Educational Psychology 3810

#### Sophomore
- Music 2310
- Music 3111-21-31
- Music 3112-22
- Music 3113-23-33
- Music 2300
- Principal applied study
- Applied Music
- Educational Psychology 3810

#### Total: 180 hours

---

### Multiple Keyboard Instruments (PIANO, ORGAN, HARPSICHORD)

#### Freshman
- English 1010 or 1011; 1020; 1031 or 32 or 33
- Music 1111-21-31
- Music 1112-23-33
- Music 1199
- Music 2300
- Applied music
- Principal applied study

#### Sophomore
- Music 2310
- Music 3111-21-31
- Music 3112-22
- Music 3113-23-33
- Music 2300
- Principal applied study

#### Total: 180 hours

---

### COMPOSITION

#### Freshman
- English 1010 or 1011; 1020; 1031 or 32 or 33
- Music 1111-21-31
- Music 1112-23-33
- Music 1199
- Music 2300
- Applied music
- Ensemble
- Music electives
- Music history/literature (3000 level and above)
- Electives
- Music 2000

#### Sophomore
- Music 2310-23-33
- Music 2310-20-30
- Music 2399
- Applied music
- Ensemble
- Liberal arts electives (not in music)
- Music 2000

#### Junior
- Music 2340
- Music 3112
- Music 3113-23
- Principal applied study

#### Senior
- Music 2340
- Music 3112
- Music 3113-23
- Principal applied study

#### Total: 180 hours

---

### PIANO PEDAGOGY AND LITERATURE

#### Freshman
- English 1010 or 1011; 1020; 1031 or 32 or 33
- Music 1111-21-31
- Music 1112-23-33
- Music 1199

#### Sophomore
- Music 2310-20-30
- Principal applied study

#### Junior
- Music 2340
- Music 3112

#### Senior
- Music 2340

#### Total: 180 hours

---

### MUSIC THEORY

#### Freshman
- Music 1111-21-31
- Music 1112-23-33
- Music 1199
- Music 2300

#### Sophomore
- Music 2310-23-33
- Music 2310-20-30
- Music 2399

#### Junior
- Music 2340

#### Senior
- Music 2340

#### Total: 180 hours

---

### EDUCATIONAL PSYCHOLOGY

#### Freshman
- Music 2310

#### Total: 180 hours

---

### College of Liberal Arts

#### 155 hours

---

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

(See page 190.)
<table>
<thead>
<tr>
<th>Freshman</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 1010 or 1011; 1020; 1031 or 32 or 33</td>
<td>9</td>
</tr>
<tr>
<td>Music 1111-21-31</td>
<td>9</td>
</tr>
<tr>
<td>Music 1112-23-33</td>
<td>9</td>
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<td>Music 2300</td>
<td>9</td>
</tr>
<tr>
<td>Principal applied study</td>
<td>9</td>
</tr>
<tr>
<td>Ensemble</td>
<td>9</td>
</tr>
<tr>
<td>Liberal arts electives</td>
<td>8</td>
</tr>
<tr>
<td>Music 2000</td>
<td>9</td>
</tr>
<tr>
<td>Senior recital 4000</td>
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**TOTAL:** 180 hours

<table>
<thead>
<tr>
<th>Sophomore</th>
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<tbody>
<tr>
<td>Music 2111-21-31</td>
<td>9</td>
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<tr>
<td>Music 2131-33</td>
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</tr>
<tr>
<td>Music 2300-30-40</td>
<td>9</td>
</tr>
<tr>
<td>Principal applied study</td>
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</tr>
<tr>
<td>Ensemble</td>
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</tr>
<tr>
<td>Music 1555 or 1015</td>
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</tr>
<tr>
<td>Music Educ. 4420</td>
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</tr>
<tr>
<td>Ensemble</td>
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</tr>
<tr>
<td>Music 2000</td>
<td>9</td>
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<td>Junior recital 3000</td>
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**TOTAL:** 180 hours

<table>
<thead>
<tr>
<th>Junior</th>
<th>Hours Credit</th>
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<tbody>
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<tr>
<td>Music 3131-23-33</td>
<td>9</td>
</tr>
<tr>
<td>Music 2000</td>
<td>0</td>
</tr>
<tr>
<td>承担声乐学习（非音乐）</td>
<td>9</td>
</tr>
<tr>
<td>承担声乐学习（非音乐）</td>
<td>9</td>
</tr>
<tr>
<td>承担声乐学习（非音乐）</td>
<td>9</td>
</tr>
<tr>
<td>承担声乐学习（非音乐）</td>
<td>9</td>
</tr>
<tr>
<td>承担声乐学习（非音乐）</td>
<td>9</td>
</tr>
<tr>
<td>承担声乐学习（非音乐）</td>
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**TOTAL:** 180 hours

**WOODWIND, BRASS, AND PERCUSSION INSTRUMENTS**

<table>
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<tr>
<th>Freshman</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>English 1010 or 1011; 1020; 1031 or 32 or 33</td>
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</tr>
<tr>
<td>Music 1111-21-31</td>
<td>9</td>
</tr>
<tr>
<td>Music 1112-23-33</td>
<td>9</td>
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<td>Music 2300</td>
<td>9</td>
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<tr>
<td>Principal applied study</td>
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<tr>
<td>Music 2310-30-40</td>
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<td>Principal applied study</td>
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<tr>
<td>Ensemble</td>
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<tr>
<td>Music 1010-20-30</td>
<td>9</td>
</tr>
<tr>
<td>Principal applied study</td>
<td>12</td>
</tr>
<tr>
<td>Ensemble</td>
<td>9</td>
</tr>
<tr>
<td>Liberal arts elective (not in music)</td>
<td>8</td>
</tr>
<tr>
<td>Music 2000</td>
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**TOTAL:** 180 hours

**MULTIPLE WOODWIND INSTRUMENTS**

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<td>9</td>
</tr>
<tr>
<td>Music 1112-23-33</td>
<td>9</td>
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<td>Music 2300</td>
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<td>Principal applied study</td>
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<tr>
<td>Music 2310-30-40</td>
<td>9</td>
</tr>
<tr>
<td>Principal applied study</td>
<td>9</td>
</tr>
<tr>
<td>Ensemble</td>
<td>9</td>
</tr>
<tr>
<td>Liberal arts elective (not in music)</td>
<td>8</td>
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<tr>
<td>Music 2000</td>
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**TOTAL:** 180 hours
<table>
<thead>
<tr>
<th>Course Type</th>
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<tbody>
<tr>
<td>ELECTRONIC MUSIC</td>
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<td>Applied Music</td>
<td>3</td>
</tr>
<tr>
<td>Physics 1810</td>
<td>4</td>
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<tr>
<td>Computer Science 1610</td>
<td>3</td>
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<td>L. A. Electives</td>
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**SUZUKI STRING PEDAGOGY**

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<td>Music 1111-21-31</td>
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<td>Ensemble</td>
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<tr>
<td>Liberal arts electives (not in music)</td>
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<tr>
<td>Music 2000</td>
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**Electives**

<table>
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<tbody>
<tr>
<td>L. A. Electives</td>
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<td>Electives</td>
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**STUDY MUSIC AND JAZZ**

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<td>English 1010 or 1011; 1020; 1031 or 1032 or 1033</td>
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<tr>
<td>Music 1111-21-31</td>
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<td>Music 1112-23-33</td>
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<td>Music 2300</td>
</tr>
<tr>
<td>Music 2395</td>
</tr>
<tr>
<td>Music 1400</td>
</tr>
<tr>
<td>Music 2810</td>
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<tr>
<td>Music 1010-20</td>
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<tr>
<td>Principal applied study</td>
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<td>Ensemble</td>
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<tr>
<td>Liberal arts elective</td>
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<tr>
<td>Music 2000</td>
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<tr>
<td>TOTAL: 180 hours</td>
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**Sophomore**

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<thead>
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<tbody>
<tr>
<td>Music 2111-21-31</td>
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<tr>
<td>Music 2112-23-33</td>
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<tr>
<td>Music 2310-20-30</td>
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<tr>
<td>Music 3052-54</td>
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<tr>
<td>Music 2820</td>
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<tr>
<td>Music 1000-40</td>
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<tr>
<td>Principal applied study</td>
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<tr>
<td>Ensemble</td>
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<td>Liberal arts elective</td>
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<td>Ensemble</td>
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<td>Liberal arts elective</td>
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<td>Music 2000</td>
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**Junior**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Music 2340</td>
</tr>
<tr>
<td>Music 3112</td>
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<tr>
<td>Music 3113-23</td>
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<tr>
<td>Music 4114</td>
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<tr>
<td>Music 4845</td>
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<tr>
<td>Principal applied study</td>
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<tr>
<td>Ensemble</td>
</tr>
<tr>
<td>Junior recital</td>
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<tr>
<td>Liberal arts electives</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Music 2000</td>
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<td>TOTAL: 185 hours</td>
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**Senior**

<table>
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<tbody>
<tr>
<td>Music 2310</td>
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<tr>
<td>Music 3111-21-31</td>
</tr>
<tr>
<td>Music 3112, 3122</td>
</tr>
<tr>
<td>Music 3113, 3123</td>
</tr>
<tr>
<td>Music 3597</td>
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<tr>
<td>Applied Music</td>
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<tr>
<td>Ensemble</td>
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<tr>
<td>Synthesizer Ensemble</td>
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<tr>
<td>Music 2000</td>
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<tr>
<td>Computer Science 2610</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Senior</td>
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<tr>
<td>Music 4597</td>
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<tr>
<td>Music 4198</td>
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<tr>
<td>Music 1230</td>
</tr>
<tr>
<td>Applied Music</td>
</tr>
<tr>
<td>Ensemble</td>
</tr>
<tr>
<td>Synthesizer Ensemble</td>
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<tr>
<td>TOTAL: 190 hours</td>
</tr>
</tbody>
</table>

**COOPERATIVE PROGRAM IN CHEMISTRY**

A cooperative program is available to students in the B.S. in Chemistry curriculum. After the freshman year the student alternates a quarter in school with a quarter in a job in a chemical industry. The program normally requires five years and involves a total of seven work quarters and twelve school quarters. Students are required to have at least a 2.5 average to enter and remain in the program. Some opportunity exists for students to enter the program later than the end of the freshman year. Students interested should make application to the head of the department at least one quarter in advance of the beginning of the first work period. Further information will be supplied on request.

**COURICULUM REQUIREMENTS**

**Freshman**

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Chemistry 1510-20-30 (or 1110-20-30) or 1118-28-38</td>
</tr>
<tr>
<td>Chemistry 1325-35</td>
</tr>
<tr>
<td>Mathematics 1640-50-60 or 1848-58-68</td>
</tr>
<tr>
<td>Foreign Language (Intermediate level sequence)</td>
</tr>
<tr>
<td>English Composition (3 course sequence)</td>
</tr>
<tr>
<td>Divisional Distribution A, C, or D</td>
</tr>
</tbody>
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**Sophomore**

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Chemistry 3211-21-31, 3219-29-39</td>
</tr>
<tr>
<td>Chemistry 2140-49</td>
</tr>
<tr>
<td>Mathematics 2640-50-60 or 2848-58-66</td>
</tr>
<tr>
<td>Mathematics 2120, 2130-20-30</td>
</tr>
<tr>
<td>Divisional Distribution A, C, or D</td>
</tr>
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**Junior**

<table>
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<th>Hours Credit</th>
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<tbody>
<tr>
<td>Chemistry 4130-20-30, 4329-39</td>
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<tr>
<td>Chemistry 4210-18, 4220-29</td>
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<tr>
<td>Computer Science 3150</td>
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<td>Divisional Distribution A, C, or D</td>
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**Senior**

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<td>Chemistry 4198</td>
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<tr>
<td>Chemistry 4610 or 4610 and 4710</td>
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<tr>
<td>Chemistry 4420</td>
</tr>
<tr>
<td>Chemistry 4811-21-31</td>
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</tbody>
</table>

1 Must be chosen from German, French, or Russian; a student who has not had two years of one of these languages in high
Bachelor of Science in Social Work

The primary objective of the undergraduate social work program is to educate students for entry level positions in professional social work practice in traditional and innovative agency settings and to ensure growth in ability and knowledge as future practitioners and as citizens. The social work curriculum builds on a strong liberal arts base of humanities and the social and behavioral sciences in order to help students understand human diversity and the transactions between people and their environment. The curriculum contains classroom theory and agency-based field placements. Educationally directed field placements, which consist of over 400 clock hours supervised field construction in agency settings throughout greater Knoxville, provide extensive and challenging opportunities for students to apply the lessons of the classroom to the problems of society and to prepare for employment.

Students interested in pursuing the Bachelor of Science in Social Work should confer with the Director of the Social Work Program during the first academic year. Those completing this course of study will be prepared to engage in beginning professional social work practice and enter many graduate schools of social work with advanced standing. This degree is designed in accordance with standards set by the Council on Social Work Education.

**Preparation for Other Professions**

**Law**

Students who plan to study law should consult the statement regarding admission to the College of Law in the Graduate Catalog and discuss their programs with advisors in the Liberal Arts Advising Center.

**Library Science**

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

**Planning**

Students who wish to consider a career in city and regional planning or a related field will find a brief description of the program of the Graduate School of Planning on page 55. Students are accepted into planning from a broad variety of undergraduate backgrounds. Detailed information on the planning profession, admission requirements, and the program of study may be obtained from the Graduate School of Planning.

**Public Administration**

Students majoring in political science who wish to prepare for an administrative career in the public service may select courses to fit that objective. The concentration appearing below is suggested for students with public service career interests. The degree to be awarded is a Bachelor of Arts with a major in political science, augmented by supportive work in related disciplines.

**Teaching**

Students in the College of Liberal Arts who wish to be certified for secondary school teaching must satisfy state certification requirements as well as all degree requirements of the College of Liberal Arts and must be recommended for certification by the College of Education. The College of Education is approved by the National Council for Accreditation of Teacher Education (NCATE); recommendation for certification by the college, therefore, in effect certifies the student in 50 states.

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

One quarter during the senior year must be reserved for student teaching (Education C & I 4710-20). Application for student teaching must be filed not later than January 1 of the year preceding the academic year in which the student teaching will be undertaken. Those planning to student teach during the 1985-86 academic year must apply by January 1, 1985.

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

**Theology**

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

**General Information**

Association with the College

For information regarding association with the College of Liberal Arts, see page 28.

Course Load

The average course load in the college for any quarter is 14-16 credit hours. The University defines full-time undergraduate students as those who register for a minimum of 12 hours. The maximum number of hours which may be taken by liberal arts students is 18, exclusive of elective work in ensemble music and physical education. Exceptions to this rule will require approval by the Associate Dean for Student Academic Affairs (218 Ayres Hall).

Lower Division—Upper Division

Courses numbered at the 1000 and 2000 levels are considered lower division and are normally taken by students in the freshman

*Courses selected with faculty advice from approved list.*
and sophomore years. Courses numbered 3000 and above are upper division and are designed for students at the junior and senior levels.

**Satisfactory/No Credit Courses**

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

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

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

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

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

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

Note: Students planning to seek admission to graduate or professional schools (especially in the health sciences) should discuss with their advisors possible limitations on exercise of the S/NC option before registering for courses on this basis.

**Off-Campus Study**

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

**Independent Study**

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

**Study Abroad and Foreign Study Courses**

Several opportunities for study abroad are available to students in the college. One avenue is through group programs arranged and supervised by departments of the college on a full-quarter term basis. A second is through group programs conducted abroad by other academic institutions to which UTK students with approval may enroll for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University’s Division of International Education. A third opportunity is through individualized programs under the foreign study number 4101. The nature of this work as well as credit for it should be negotiated by students prior to departure with the appropriate liberal arts departments.

Credit will be awarded only after completion of all agreed upon requirements, and may vary from 1-16 hours in any one department. Up to 24 hours of such credit, exclusive of that earned in group programs offered by departments, could apply toward a degree in the college. Departments may in any of the above forms count the hours of credit which can be applied toward a given major.

**Liberal Arts Advising Center**

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

**Student Academic Affairs Office**

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

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

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

**Bureau of Public Administration**

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

**Psychological Clinic**

The Psychological Clinic is an outpatient psychodiagnostic and treatment center established by the University within the Department of Psychology. It provides advanced graduate training for students in clinical psychology and also serves as a training facility for graduate students in the School of Social Work. Referrals for treatment come from many sources, including self-referrals and referrals by relatives and friends and by various social and mental health agencies. Treatment services are available to anyone regardless of residence, sex, age, race, or citizenship.

**University Theatres**

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

**Instructional Facilities**

The college carries out its varied teaching and research activities in more than two dozen principal buildings in two areas of the campus, as well as in a number of converted residences which provide office, studio, or clinical space. The older of the two clusters of buildings is on "The Hill," and includes Ayres Hall (mathematics and computer science), Austin Peay (psychology), Hasler (botany), Walters Life Science (biochemistry, biology, microbiology, and zoology); the Nielsen
Physics Building (physics and astronomy), Geology-Geography (geology and geography), Dabney and Buehler (chemistry and ecology), and South Stadium Hall (audiology and speech pathology and anthropology). West of "The Hill" is a recently built group of buildings for the humanities, social sciences, and fine arts: McClung Tower and the Humanities-Social Sciences classroom building (classics, English, foreign languages, history, philosophy, political science, religious studies, sociology, and speech and theatre), the Music Building (music), and the Hearing and Speech Center (audiology and speech pathology). Alumni Hall (human services and the Art and Architecture Building (art)). In this area also are the McClung Museum and the Clarence Brown and Caroussel Theatres, as well as the Undergraduate Library.

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

Departments of Instruction

Afro-American Studies
See Cultural Studies.

American Studies
See Cultural Studies.

Ancient Mediterranean Civilizations
See Cultural Studies.

Anthropology (122)

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

Associate Professors: H. Harrison, Ph.D. Syracuse; M. H. Logan, Ph.D. Pennsylvania; G. W. Schroedl, Ph.D. Washington State; F. H. Smith, Ph.D. Michigan.

Assistant Professors: W. E. Klippel, Ph.D. Missouri; B. J. Howell, Ph.D. Kentucky.

Research Assistant Professor: J. Chapman, Ph.D. North Carolina.

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

Anthropology (122)

Undergraduate

A B.A. major in anthropology shall consist of 42 hours, 12 of which are to be in the introductory 2500-level courses, of the following 30 hours, 3333, 4480 and six hours are required in each of these subfields: (a) Cultural; (b) Physical; and (c) Archaeology.

(a) Cultural: 3420, 3440, 3450, 3550, 3540, 3560, 3580, 3700, 4111, 4200, 4240, 4250, 4400, 4420, 4440, 4550, 4560, 4740; (b) Physical: 2910, 2920, 2930, 3070, 3900, 3920, 4930, 4940, 4950, 4980; and (c) Archaeology:

3610, 3611, 3620, 3630, 3640, 3650, 3670, 4400, 4600, 4610, 4640, 4650. At least 24 of these hours must be at the 3000-level or above. Students with senior standing may also substitute appropriate 5000-level courses with permission of the appropriate instructor.

A minor in anthropology consists of 27 hours including the 2510, 2520, 2530 introductory courses.

2510 Human Organs (4) Non-technical survey of man's primate background, fossil primates, fossil man, and living apes.

2520 Prehistoric Archaeology (4) Survey of prehistoric culture with specific emphasis on method and theory in archaeology; prehistory of Western Europe and Africa, archaeology in Americas.

2530 Human Culture (4) Introduction to ethnology: survey of nature of culture and society and similarities and differences in man's material culture, social, economic, and political organizations, ideology, art, and language.

2910 Human Paleontology (3) Examination of the human fossil record with emphasis on the analysis and explanation for the emergence and subsequent evolution of humans from the perspective of the biological sciences. Prereq: 2510.

2920 Human Identification (3) Analysis of basic techniques applicable to the study of human skeletal biology and the identification of human skeletal material in forensic medicine. Prereq: 2510.

2930 The Biology of Races (3) Processes of racial differentiation with emphasis on genetic and adaptive factors; influence of interaction between biology and culture in race formation; analysis of studies concerning blood groups, constitution, growth, and nutrition in humans. Prereq: 2510.

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

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

3333 Visiting Lecture Program (3) Developed around lectures by visiting scholars in physical anthropology, cultural anthropology, or archaeology. Offered fall and spring quarters, with a 3-hour credit allowed.

3410 Principles of Cultural Anthropology (3) Basic concepts and objectives in study of culture. Range of cultural phenomena and approaches to its study. 2530 recommended.

3420 Linguistic Anthropology (3) Basic linguistic concepts and their application in cultural anthropology. Relationship between language and culture. Prereq: 2530 or Linguistics 2000. (Same as Linguistics 3420.)

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

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

3460 Alcohol, Health and Culture (3) Socio-cultural perspectives and consequences of alcohol use/abuse in various cultural groups.

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

3530 Peoples and Cultures of Africa (3) Ethnographic survey of cultural traditions of sub-Saharan Africa. Cultural diversity and human ecology in a real perspective. 2530 recommended.

3540 North American Indians (3) Ethnographic survey of cultures of Arctic, Southwest, Plains, and Eastern areas. Emphasis on cultural differences of peoples occupying these areas during pre-colonial period. 2530 recommended.


3550 Cherokee Ethnohistory (3) Survey of sociopolitical aspects of internal affairs and external relationships from earliest European contact to present. Emphasis on 18th and 19th centuries.

3750 Afro-American Anthropology (3) Anthropological perspectives on Blacks in New World examination of Afro-American via anthropological theories and methodology.

3850 Peoples and Cultures of Mesoamerica (3) Ethnographic survey of aboriginal peoples and post-conquest changes in Indian cultures. Emphasis upon analysis of small rural communities using modern village studies as source material. Recommended prereq: 2530. (Same as Latin American Studies 3580.)

3610 Archaeology of United States and Canada I (3) Survey of prehistoric peoples north of Mexico from initial occupation to European contact. 2520 recommended.

3611 Archaeology of United States and Canada II (3) Historical archaeology of Euro-American, Afro-American, and Asian-American cultures in the United States and Canada from the 15th to the 20th centuries.

3620 European Prehistory I (3) Cultural development during Paleolithic, Mesolithic, and Neolithic periods. 2520 recommended.

3630 European Prehistory II (3) Cultural development during Metal Ages. From close of Neolithic through Iron Ages. 2520 recommended. 2520 and 3620 should be taken in sequence.

3660 Prehistory of Tennessee (3) History of archaeological research in Tennessee and survey of prehistoric American Indian cultures identified through research.

3670 Principles of Archaeology (3) Research strategies in archaeological excavation, interpretation, and explanation. Prereq: 2520 or consent of instructor.

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

3811 Introduction to Museology (3) (Same as Art 3811.)

3900 Human Osteology (4) Intensive examination of the human skeleton. Prereq: 2510 or consent of instructor. 3 hrs. and 1 lab.

4101 Foreign Study (1-16) See page 159.

4102 Off-Campus Study (1-16) See page 159.

4103 Independent Study (1-16) See page 159.

4111 Non-Western Education: Anthropological Approaches (3) Analysis of traditional educational practices among non-Western peoples and problems encountered from application of western models of education among those peoples. Particular attention is paid to American Indians, African tribal groups, and Asian cultures. (Same as Education C & 14111.)

4200 Contemporary North American Indians (3) Survey of Indian cultures from initial Euro-American contact to present; emphasis on change, culture, social, economic, and political organizations, ideology, art, and language. Prereq: 2510 or consent of instructor. 3 hrs. and 1 lab.

4240 Applied Cultural Anthropology (3) Applicability of anthropological theory, methods, and findings in programs of community and national development, public health, international aid, and military assistance. Examination of roles of anthropologists, values and ethics in intervention schemes, and organization of planned change in applied programs. 3 hrs. and 1 lab.

4250 Medical Anthropology: Lecture (3) Survey of medical anthropology. Emphasis on Western and non-Western cultural aspects of health, disease, treatment, death, and related concepts. Focus on analyses and descriptions of anthropological fieldwork.
4300 Readings in Anthropology (1-9) Intensive reading, problem oriented. For anthropology majors with senior standing. Others by consent of instructor. May be repeated to a maximum of 9 credit hours.

4340 Field Work in Archaeology (3-9) Practicum work surveying, excavating, processing, and analyzing data; intensive reading. Prereq: 2510:20-30 and consent of instructor. May be repeated to a maximum of 9 credit hours.

4400 Cultural Ecology (3) Survey of concepts and methods in studying dynamic interaction between cultures and their environments. Topics include ecological theory, methods of analysis, and application from selected case studies. Prereq: Anthropology 2520 or 2530, or 3410, or consent of instructor.

4420 Dynamics of Culture (3) Culture change: innovation, diffusion, and acculturation; cultural continuity and stability. Prereq: 2530 or consent of instructor.

4440 Urban Anthropology (3) Survey of theoretical and methodological issues anthropologists encounter researching cross-cultural urban settlements. Focus is on anthropological perspective and urban problems and planning. Prereq: 3450 or consent of instructor. (Same as Urban Studies 4440.)

4480 Current Trends in Anthropology (3) Analytical intensive reviews for symposium of current debates, research directions, theories, fieldwork methods, and general assumptions of the four subfields of anthropo- logy: archaeology, physical anthropology, linguistics, and cultural anthropology. Required of anthropology majors in senior year. Prereq: Senior standing.

4550 Indians of the Southeastern United States (3) Survey of Southeastern Indian cultures; emphasis on aboriginal age, context, environment; lifeways of Southeastern American Indian groups prior to Euro-American contact. Prereq: 2530, 3540, or consent of instructor.

4560 Cherokee Ethnology (3) Intensive survey of ideology and material aspects of Cherokee culture existing at time of first European contact.

4600 Method and Theory in American Archaeology (3) Historical development of New World archaeology with emphasis on theory and field techniques. Prereq: 2520 or consent of instructor.

4610 African Prehistory (3) Survey of cultural history in Africa, south of the Sahara, from earliest evidence of human activity to time of European contact. Prereq: 2520 or consent of instructor.

4640 Zooarchaeology (3) Basic osteological studies of cave deposits; emphasis on aboriginal utilization of native animals in subsistence and culture (identification, analysis, and interpretation of archaeologically derived musculoskeletal vertebrate remains.

4650 Archaeology of Southeastern United States (3) Intensive study of prehistoric American Indian. Special archaeological problems. Prereq: 3610 or consent of instructor.

4700 American Folklore (3) Anthropological perspectives on folklore of geographical regions and ethnic groups of the United States. Prereq: 3700 or consent of instructor.

4720 American Folklore (3) Anthropological perspectives on folklore of geographical regions and ethnic groups of the United States. Prereq: 3700 or consent of instructor.

4740 Southern Appalachian Folk Culture (3) A survey of the settlement history and economic development of southern Appalachia in relation to its traditional and contemporary lifestyles; Davidsville economics, social organization, beliefs and values, oral traditions, and customs. Consent of instructor.

4741 Research in Southern Appalachian Folk Culture (3) Research-oriented course dealing with a wide range of topics in traditional and contemporary Appalachia: settlement patterns, folk housing, economy, clothing, beliefs, speech, art, song, dance, and oral traditions and history. Prereq: 4740. May be repeated. Maximum 6 hrs.

4760 Italian Folklore (3) (Same as Romance Languages 4760.)

4930 Physical Growth and Constitution (3) Comparative growth patterns throughout the life cycle of man; skeletal and dental maturity; sex differences in growth; human constitutional types. Prereq: 2510 or consent of instructor. Biology 2110 strongly recommended.

4940 Biology of Native Americans (3) American Indian origins and evolution; interaction of skeletal remains and morphology and genetics of living populations. Emphasis on North American Indians. Prereq: 2510 or consent of instructor.

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


The general requirements for the master's and doctoral degrees, as well as the course description, are given in the Graduate Catalog.

Arabic
Sea Cultural Studies.

Art (140)

Professors:


Associate Professors:


Assistant Professors:


Instructors:

L. J. Kosciski, M.F.A. California (Davis); T. C. Saupé, M.F.A. Wisconsin.

PI BETA PHI ARROWMONT SCHOOL OF CRAFTS

Lecturers, summer 1981:

D. Aguado; K. Bates; P. Bourke; E. Carlos; M. Croft; R. Daehnert; R. H. Martinson; D. Dellier; R. Donhausen; E. Erickson; J. F., M. M. F. Goldenstein; M. Goldring; P. Grayson; P. Hasler; M. Hu; W. Hunt; J. C. Jansen; A. Kasuba; G. Kirpich; J. Klein; B. Kopf; T. Lang; M. Lenderman; B. Loy; J. McNaughton; J. Roberts; V. Rivers; J. Sahastin; L. Schuer; W. Seelig; V. Spinley; T. Suomalainen; T. Turner; D. Valenik; D. B. Vandomelen; J. Wallace; D. Warner; L. Watson; C. Yarbrough; N. Znamierowski.

Each summer the craft workshops in Gatlinburg, Tennessee, are made possible through cooperative efforts between the Department of Art and the Pi Beta Phi Arrowsmt School of Crafts. The Pi Beta Phi Fraternity provides the funds, the facilities, and the management for Arrowmont. The University of Tennessee, Knoxville, College of Liberal Arts, Department of Art appoints the instructors and provides the administration of craft classes with appropriate accreditation. In addition to providing advanced instruction in designer-created crafts through classes taught by nationally known craftspeople, the craft workshops have expanded to a full-fledged program serving as a training center for artists and craftsmen from throughout the United States. Also, cooperation with national and local craft organizations has so stimulated the work of craftsmen that the group has gained national recognition.

Art has two aspects: history of art and practice of art. Knowledge of the practice of art is required of all majors; knowledge of art history is required of studio majors. The department reserves the right to acquisition of student studio work.

UNDERGRADUATE

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

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

B.A. Major: Art (Concentration in Studio)—Art 1005, 1115, 1135, and 1825, are additional hours of art history are prerequisites to a major of 36 hours of courses numbered 2000 and above, including a minimum of 21 hours in upper-division courses. B. A. Minor: Art (Concentration in Studio)—Art 1115, 1135, and 1815, 1825, are prerequisite to a minor of 24 hours which includes 2750 and a minimum of 8 additional upper-division hours. Concentration may be in Ceramics, Drawing, Fiber-Fabric, Painting, Watercolor, Printmaking, Sculpture or a combination from these areas.

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

1105 Introduction to Studio Art: Various Media (4) Introduction to individual studio media. VS any sections for various artistic disciplines. For non-majors only. Course may be repeated; medium may not be repeated. Maximum 12 hrs.

1115 Studio Fundamentals (4) Development of observational skills and perception of reality. Fundamentals of art and craftspersons from throughout the United States. Also, cooperation with national and local craft organizations has so stimulated the work of craftsmen throughout the area that their work has gained national recognition.

Art has two aspects: history of art and practice of art. Knowledge of the practice of art is required of all majors; knowledge of art history is required of studio majors.

The department reserves the right to acquisition of student studio work.

1615 World Art I (4) Art from ancient, classic and pre-industrial societies. Topics include Christianity, Islam, and art of the ancient world. Course content is drawn from art of Europe, Asia, and Africa. Prerequisites: Art 1005, 1115, 1135, and 1815.

1625 World Art II (4) Study through slides and lectures of works of great artists from the conoico di Vinci and Michelangelo to Matisse and Picasso.

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

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

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

2105 Survey of Drawing (4) Further exploration and refinement of fundamental aspects of drawing with more emphasis on composition and techniques. Prereq: 1115. 2106 Special Topics in Drawing (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

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


2205 Introduction to Painting (4) Capacities of oil and acrylic. Prereq: 1115, 1125, 1135 for art majors; none for non-art majors.

2206 Special Topics in Painting (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2256 Special Topics in Fiber and Fabrics (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2260 Fabric: Painting and Dyeing (4) Survey of painting and dyeing processes in the development of surface design on fabric. Includes batik, direct drawing, and/or related approaches.

2265 Fiber: Three-Dimensional Non-woven Structures (4) Development of three-dimensional structures through non-woven fiber techniques. Crochet, half-stitch knotting, and/or coiling.


2275 Fiber: Woven Structures (4) The woven structure, with two-dimensional surface. Tapestry, knotted pile, wrapped weave techniques in the development of imagery, color structures and textural surfaces.


2285 Fiber: Fabricated Structure (3) Fabricating methods for two and three-dimensional fiber structures. Experimental approaches to weaving, wrapping and/or knotless netting. Traditional and non-traditional materials.

2305 Introduction to Watercolor (4) Capacities of transparent watercolor. Prereq: 1115, 1125, 1135 for art majors, none for non-art majors.

2315 Watercolor II (4) Techniques that make watercolor a major medium of expression. May be repeated. Maximum credit 8 hours. Prereq: 2305 for art majors, none for non-art majors.

2405 Introduction to Sculpture (4) Problems in clay modeling, clay construction, and basic plaster casting techniques.

2406 Special Topics in Sculpture (4) Student or instructor initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2407 Sculpture: Mixed Media (4) The use of two or more materials, and a variety of sculptural techniques, joined to create dimensional form. Possibilities include carving, modeling, molding, construction and found objects. May be repeated. Maximum 8 hrs.

2408 Sculpture: Metal Casting (4) Introductory metal casting techniques for bronze or aluminum. May include lost wax, styrofoam sand, ceramic shell casting methods. May be repeated. Maximum 8 hours.

2409 Sculpture: Welding and Metal Fabrication (4) Introduction to metal fabrication/arc and oxyacetylene welding and cutting techniques in steel sculpture. May be repeated. Maximum 8 hours.

2415 Sculpture II (4) Development of skills and experience in particular area of sculpture as agreed by student and instructor. I initiated course offered at convenience of department. Prereq: 2405.

2416 Sculpture: Life Modeling (4) Modeling techniques in clay and wax, working from figure. Possibilities of expression with human figure as subject. Emphasis on modeling process as both observational and material handling technique. Students desiring to cast their work are advised to do so in 2415 or 3415 taken after this course. Prereq: 1115, 1125, 1135, or consent of instructor. May be repeated. Maximum 8 hours.

2450 Introduction to Wood Sculpture (4) Exploration of wood as a medium of design. Introduction to power tools and basic techniques in lamination, finishing, carving, and use of joints. Prereq: 1115-25-35 for art majors, none for non-art majors.

2460 Wood Sculpture: Studio Projects (4) Application of lamination and carving skills in designing utilitarian and nonutilitarian art objects. Prereq: 2450. May be repeated. Maximum credit 8 hours.


2506 Special Topics in Graphic Design/ Illustration (4) Student initiated course offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.


2516 Advertising Design (4) Fundamentals of lettering and layout for magazine, newspaper, magazine, television, outdoor advertising. Non-art majors only.


2565 Introduction to Printmaking (4) Felted, lithography, intaglio, and screen printing.

2615 Intaglio II (4) Metal plate intaglio printing in traditional and contemporary techniques of etching, drypoint, mezzotint, aquatint, and photoprinting. May be repeated. Maximum credit 8 hours.

2616 Lithography II (4) Exploration of stone and aluminum plate lithography applying traditional and contemporary techniques of etching, drypoint, mezzotint, aquatint, and photoetching. May be repeated. Maximum credit 8 hours.

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

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

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

2675 Metal Design II: Enameling (4) Exploration of vitreous enamel as individual art form and in combination with other materials. Prereq: 2655. May be repeated. Maximum credit 8 hours.

2725 Black Art (4) Black art history in America. 15th century to contemporary trends. (Same as Afro-American Studies 2725.)

2935 Film Design (4) Introductory theory and practice of film making. Emphasis on graphic elements through use of motion picture camera. May not receive credit for both 2116 and 2905.


2956 Special Topics in Ceramics (4) Student or instructor initiated course to be offered at convenience of department. Prereq: Determined by department. May be repeated. Maximum credit 16 hours.

2960 Ceramics II: Handbuilding Techniques (4) Prereq: 2950.

2970 Ceramics II: Wheel Techniques (4) Prereq: 2960.

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

3115 Drawing III (4) Development of personal drawing techniques and concepts through class problems. May be repeated. Maximum credit 12 hours. Prereq: 2115.

3125 Painting III (4) Individual expression with varied media on canvas. May be repeated. Maximum credit 12 hours. Prereq: 8 hours of credit in 2215 for art majors; consent of instructor for non-art majors.

3270 Fabric: Individual Class Projects (4) Prereq: 8 hours from 2260, 2270, 2280 or consent of instructor. May be repeated. Maximum 12 hrs.

3275 Fiber: Individual Class Projects (4) Prereq: 8 hours from 2265, 2275, 2285 or consent of instructor. May be repeated. Maximum 12 hrs.

3315 Watercolor III (4) Individual expression with varied water-based media on paper. May be repeated. Maximum credit 12 hours. Prereq: 8 hours of credit in 2215 for art majors; consent of instructor for non-art majors.

3415 Advanced Sculpture III (4) Individual projects through discussion of instructor designed to widen previous experience. Prereq: Permission of instructor. May be repeated. Maximum 12 hours.

3416 Sculpture: Advanced Life Modeling (4) Advanced modeling techniques in clay and wax, working from figure. Prereq: 2935 or consent of instructor. May be repeated. Maximum 8 hours.


3516 Typography (4) Theories and techniques of typesetting and printing as fine art medium. Creative problems are solved using type and printing presses. May be repeated. Maximum credit 12 hours.

3517 Airbrush (4) Technique of airbrush. Emphasis on skill and creative applications. May be repeated once for credit. For art majors only.

3525 Visual Communications Concepts (4) Advanced pictorial perception; a broad base of concepts, methods, and techniques for designer/illustrator. Prereq: 2525.

3535 Package Design (4) Study of contemporary concepts and techniques applied to all types of package design and production. Prereq: 3515, 3525.

3545 Intaglio III (4) Color intaglio printing from zinc or cardboard plates. Extra techniques—mezotint, sandpaper, etc. May be repeated. Maximum credit 12 hours.
3765 Chinese Art (4)  
3776 Japanese Art (4)  
3811 Introduction to Museology (3) Concepts, prac-
tices, and historical development of museums of art,
archaeology, and science. (Same as Anthropology 3811.)  
3905 Intermediate Photography (4) Individual ex-
posure in the photographic medium. May be re-
peated. Maximum 12 hours. Prereq: 2905 or consent of 
instructor.  
3935 Film Design (4) Theory and practice of film 
making. Prereq: 2935.  
3950 Glazes (4) Prereq: 2970.  
3960 Ceramics III: Individual Class Projects (4) 
Prereq: 3950 or consent of instructor. May be re-
peated. Maximum credit 8 hours.  
4004 Special Topics (1-4) Student or instructor in-
itiated course offered at convenience of Department. 
May be repeated.  
4006 Special Topics (2-4) Student or instructor ini-
tiated course offered at convenience of department. 
Prereq: Determined by department. May be repeated. 
Maximum credit 16 hours.  
4008 Honors: Advanced Art (4) Intensified study for 
the exceptionally able student. MAY be repeated for a 
major of 24 credit hours.  
4015 Individual Problems (4) May be repeated for a 
maximum credit of 12 hours. Prereq: Consent of in-
structor.  
4101 Foreign Study (1-16) See page 159.  
4102 Off-Campus Study (1-16) See page 159.  
4103 Independent Study (1-16) See page 159.  
4115 Drawing IV (4) Individualized pursuit of personal 
drawing techniques and concepts, supplemented by 
individual and group critiques as well as weekly life 
drawing sessions. May be repeated. Maximum credit 12 
hours. Prereq: 12 hours of 3115.  
4120 Craft Media (4) Possibilities and limitations of a 
variety of craft media, designing and executing craft 
projects using inexpensive materials and tools. Not for 
non-art majors only.  
4206 Special Topics in Painting (4) Student or in-
structor initiated course offered at convenience of 
department. Prereq: Determined by department. May be 
repeated. Maximum credit 16 hours.  
4215 Painting IV (4) Individual concepts on personal 
expression with varied media on canvas. May be re-
peated. Maximum credit 12 hours. Prereq: 12 hours in 
3215 for art majors, consent of instructor for non-art 
majors.  
4246 Special Topics in Fiber and Fabrics (4) Stu-
dent or instructor initiated course to be offered at conven-
ience of department. Prereq: Determined by department. 
May be repeated. Maximum credit 16 hours.  
4247 Fabric: Advanced Projects (4) Prereq: 8 hours of 
23700 or consent of instructor. Prereq: Maximum credit 16 
hours.  
4275 Fiber: Advanced Projects (4) Prereq: 8 hours 
of 3275 or consent of instructor. May be repeated. 
Maximum 12 hrs.  
4316 Watercolor IV (4) Individual concepts in per-
sonal expression with varied water-based media on 
paper. May be repeated. Maximum credit 12 hours. Prereq: 
12 hours in 3515 for art majors, consent of instructor for 
non-art majors.  
4406 Special Topics in Sculpture (4) Student or in-
structor initiated course offered at convenience of 
department. Prereq: Determined by department. May be 
repeated. Maximum credit 16 hours.
Asian Studies
See Cultural Studies.

Astronomy
See Physics and Astronomy.

Audiology and Speech Pathology (160)

Professors:
H. L. Luper (Head), Ph.D. Ohio State; S. Adler, Ph.D. Ohio State; C. W. Asp, Ph.D. Ohio State; P. J. Carney, Ph.D. Iowa; D. M. Laposata, Ph.D. Washington; I. V. Nableke, Ph.D. Czech Technical (Prague); H. A. Peterson, Ph.D. Illinois; B. Silverstein, Ph.D. Purdue.

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

Assistant Professors:
A. O. Defendorf, Ph.D. Washington; C. J. Ferrell, M.A. Tennessee; E. I. Hamby, Ph.D. Iowa.

Instructors:

UNDERGRADUATE

General Information. The Department of Audiology and Speech Pathology offers course work in the scientific study of human communication sciences and disorders. The two undergraduate majors (audiology and speech pathology) are pre-professional; that is, they are preparatory to graduate work and to professional certification in some aspect of speech, language and hearing disorders. The master's degree is required for most professional certificates and employment positions. Information about the audiology and speech pathology programs may be obtained from the departmental office, 457 So. Stadium Hall and students are strongly encouraged to consult with the undergraduate advisors in the department as early as possible in their courses of study. Students who wish to enroll in clinical practice courses in speech pathology consist of audiology and speech pathology. Prerequisites: 3010, 3040, 3050, 3065, 3200, 3310, 3840, 4040, 4310, 4520, 4650, 4720 plus not less than 9 hours assigned during each quarter's enrollment. Failure to meet either the clinical or academic success criteria for two consecutive quarters is cause for dismissal from the program. Academic success is defined as a grade of "C" or better in each course taken in the Department of Audiology and Speech Pathology. Clinical success is defined as performance judged as "adequate" on at least 75 percent of the clinical contact hours assigned during each quarter's enrollment. Failure to meet either the clinical or academic success criteria for two successive quarters automatically removes the student from clinical practice enrollments.

ADMISSION TO CLINICAL TRAINING IN SPEECH PATHOLOGY AND AUDIOLOGY

Students who wish to enroll in clinical practice courses in audiology and speech pathology must apply for admission at the Hearing and Speech Center prior to the initial practicum enrollment. Clinical admissions may be limited due to available supervisory staff, clinical facilities and caseloads. A grade of "C" or better in each course taken in the Department of Audiology and Speech Pathology. Clinical success is defined as performance judged as "adequate" on at least 75 percent of the clinical contact hours assigned during each quarter's enrollment. Failure to meet either the clinical or academic success criteria for two successive quarters automatically removes the student from clinical practice enrollments.
Bacteriology
See Microbiology.

Biochemistry (188)

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

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

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

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

For the Bachelor of Arts degree with a minor in biochemistry, the following courses are required: Chemistry 2140-49, 2121-21-31, 3219-29-39, and Biochemistry 4110-20 and 4119. Additional credits from Biochemistry 4210-20-30 and/or 4500 are desirable.

3110 Introduction to Biochemistry (4) Biochemical principles underlying physiological events in animal tissues. Metabolism of carbohydrate, lipid, protein, and nucleic acids. Biochemistry of body fluids. Action of drugs and hormones. Prereq: Chemistry 1110-20 or 1210-20-30 and at least 2 quarters introductory biological sciences. Not available for credit if credit has been previously received for 4110 or 4120.

4110-20 Cellular and Comparative Biochemistry (4,4) Electrolyte behavior; chemistry and structure of proteins; enzyme behavior and biological function; catabolism and energy capture; synthetic metabolism; nucleic acid function, protein synthesis, and biochemical genetics; regulation of biological processes. Must be taken in sequence. Prereq: Chemistry 3211-21-31, 3219-29-39, and one course from Biology 1210-20-30 or Botany 1110-20. Three lectures and discussion.

4119 Cellular and Comparative Biochemistry Laboratory (2) Basic biochemical procedures of general application in biochemistry and molecular biology. Prereq or coreq: 4110.

4129 Cellular and Comparative Biochemistry Lab (2) In-depth study experiments with enzymes, nucleic acids and membranes/organelles. Chromatography, kinetics, hydrolysis, sedimentation, radioisotopic labeling, and immunological analysis. Prereq, or coreq: 4110-20 or 4119. W.

4130 Selected Topics in Biochemistry and Molecular Biology (2) Current research interest (e.g., recombinant DNA, mononuclear antibodies, biotechnology, etc.). Emphasis will be on original literature and the experimental basis of current knowledge. Historical background, impact on society, the making of moral and ethical judgments, and future development of the technologies will also be discussed. Written reports required. Prereq: 4110-20. S.

4210-20 Introduction to Physical Biochemistry (3,3) 4210—Introduction to thermodynamics: phase stability and phase change, chemical potential; osmot- ic pressure; activity and the Debye-Huckel model; electrochemistry; membrane permeability. 4220—Elements of statistical mechanics, diffusion, collision theory; chemical kinetics; and transition state theory; higher order kinetics; specialized kinetics of enzymatic processes; some bioisomer considerations. Prereqs: Mathematics 1400-50-60, Chemistry 2311-21-31 and 3219-29-39, and an introductory course in biology.

4230 Introduction to Physical Biochemistry (3) Physical laws of organization of macromolecules; polarized light, absorption and fluorescence; sedimentation and transport hydrodynamics, electrophoretic mobility, light scattering, and structural x-ray crystallography of proteins and nucleic acids. Prereq: 4220 or Chemistry 3430, or equivalent.

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

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

Biology (190)

Coordinator: K. J. Monty.

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

A. Concentration in Cell Biology. Consists of Biology 3110-20-30, Chemistry 3211-21-31, 3219-29-39, Biochemistry 4110-20, and 12 hours of upper-division courses from: Biochemistry 4119, 4500: Botany, any 3000 or 4000-level courses (except 3050, 3070, 3090); Microbiology 3200, 3700, 3519, 4110-19, 4140-49, 4270-79, 4420, 4909; Zoology 3050, 3070, 3530, 3150, 3425, 4250, 4280, 4369, 4380, 4450. In meeting upper-division minimum requirement, not more than 8 hours may be credited from any one biological science department, and not more than 4 hours of research courses may be credited. Prerequisites to this concentration are Biology 1210-20-30 or Botany 1110-20, or 1118-28 or Zoology 1118-28 and Chemistry 1110-20-30. Concentrations are Math 1841-51 (or 1840-50 plus one of the following: Computer Science 1510, 1610, Math 1860, 1890, 3050, 3060, 3861; Plant & Soil Science 3610; a year sequence in physics (except 1410-20-30); and Chemistry.

B. Concentration in Organismal and Systems Biology. Consists of Biology 3110, 3150, 3190, Chemistry 3211-21-31, 3219-29-39, and 18 hours of upper-division courses from: Biochemistry 3110-20-30, 4110-20, 4119, 4500; Botany, any 3000 or 4000-level courses including not more than one from 3050, 3070, 3090, Microbiology, any 3000 or 4000-level courses except 3010-20-30 and 3090. In meeting upper-division minimum requirement, not more than 12 hours may be credited from any one biological science department, and not more than 4 hours of research courses may be credited. Prerequisites to this emphasis are Biology 1210-20-30 or Botany 1110-20 or 1118-28 or Zoology 1118-28 and Chemistry 1110-20-30. Concentrations are Math 1841-51 plus 4 credits from a 3-course math package described under Concentration A above or Math 1550-60 plus 3000; a year sequence in physics (except 1410-20-30) or Geology 1410-20-30.

C. Concentration in Ecology Consists of Biology 3110-20-30, Chemistry 3211-21-31, and 3219-29-39, Environmental Engineering 3000, either Geography 3520 or Geography 3530, and 17 hours of upper-division courses from: Botany 3030, 3210, 4030, 4310, Forestry 3020, 3550, 3730, 4200, Geography 3520-30; Microbiology 4110, 4150; Wildlife 3200, 4550, 4660, 4510; Zoology 3030, 4240, 4480, 4720-29. In meeting upper-division minimum requirement, at least 8 hours must be chosen from the group Botany, Microbiology, and Zoology. Prerequisites to this concentration are Biology 1210-20-30 or
Botany 1110-20 or 1118-28 or Zoology 1118-28 and Chemistry 1110-20. Corequisites are a 3-course math package as described under Concentration A above, or 1550-60, plus 3000; Physics 1210-20 or 2210-20.

Minor: Course of Biology 3100-20-30 and 12 hours of upper-division courses chosen from the list below. Biochemistry 4110-20, 4119, 5010; Botany, any 3000 or 4000-level courses; Microbiology, any 3000 or 4000-level courses; Zoology, any 3000- or 4000-level courses except 3010-20. (In meeting the upper-division minimum requirement, not more than 10 hours may be credited from any one biological science department, and not more than 4 hours of research courses may be credited.) Prerequisites to the minor are introductory biology courses (Biology 1210-20 or Botany 1110-20 or 1118-28 or Zoology 1118-28) and Chemistry 1110-20-30.

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

1210-20-30 General Biology (4,4,4) Biology of cells: chemical basis of life, cell structure and function, enzyme reactions, DNA, RNA, protein synthesis, monera, protista, and fungi. 1220—Botany of plants and animals; survey of plant kingdom, structure and reproduction of plants, plant growth and reproduction, survey of the animal kingdom, reproduction and development in animals, animal tissue, and organ systems. 1230—Organismal Botany. Evolution, populations and ecology. May be taken in any sequence. Students who receive credit for 1210-20-30 may not also receive credit for Botany 1110-20, 1118-28 or Zoology 1118-28-38. 1210-F, W, SU; 1220-W, S, SU; 1230-S, SU.

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

3120 Cell Biology (4) Organization and function of the cell. Prereq: Same as 3110. 3 hours and 1 additional class meeting. May be taken in any sequence or combination with 3110 and 3130. E.

3130 General Ecology (4) Relations between organisms and their environment, including human environmental problems. 3 hours and 1 additional class meeting. Prereq: Same as 3110. May be taken in any sequence or combination with 3110 and 3120. E.

4510 Scientific Illustration (3) Introduction to design and presentation of graphs, charts, for scientific illustration; planning of poster presentations and displays. No artistic talent assumed. Prereq: Advanced standing in a science curriculum; consent of instructor.

Botany (198)

Instructor: K. D. McFadden, M.S. Ohio University.

UNDERGRADUATE

The undergraduate program offers a basic liberal arts degree with optional concentrations in cellular and molecular, and organismal botany. The curriculum design ensures strong grounding in these sciences with primary emphasis in Botany. A minimum of 39 credit hours is required to fulfill the major, 26 credit hours for a minor. The undergraduate degree in Botany is designed to furnish necessary experience in academic and practical skills to prepare graduates for immediate entry into the job market or for continuing graduate education in pure or applied biological sciences.

A. B.A. Major consists of Biology 3110-20; Botany 3010-20, 3210, 1 hour from Botany 3710-20-30, 2 hours from Botany 4000 or 4410-20-30, 4 additional hours of upper-division Botany (not more than 3 hours allowed) from Botany 3050-70-90) and 4 hours of upper-division courses from related biological sciences (zoology, microbiology, biochemistry, entomology and plant pathology, forensics, ornamental horticulture and landscape design, biotechnology, plant soil science, or other with approval of undergraduate coordinator and department head). Prerequisite: Prerequisites to this major are Botany 1110-20 or 1118-28-38 or Biology 1210-20-30 and Chemistry 1110-20-30. Corequisites: Math 1550-60, 1840-50 or 1841-51; Chemistry 3211-21-31, 3219-29-39; and Physics 1210-20 (or 2210-20), or Geology 1410-20. (See Note.) Options for Concentrations consists of Organismal or Cellular and Molecular Botany. Concentration requirements will be individualized and must be approved in writing by the undergraduate coordinator. Consult the departmental lists of recommended courses for areas of concentration.

A. Organismal Botany—At least 8 hours beyond the major of 3000-level or above major in Botany or related Biological Sciences.

B. Cellular and Molecular Botany—At least 8 hours beyond the major of 3000-level or above major in Botany or related Biological Sciences. Prereq: Biology 4110-20 is recommended to complete this requirement.

A Minor consists of Biology 3110-20-30, 10 hours of upper-division in Botany (more than 3 hours from 3050, 3070, 3090) and 4 hours of upper-division courses in related biological sciences (as described under the major). Prerequisites to the minor are Botany 1110-20 or 1118-28-38 or Biology 1210-20-30.

Note: Students who anticipate continuing beyond the Bachelor's level into graduate studies in Botany or related sciences should consult a Botany advisor for direction and design of coursework.

1110-20 Fundamentals of Botany (4,4) Nature and development of plants, including processes, structure, life histories, inheritance, ecology, and importance to man. Emphasis on sequence is desirable. Two 1-hour discussions and approximately 3 hours audio-tutorial laboratory per week. Students may not receive credit for both Botany 1110-20-30 and Biology 1110-20-30. 1110-F, SU; 1120-W, SU.

1118-28-38 Honors: Fundamentals of Botany (4,4) Honors course designed for superior students in beginning botany. Open to freshmen with a score of 27 or better on natural science section of ACT, and sophomores who have a cumulative GPA of 3.25 or 3.5 in the sciences) or who are approved through an interview with a member of Botany faculty. Students receiving C or D in 1118 must transfer to 1120. Two 2-hour lecture-lab discussion periods. Must be taken in sequence. Corequisites: Prerequisite for both Botany 1118-28-38 and Biology 1210-20-30. F, W.

1119-29 Laboratory in Fundamentals of Botany (0,0)

1130 Selected Topics in General Botany (4) Areas will include plant growth, population genetics, environmental interactions, and effects of human activities on biological resources. Lectures, laboratory, field trips, and individual projects. Two hours lecture-discussion and 4 hours laboratory per week. Occasional field trips. Prereq: Botany 1110-20 or Biology 1210-20-30. S.

1139 Laboratory in Selected Topics in General Botany (6) Students must also register for 1139.

3010-20 Plants in Evolution (4,4) Monera to angiosperms; emphasis on evolutionary relationships, morphology, and development. Not for Botany graduate credit. Prereq: 6 hours in biological sciences. F, W.

3011 Plants and People (3) Botany of domesticated foods plants from prehistoric times to the present with consideration of the role and importance of DNA, nutrition and evolution with emphasis to development of civilization and to present problems of hunger. Not open to botany majors.

3030 Field Botany (4) Study of plants in natural environments including plant identification, collection, preservation, and press making, emphasis on developing field techniques and plant ecology. Prereq: 6 hours in biological sciences. Not for botany graduate credit. S, SU.

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

3050 Socio-Economic Impact of Plants (3) Significance of plants in origin and development of human cultures, evolution of cultivated plants, and role of plants in present civilizations. Occasional field trips. Not for botany graduate credit. S, SU.

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

3090 Biological and Human Affairs (3) Basic biological principles involved in deterioration and preservation of an environment in which humans and their cultures may survive. Not for botany graduate credit. (Same as Zoology 3090.) F.

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

3120 Introductory Plant Physiology (4) Organismal physiology of plants; water relations, mineral nutrition, morphogenesis, elements of metabolic processes, effects of age, light, natural rhythms, temperature, and other environmental factors. Lecture and lab. Not for botany graduate credit. Prereq: One year general chemistry and one year biological science. F, S, SU.

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

3710-20-30 Junior Seminar (1,1,1) At least 1 hr. is required for a Botany major. Prereq: Junior standing.

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

4017 Field Mycology (3) Field experience on identification of higher fungi. frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for the study of fungi. Corequisites: Biochemistry 1110-20-38 and Biology 1210-20-30. F, W.
4830 Field Measurements in Plant Ecology (3) Practice in the use of field and laboratory instruments for the measurement of environmental factors, plant functions, and/or community characteristics. Data collection will be followed by analysis and interpretation of data. Visits to highly instrumented field sites will be included. Prereq: 3030 or equivalent; 1 year of physics and chemistry recommended. F.

GRADUATE
Consult the Graduate Catalog for listing of graduate level courses.

Chemistry (205)

Professors: G. Mamedov (Head), Ph.D. Louisiana State; J. E. Bloor, Ph.D. Manchester (England); N. S. Bowman (Emeritus), Ph.D. Princeton; C. A. Buehler (Emeritus), Ph.D. Ohio State; W. E. Bull, Ph.D. Illinois; J. G. Chambers, Ph.D. Kansas; J. A. Dean (Emeritus), Ph.D. Michigan; J. F. Eastham, Ph.D. California (Berkeley); W. H. Fletcher, Ph.D. Minnesota; R. G. Kabalka, Ph.D. Purdue; D. C. Klein, Ph.D. Princeton; M. H. Lietze, Ph.D. Wisconsin; R. M. Magid, Ph.D. Yale; R. F. Pagni, Ph.D. Wisconsin; J. R. Peterson, Ph.D. California (Berkeley); G. K. Schwitzfeld, Ph.D. (Emeritus), Ph.D. Iowa State; W. T. Smith (Emeritus), Ph.D. Ohio State; W. A. Van Hook, Ph.D. Johns Hopkins; E. L. Wehrly, Ph.D. Purdue; T. F. Wills, Ph.D. London (England); J. H. Wood (Emeritus), Ph.D. North Carolina.

Associate Professors: S. D. Alexandroff, Ph.D. California (Berkeley); M. J. Sepaniak, Ph.D. Iowa State.

*Alumni Distinguished Service Professor.

UNDERGRADUATE
For information regarding the Bachelor of Science in Chemistry degree and the cooperative program in chemistry, see page 157.

For students wishing to major in chemistry and desiring a more flexible course of study than the freshman sequence, there are two programs: the B.S./Concentration A and the B.S./Concentration B. Because these two concentrations are designed for students with different career goals, the following paragraphs should be carefully considered before selecting courses.

A student who decides to major in chemistry should ask the Liberal Arts Advising Center for assignment of a faculty advisor in the Chemistry Department. For further information, contact the Head of the Chemistry Department, 575 Buehler Hall. The B.S./Concentration A is designed to prepare the student for a career as a professional chemist or for entrance into graduate school in such fields as chemistry, biochemistry, geochemistry, etc. This program has similarities to that leading to the degree of Bachelor of Science in Chemistry (page 157), but with greater opportunity for selection of electives outside the department and outside of science. Unlike the Bachelor of Science in Chemistry, the B.S./Concentration A degree is not approved by the Committee on Professional Training of the American Chemical Society.

The major consists of Chemistry 1110-20-30 or (preferably) 1310-20-30, Chemistry 1325-35, Mathematics 1400-50-60, 2840-50, Physics 2510, 2310-20, Chemistry 2140, 2149, 3211-21-31, 3219-29-39, 3410-20-30, 3429, either 4210-19 or 4220-29, 4811-21-31, and 6 hours of additional courses in chemistry (no more than 4 hours of Chemistry 4710 may be applied to this requirement). (Up to 4 hours of the following courses may be applied to the 6-hour requirement: Biochemistry 4110, 4210, 4310-39, Geology 4610, Chemical Engineering 3610-20, Metallurgical Engineering 4510, Polymer Engineering 4910-20-30-40.) Appropriate honors courses may be substituted for the specified courses in the major. Although not required, certain courses are highly recommended for students planning careers as chemists: Mathematics 2860, Computer Science 3150, Chemistry 4310 and 4420, and various offerings in the Department of Chemical, Metallurgical, and Polymer Engineering. Because professional chemists need a reading knowledge of foreign languages, intermediate level competence should be acquired in German, French, or Russian.

The B.S./Concentration B is intended for students who have completed at least one of the following courses in fields other than chemistry, but in fields where chemistry has direct application such as medicine, dentistry, pharmacy, business, and ecology. This program, supplemented by appropriate coursework from other areas, is suitable for students planning careers in these fields. The B.S./Concentration B degree is specifically designed to provide more electives for preparing for one of the above-mentioned careers; this course of study is not appropriate for students intending to become professional chemists. Because of the more flexible requirements in the B.S./Concentration B degree, a student in one of the pre-health programs will commonly combine it with a second major in one of the biological sciences.

The major consists of Chemistry 1110-20-30 or (preferably) 1310-20-30, Chemistry 1325-35, Mathematics 1400-50 or 1841-51, Mathematics 1860 or 3861 or Computer Science 1510 or 1610, Physics 2210-20-30, Chemistry 2140, 3219-29-39, 4210-20-39, 4910-20-30, 4929 and 10 hours of additional upper-division work in chemistry including at least one of the following courses: Chemistry 4210, 4220, 4310, 4510, 4550. (Up to 6 hours of Biochemistry 4110-20 or Geology 4610 may be applied to the 10-hour requirement.) A minor in chemistry shall consist of the successful completion of 24 hours of chemistry courses numbered 2000 and above including Chemistry 2140-49 (4 hours) and at least one of the following sequences: Chemistry 3211-21-31, 3219-29-39 (12 hours) or Chemistry 3410-20-30 or Chemistry 4910-20-30 (9 hours).

Placement in Freshman Sequences: The sequences which meet all requirements of a year of general chemistry and which serve as prerequisite for upper-division courses are 1110-20-30 and 1310-20-30; chemistry majors are strongly encouraged to take the latter sequence and are required to elect 1325-35. The 1110-20-30 sequence has more limited applications; it emphasizes organic and biochemistry and may be used as prerequisite only for 2250 and 3810. It is possible to move from one sequence to another if substitution is...
Analytical Chemistry (3) Principles and practice of quantitative measurements in chemical systems.

Acid-base equilibria, oxidation reduction systems, complexometric titrinity, elementary spectrophotometry, potentiometric methods, application of titrimetric analysis. Prereq: 1110-20-30.

Analytical Chemistry Laboratory (1) Experiments on topics discussed in 2140. Coreq: 2140.

Elements of Organic Chemistry (4) Brief treatment of organic chemistry with emphasis on compounds of biological importance; organic reactions and general chemistry. Not open to chemistry majors or minors. Credit may not be received for both Chemistry 2290 and 3211, toward graduation or otherwise. F, S.

Organic Chemistry (3,3,3) Compounds of carbon, reactions, and mechanisms, spectroscopic and other physical properties. Must be taken in sequence. Prereq: 1110-20-30. Corresponding laboratory (3519-29-39) is coreq for students not having credit for the laboratory. 3211-21-F, W, S; 3231-E.

Organic Chemistry Laboratory (1,1) Experiments on topics discussed in 2141-21-31. Corresponding lecture (3211-21-31) is coreq for students not having credit for the lecture. 3219-29-F, W, S; 3239-E.

Molecular Basis of Polymers (3) Molecular features of polymers as opposed to small molecules, polymerization reactions, polymer structures, and molecular characterization of polymers. Not for credit by chemistry majors. Prereq: 3400-29-30.


Physical Chemistry Laboratory (2,2) Gases, liquids, chemical equilibria, solutions, phase equilibria, molecular spectroscopy, and electron microscopy. Prereq or coreq: Corresponding courses (3420 and 3430). 1 lab: 3429-W, S; 3439-F, S.

Principles of Organic Chemistry (3,3,3) Structure and reactivity of aliphatic and aromatic compounds emphasizing reactions of synthetic utility. Use of spectroscopic and physical techniques to elucidate reaction mechanisms. Recommended for chemistry majors and students planning careers in physical or biological sciences. Must be taken in sequence. Prereq: 1310-20-30. Corresponding laboratory: 3219-29-39 or 3219, 3529-39 is a coreq; latter is recommended. 3511-F; 3521-W; 3531-S.

Organic Chemistry Laboratory (1,1) Experiments on topics discussed in 3212-31. Similar to 3229-39 except designed for entering graduate students who have had credit for the lecture. 3219-29-39 or 3219, 3529-39 is a coreq; latter is recommended. 3511-F; 3521-W; 3531-S.

Radioactivity and its Applications (3) Radioactive decay, detection apparatus and techniques, tracer procedures, and safety precautions in the use of radioactive materials. Coreq: 4419-29-39. Students who receive credit for 4119 with approval of the research director will complete the year's work by taking 4119-49.

Advanced Analytical Chemistry (3) Chemical separations including chromatography, ion exchange, and solvent extraction; spectrophotometric techniques. Prereq: 2149-49. W.

Advanced Analytical Chemistry Laboratory (2) Experiments on topics discussed in 4210. Coreq: 4210. W.

Advanced Analytical Chemistry (3) Electroanalytical methods of analyses (including potentiometry, coulometry, polarography, and voltammetry); magnetic resonance methods; mass spectrometry; x-ray absorption and fluorescence techniques. Prereq: 2140-49, 3420 or 4920 recommended. S.

Advanced Analytical Chemistry Laboratory (2) Experiments on topics discussed in 4220. Coreq: 4220. S.

Introductory Polymer Chemistry (3) Fundamental principles, stressing the role of chemistry in the interdisciplinary field of polymer science; relations of molecular structure to bulk properties of polymers. Prereq: 3321; Prereq or Coreq: 4920 or 5420. S.

Physical Inorganic Chemistry (3) Theoretical concepts leading to an understanding of inorganic chemistry; quantum theory of the atom, principles of molecular structure, and elementary nuclear chemistry. Prereq: 3410-20-30. W.

Intermediate Inorganic Chemistry (3) Application of theoretical concepts to inorganic elements, their chemical states, and their reactions. Prereq: 4420. S.

Organic Qualitative Analysis (3) Identification of compounds and mixtures using advanced instrumental techniques as well as classical chemical approaches. Prereq: 3321-39. 3 labs. Not open to students who have completed 4610. F.


Advanced Chemical Experimentation (2) Laboratory course in application of modern experimental techniques to solution of chemical problems. Synthesis and characterization of organic and inorganic compounds with emphasis on independent study using advanced techniques. Prereq: 3231-39 or 3231-3539, 3430-39. 4220. Students who receive credit for 4610 may not also receive credit for 4510. W.

Chemical Instrumentation (4) Principles of chemical instrumentation; practice in the design and construction of chemical instruments. 2 hours and 2 labs. Prereq: 2143-49.

Research in Chemistry (2) Open to senior majors with consent of department head. Written report must be submitted to research director at termination of project. May be repeated. Maximum credit 6 hours. E.

Senior Seminar (1,1) Discussion by faculty and students of current research and topics from the recent literature which illustrate the role of chemistry in the life sciences. Emphasis on current present-day societal concerns (e.g., environment, energy, nuclear power, military and warfare, etc.) Oral and written reports required. All chemistry majors are encouraged to attend. Prereq: Senior standing in chemistry.

Biophysical Chemistry (3,3,3) Physical-chemical principles with applications to biology, pharmacology, and medicine. Prerequisites: Math 1550 or equivalent, 1 year of general chemistry. F.

2140 Analytical Chemistry (3) Principles and practice of quantitative measurements in chemical systems.
cal systems. Must be taken in sequence. Not open to students having 3410-20-30. 4910—Gas laws; first, second, and third laws of thermodynamics; equilib.
imum—Solution chemistry; electrochemistry; kinetics; nuclear chemistry. 4930—Elementary quan-
chemistry: optical and magnetic spectroscopy; light scattering; macromolecular properties. Prereq.
3531-39. Math 1550-50 or equivalent. 4910-F; 4920-

4929 Biophysical Chemistry Laboratory (2) Experi-
ments in the physical chemistry of biologically impor-
tant systems. Coreq. 4920. Not open to students in 3410-20-30-29-39. S.

GRADUATE

Students majoring in chemistry for the M.S. or Ph.D. degree are required to present as a
prerequisite one year each of general, analytical, organic, and physical chemistry with a
satisfactory record. Students lacking any of these prerequisites may be admitted with
approval of the department, but deficiencies which must be removed without graduate credit.

For students minoring in chemistry, the prerequisite is two years of chemistry including
quantitative analysis.

The master's and doctoral degree requirements, as well as course listings, are
found in the Graduate Catalog. The department offers specialization in nine areas
for the Ph.D.: analytical, energy, environmental, inorganic, organic, physical, theoretical, chemical physics, and polymer
science.

Chinese
See Cultural Studies (Asian Studies).

Classics (257)

Professors:
H. C. Rutledge (Head), Ph.D. Ohio State

Associate Professors:
G. G. Geisel, Ph.D. North Carolina (Chapel Hill); J. E.
Sherman, Ph.D. Ohio State

Assistant Professors:
C. P. Craig, Ph.D. North Carolina (Chapel Hill); S. D.
Martin, Ph.D. Michigan; D. W. Tandy, Ph.D. Yale.

Greek

UNDERGRADUATE

A B. A. major in Greek consists of 39 hours
distributed as follows: 30 hours of Latin
language courses numbered above 2000, and
including 6 hours of Classics 4220 (senior
seminar); 9 hours chosen from Classics 2210-
20-30, 3310, 3340, 3350, 4101 (maximum of 6
hours with approval of the department),
History 3121. The student majoring in Classics is
strongly encouraged to have as background
History 3121 before taking the senior seminar.

The student concentrating in Latin is
encouraged to begin the study of Greek.

The Latin minor consists of 24 hours
distributed as follows: a) 18 hours of Latin
language courses numbered above 2000; b) 6
hours chosen from Classics 2210-20-30,
3310, 3340, 3350, History 3121. The student
minoring in Classics is encouraged to take 3
hours of classics 4220 (senior seminar).

Placement Examination: Students who
transfer to UTK from other colleges and
students who enter with high school units in
Latin should register for the courses in which
they would normally be placed on the basis of
such credits. During the first week of the
quarter a placement test will be given, and
students will be advised if a change in
registration is indicated by the results.

Proficiency Examinations. Students who
have acquired a knowledge of Latin through
private study or tutoring should request a
proficiency test. A student who earns a grade of B or better in this examination is eligible for
credit toward graduation. A student who omits
any course in a sequence may receive credit
to pass the appropriate proficiency
examination.

Certification for Teaching Latin in
Tennessee. Consult Certification Clerk, Room
212, Claxton Education Building.

1110-20-30 Beginning Latin (3,3,3)
Must be taken in sequence. 1110-F, 1120-W, 1130-S.

2511 Intermediate Latin: Grammar Review and
Prose Readings (3) Prereq: Classics 2511 or
proficiency at that level. W.

2521 Intermediate Latin: Vergil’s Aeneid (3) Prereq:
Three years of high school Latin (without Vergil) or
Classics 2515 (or demonstration of proficiency at
that level.) S.

3140 Cicero (3) Prereq: 3 or 4 years of high
school Latin or 2521.

3160 Catullus and Horace (3)
3161 Livy (3) A.

4260 Catullus and Horace (3) A.

1420 Horace, Satires and Epistles (3) A.

4140 Cicero and Techniques of Latin Prose Com-
position (4) Recommended for Latin majors and mi-
nors, especially those intending to teach or pursue
graduate work. Works of Cicero studied as models for
prose composition.

4310 Selected Readings from Latin Literature (3)

4320-30 Selected Readings from Latin Literature
(3,3) May be repeated for credit. A.

4340 Horace, Odes (3) A.

4350 Tacitus (3) A.

4360 Lucretius (3) A.

4370 Readings in Medieval Latin (3) A.

GRADUATE
Consult the Graduate Catalog for a listing of
graduate level courses.

GENERAL COURSES

2210 Early Greek Mythology (3) Comprehensive
study of Greek myths with an emphasis on how they
reflect the ancient Greek view of man’s place in
the universe and man’s place in it. Origins and development of Greek
myths and the concurrent rise of organized religion.
The symbolic use in later cultures of Greek mythic
figures and events will be a persistent emphasis.
In time the course goes from Bronze Age to about 500 B.C.

2220 Greek Mythology in the Classical Period (3)
The use of myth in literature, history, religion, philoso-
phy and art of Greece from about 500 B.C. to the death
of Alexander the Great, with emphasis on new myths
and new uses for old myths that reflect the proud
confidence of the Classical Greeks.

2230 Roman Mythology (3) Myths created by the
Romans; the gods of the state and the gods of the
home. Contribution of myth and ritual to the Roman perception of man’s relationship to divinity. Although
the first century B.C. is its temporal focus, the course
ranges from the Etruscans to the Oriental relations of
the Empire, including early Christianity.

2230 Art and Archaeology of Ancient Greece (3) A
survey of the development of Greek art with emphasis on
architecture, sculpture, and painting with some
attention to the minor arts and relationship of art and
archaeology. Illustrated lectures.

2330 Art and Archaeology of Etruria and Rome (3)
A survey of Etruscan and Roman art, with some
attention to the minor arts and urban planning. Classics
2330 is recommended for background. Illustrated
lectures.

2510-20 Greek and Roman Literature in English
Translation (4,4) 2510-Greek Literature. A survey of
the major literature of ancient Greece from Homer to
Menander, with emphasis on the sixth and fifth centu-
ries B.C. 2520-Roman Literature. A survey of major
literary works of the Romans from Plautus to Tacitus.
How the Romans borrowed from the Greeks and then
achieved their own artistic identity by the time of
Vergil’s Aeneid.

2710 Scientific and General Vocabulary from
Greek (3) Study of word roots and words in English
language derived from Greek. Designed to build gener-
al vocabulary with special emphasis on scientific and
technical terminology.

2720 Scientific and General Vocabulary from
Latin (3) Study of word roots and words in English
language derived from Latin. Designed to build general vocabu-
lar with special emphasis on scientific and technical terminology.

2730 Medical Terminology (3) Prepares the student
to make sense of, and so more easily remember,
thousands of complex medical words through a knowl-
edge of the simple classical roots which combine to
form most medical vocabulary.
2740 Word Power: Basic Vocabulary from Greek and Latin (3) Vocabulary building from Greek and Latin bases. General, non-technical vocabulary. Exercises in English etymology. F, W, S.

3310 Art and Archaeology of the Aegean Bronze Age and Early Greece (3) Troy, the Cyclades Islands, Greek mainland, and Crete. Emphasis on palaces of Crete and Mycenae, Tiryns, and Mycenaean, their fall, the Mycenaean Dark Age, and rebirth of Greek civilization. Illustrated lectures. W.

3340 Cities of the Greek and Roman World (3) Archaeological survey of Greek and Roman cities from 3000 B.C. to 300 A.D. Origins and development of city planning and quality of life. Such cities as Mycenae, Athens, Priene, Alexandria, Rome, and Leptis Magna will be studied. F.

3350 Shrines and Sanctuaries of the Greek and Roman World (3) Survey of major shrines and sanctuaries of Greek and Roman world with emphasis on archaeological remains. Such sites as Olympia, Epidaurus, Paestum, Cumae, Praeneste, and Baalbek will be considered. Readings in selected classical authors add to understanding of place of great shrines and sanctuaries in Greek and Roman life. A.

3610 Greek Civilization (3) A survey of major aspects of ancient Greek civilization: religion, fine arts, political life, pan-Mediterranean relations, emphasizing the sixth and fifth centuries B.C.

3820 Roman Civilization (3) A survey of major aspects of Roman civilization: political institutions, religion, art and architecture, daily life revealed by Pompeii, Herculaneum, and Rome itself.

4101 Foreign Study (1-16) See page 159. E.

4220 Seminar in Classical Studies (3) Intended to conclude the Classics major, the course surveys the field of Classical studies today. Recent achievements in the areas of both philology and archaeology; the impact of the decipherment of Linear B; new understandings of the culture and politics of the "golden age" of Pericles and Augustus; Classical studies and the academic profession on both the high school and college levels. May be repeated. Maximum 6 hours. A.

4510 Selected Readings in Latin Literature in Translation (3) For Latin students; may be repeated for credit with consent of department. A.

4610 Studies in Classical Archaeology (3) Variable content course offering subject matter not taught in an existing course, or concentrating on one aspect of the existing survey. May be repeated for credit to a maximum of 9 hours. Prerequisites according to topic. A.

Graduate Consult the Graduate Catalog for listing of graduate level courses.

Comparative Literature

See Cultural Studies.

Computer Science (266)

Professors: Ph.D. Clarkson; D. L. Perry, Ph.D. Ohio State; D. W. Straight, Ph.D. Texas.

Instructors: J. W. Mayo, M.S. Tennessee; W. B. Gunn, M.S. Tennessee.

UNDERGRADUATE

Computer science offers an undergraduate major and minor as well as a Master of Science degree. See the Student Catalog for a list of upper-division computer science courses. Information about computer science programs may be obtained from the departmental office, 6 Ayres Hall, or from the Liberal Arts Advising Center, 220 Ayres Hall.

A.B.S. majors: The Computer Science courses 1610 and 1620 are prerequisites to a major in computer science which consists of 2215, 2610, 2710, 3155, 3215, 3520, 4510, 4550, and an additional 15 hours selected from computer science intermediate and advanced courses. Also required are Math 2840-50-60.

Minor: A minor in computer science consists of 2610, 2710, and an additional 10 hours of upper division computer science courses.

Acceptance and Progression: Acceptance to the major or minor in computer science is competitive and is based on the resources available in the department. Students considered in the decision are both subjective and objective. Included is consideration of overall grade point average, grades earned in computer science courses required in the lower division curriculum of the major or minor, the seriousness of purpose and interest in departmental programs as exemplified by regular and orderly progress through the prescribed curriculum without abuse of withdrawal and course repeat privileges. The standards applied may be adjusted from time to time to balance overall demand with available departmental resources.

A student enrolled in lower-division courses in the department may progress to the major or minor program only after completing the lower-division courses required by the department. Students who have completed the required lower-division computer science courses with a minimum GPA of 3.0 and wish to progress to the major or minor program must apply to the departmental office. This must be done as soon as the stated requirements are met so that a decision can be reached prior to the Advanced Registration date for the next quarter. Those who are accepted into the C.S. Degree program will be counseled and advised of educational alternatives.

For computer science majors who have taken at least three computer science courses at UTK, grades in all computer science courses from UTK will be averaged. If a course is repeated, all grades received for the course will be counted. If a course in which a student has received an A or B is later retaken, only the first A or B is counted; no subsequent grades will be counted.

If a student's computer science average as described above falls below 2.5, the student will be given a warning. If after one more quarter's grades have been received the student's computer science average has not risen to 2.5, the student will not be allowed to graduate with a major in computer science.

A student who desires to be readmitted to the major after being withdrawn as described above must follow an approved plan of study in computer science courses (computed as described above) of at least 2.7.

The policy applies to all computer science courses taken during or after Winter Quarter, 1982. This policy will be enforced by the Department of Computer Science. This policy will not change the present method of recording grades and grade point averages on the student's permanent academic record maintained in the records office.

Introductory and Service Courses

1410 Introduction to Business Oriented Programming (3) Current and potential uses of computer as tools in the business world. Emphasis on learning FORTRAN programming. Not for computer science majors. Students may not receive credit for both 1410 and 1510. Intended primarily for students in College of Business Administration.

1510 Introduction to Programming—FORTRAN (3) Computer as a tool of varied uses in modern world; emphasis on basic programming in FORTRAN. Problem-solving process; organization and characteristics of digital computers. Survey of applications of computers in various disciplines. Students may not receive credit for both 1410 and 1510.


1620 Intermediate Structured Programming (3) Continuation of 1610. Problem solving and algorithm development, including brief introduction to data structures. emphasis on developing good programming style. Prereq: 1610.

2215 Discrete Structures (3) Introduction to discrete structures useful in computer science. Sets, set logic, Relations, functions, Proof techniques, induction, logic, Graphical representations and algorithms. Prereq: 1620 and Math 1850. (Same as Math 2215.)

2610 Programming Techniques (3) Problem formulation and solution. External devices and direct access input and output. For students who have programming background in a higher level language. Prereq: 1610-20.

2710 Machine Organization (3) Elementary computer architecture. Introduction to machine and assembly language programming, representation of data, microprogramming. Prereq: one course in computer programming.

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

3150 Introduction to Numerical Algorithms and Programming (3) Roots of equations, systems of linear equations, least-squares data fitting, numerical integration, numerical methods for ordinary differential equations. Introduction to programming in FORTRAN. 3150 and 3155 may not be taken for credit; students with a knowledge of FORTRAN should take 3155. Prereq or coreq: Math 2660. (Same as Math 3150.)

3410 Computer Programming—COBOL (3) Computer programming in business-oriented language COBOL. Prereq: one course in computer science programming.

3910 Commercial Computer Concepts and Control (3) Elements, operation and control of computers in a business environment. Topics include input, storage, data manipulation, output, flowcharting, and error control. Prereq: 3410 and Accounting 3210.

4310 Statistical Data Processing (3) FORTRAN language for organizing, processing, and analysis of scientific data. SPSS and SAS programs for standard statistical analyses such as frequency distributions, percentiles, data reduction, preparation tables, analysis of variance. Not for credit for computer science majors. Prereq: Statistics 2100 or equivalent.

4320 Independent Study in Computer Science (1-3) Special project in area of student's primary interest. To
Intermediate and Advanced Courses

3155 Introduction to Numerical Algorithms (3) Root systems of equations, systems of linear equations, least-squares data fitting, numerical integration, numerical methods for ordinary differential equations. 3150 and 3155 may not both be taken for credit; students with no knowledge of FORTRAN should take 2155. Prereq: 1510 or 1610 or consent of instructor. Prereq or coreq: Math 2860. (Same as Math 3155.)

3180 Logic Design of Digital Systems (3) Introduction to Boolean algebra and design of combinatorial circuits; synthesis and analysis of logic functions; J-K flip-flops. Design of clocked sequential circuits and other systems containing memory. Introduction to microcomputer architecture and system components to include basic structure and function of arithmetic, storage, input/output, and control systems. Instruction set capabilities and machine language programming. Prereq: 3150 or 2710 or Elec. Eng. 3010. 3 hours including 1 weekly lab. (Same as Elec. Eng. 3180.)


4050 Number Systems for Digital Computers (3) Floating-point number representation, mixed-radix number representation, multiple-modulus residue number representation, finite-word length number representation, errors in floating-point computation, finite fields, and exact computation using digital computers. Prereq: 3155.

4210 Introduction to Artificial Intelligence (3) Concepts and their implementation by computer. Computer representation of knowledge, problem solving using knowledge, game playing, automated draft design, expert databases, natural language understanding, computer vision and learning. Computer implementation of AI problems. Prereq: 4510. (Same as Electrical Engineering 4210.)

4225 Numerical Solution to Equations and Numerical Approximations (3) (Same as Math 4225.)

4235 Numerical Methods for Ordinary Differential Equations (3) (Same as Math 4235.)

4470 Programming Languages (4) Comparison and analysis of programming languages, design, features, and implementation of operations, expression evaluation, program execution control, data control, and storage management. Detailed discussion and programming experience in LISP and either SNOBOL, APL, or SIMULA. Prereq: 4510.

4510 Data Structures and Non-numerical Programming (3) Data structures and algorithms for their manipulation. Arrays and orthogonal lists: stacks, queues, rings, doubly-linked lists, trees, dynamic storage allocation; organization of files; programming languages for information structures. Prereq: 1560 and 2610.


4570 Introduction to Database Management Systems (3) Hierarchical, network, and relational models of data. Logical and physical views of data. Definition and implementation of database languages. Data independence, implementation and operational considerations such as performance, integrity, security, and reliability. Prereq: 4510 or equivalent.

4590 Advanced Systems Programming (3) Advanced practical systems programming. Courses will include multi-tasking, overlays, advanced I/O techniques, high-level language macros, interrupt handling, teleprocessing facilities, virtual systems (all in a high-level language), and OS utilities. Prereq: 4510 and 4550.


4620 Operating Systems—Case Studies (3) Alternatives in operating system design, dynamic allocation, paging, segmentation, protection, time slicing, process concurrency, real-time systems. Examples from different operating systems analyzed as appropriate. Prereq: 4610 or equivalent or consent of instructor. Student may not receive credit for both 4620 and 5660.

4660 Principles of Compiler Design (3) Techniques of compiler design, scanning and parsing of languages described by regular and context-free grammars. Prereq: 4510.


4780 Interactive Computer Graphics (3) Point plotting, vector generation, interactive graphical techniques, two- and three-dimensional transformation, perspective depth, hidden line elimination, shading, software and hardware system design. Discussion of use of these techniques in design, problem solving, mapping, architecture, and many other areas. Prereq: Senior standing in computer science, electrical engineering, or geography and a knowledge of computer programming, or consent of instructor. (Same as Elec. Engr. 4750 and Geography 4750.)

4820 Introduction to Pattern Recognition (3) (Same as Elec. Engr. 4820.)

4830 Digital Image Processing (3) (Same as Elec. Engr. 4830.)

4850 Small Computer Systems (3) (Same as Elec. Engr. 4850.)

4910 Analysis and Management of Computer Installations (3) Analysis and design of computer systems; implementation, justication, personnel in systems, perspective on systems. Prereq: 3520 or equivalent.

4980 Special Topics in Computer Science (1-4) Maximum credit 9 hours with consent of department. Prereq: recommendation of Comp. Sci. staff.

GRADUATE Consult the Graduate Catalog for listing of graduate level courses.

Cultural Studies

Director: Dr. Charles O. Jackson

Basic Faculty:
B. K. Dumas, Ph.D. English; Donald M. Fiere, Ph.D. Russian; C. Fleming, Ph.D. Special Programs; E. J. Gangloff, Ph.D. Special Programs; R. W. Gwynne, Ph.D. Special Programs; T. J. A. Heffeman, Ph.D. English; Ferdinand A. Hilenski, Ph.D. Special Programs; J. O. Hodges, Ph.D. Special Programs; L. H. Humphreys, Ph.D. Religious Studies; C. G. Jackson, Ph.D. History; I. Lebo, Ph.D. Special Programs; D. M. Morrow, M.A. Special Programs; M. Osborne, M.E. Arts; P. F. Scenic, M.A. Special Programs; H. C. Fludette, Ph.D. Classics; S. E. Wallace, Ph.D. Sociology.

The ideal curriculum encourages not only proficiency in a given field of knowledge but also the comprehension of similarity and complementarity across fields of intellectual endeavor. One answer to the need for fusion and integration of knowledge is the interdisciplinary program. The college has joined the resources of several departments to offer a cultural studies major with concentrations in Afro—American Studies, American studies, Ancient Mediterranean Civilizations, Asian studies, comparative literature, Latin American studies, linguistics, Medieval studies, Russian and East European studies, and urban studies. Minors are provided in Afro—American Studies, Asian studies, comparative literature, Latin American studies, linguistics, Medieval studies, urban studies, and women's studies.

Afro-American Studies (022)
The Afro-American Studies Program (AAS) offers both a concentration and a minor under the general Cultural Studies Program of which AAS is a part. Courses in the Program are located in several colleges and numerous departments as well as those offered by the AAS Program. The requirements are as follows:

Concentration: Afro-American Studies 2010-2020 plus 4310 and 4103 are required courses for B.A. majors. In addition to courses offered by AAS Programs, at least two other departments must be included in the 36 hours required for a major, 24 of which must represent upper-division hours.

Minor: Afro-American Studies 2010-2020 are required courses, with 16 additional hours at the upper-level division needed to complete the requirements for a minor. The 24 hours must be selected from the AAS Program and at least two other departments.

For further information consult the chairperson of the Afro-American Studies Committee, Mr. Marvin Peak.

Afro-American Studies (022)
1510-20 Elementary Swahili (4,4) Taped language program. Must be taken in sequence.

1020-20 Introduction to Afro-American Studies (4,4)

2725 Black Art (4) (Same as Art. 2725.)

3140-56-80 Directed Readings in Afro-American Studies (1,1,1) Designed for students who are interested in doing intensive reading in some area of Black studies which is directed 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 3490.)

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

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

3630 History and Philosophy of Afro-American Education (4) From Slavery to 1964. (Same as Educ. C&l 3630.)

3840 Contemporary Issues in Afro-American Education (4) Issues in African-American Education from 1964 to the present. (Same as Educ. C&l 3840.)

3760 Studies in Afro-American Art (4) (Same as Art. 3760.)
American Studies (099)

History 2510-20 (or equivalent honors courses) are prerequisites to a concentration in American Studies which consists of 36 quarter hours: English 3010-20-30, American Studies 3010 and 4010, and 21 hours of upper-division electives dealing with the American experience. Nine hours of the elective group must be from one of the following disciplines: anthropology, economics, political science, or sociology. A list of acceptable elective courses is published annually by the American Studies Committee.

For further information consult the chairman of the American Studies Committee, Dr. Charles Jackson.

3010 Introduction to American Culture (3) Explores dynamics and nature of contemporary American culture.

3233-34 Forms of Popular Literature and Culture (3,3) (Same as English 3233-34).

4010 Topics in American Culture (3) Content varies. May be repeated once.

Asian Studies (145)
The Asian Studies concentration consists of 40 credit hours from the upper-division courses of Asian Studies and approved departmental offerings. 20 of the hours must be taken from courses listed within one of the four geographical-cultural areas (Islamic World, South Asia: China, Japan), and no more than 12 of those 20 hours can come from one sub-division. Sub-division A includes: Art, Asian Cultures, Literature, Music, Philosophy, and Religious Studies; Sub-division B includes: Anthropology, Economics, Geography, History, Political Science, and Sociology. Two of the Asian Studies culture courses (Asian Studies 3310-20-30-40) must be taken as part of the concentration. Prerequisite to the concentration is Asian Studies 2510-20. Corequisite to the concentration is competence in a major Asian language of the area of concentration (at the level attained by successful completion of the intermediate level sequence of that language or by demonstration of the equivalent competence).

The Asian Studies minor consists of Asian Studies courses 2510-20 and 16 credits hours taken from courses listed within one of the four geographical-cultural areas.

For further information consult the chairperson of the Asian Studies Committee, Dr. Walter Neale.


2510-20 Asian Civilization (4,4) Introduction to Asian civilization by comparative study of development of religion, social institutions, and high culture in India, China, Japan, and the Islamic world. 2510—Rise of classical civilizations. 2520—Traditional cultures and their modern developments.

2531-32-33 Elementary Chinese (4,4,4) Taped language program. Must be taken in sequence.

2631-32-33 Elementary Japanese (4,4,4) Must be taken in sequence.

2731-32-33 Elementary Persian (4,4,4) Taped language program. Must be taken in sequence.

2831-32-33 Elementary Modern Hebrew (4,4,4) Taped language program. Must be taken in sequence.

3310 Indian Culture (4)

3320 Chinese Culture (4)

3330 Japanese Culture (4)

3340 Islamic Culture (4)

3431-32-33 Intermediate Modern Standard Arabic I, II, III (4,4,4)

3531-32-33 Intermediate Chinese (4,4,4) Taped language program. Prereq: 2531-32-33 or equivalent or consent of instructor.

3610 The Literatures of India in English Translation (4) A survey of some of the major genres and masterpieces of Indian literature—epic poetry, drama, court poetry, modern novel. Major concentration is on the ancient and classical periods of Indian literary history.

3631-32-33 Intermediate Japanese (4,4,4) Prereq: 2631-32-33 or equivalent or consent of instructor. Must be taken in sequence.

3650-55-60 Japanese Literature in English Translation (3,3,3) 3650—Classical. 3655—Traditional. 3550—Modern. A three-quarter introduction to Japanese literature, based on chronological development, that presents the masterpieces of classical literature of Japan from the early court and military aristocracies (approx. 400 A.D. to 1300 A.D.), the masterpieces of traditional literature of Japan of the feudal ages (approx. 1300 A.D. to 1900 A.D.), and the masterpieces of modern Japanese literature of the twentieth century.

3670 Islamic Literature in English Translation (4) Survey from origins to modern period of major Islamic literatures, especially Arabic, Persian, and Turkish. Readings include The Arabian Nights, The Rubaiyat of Omar Khayyam, and Gibran's The Prophet. Available for graduate credit.

3731-32-33 Intermediate Persian (4,4,4) Taped language program. Prereq: 2731-32 or equivalent or consent of instructor. Must be taken in sequence.

3831-32-33 Intermediate Modern Hebrew (4,4,4) Taped language program. Prereq: 2831-32-33 or equivalent or consent of instructor. Must be taken in sequence.

4000 Common Seminar (4) Interdisciplinary seminar conducted by members of the Asian Studies Committee for students in the concentration: Relationship of Asian values to Western scholarship.

4010-20-30 Readings in Asian Literature (4,4,4) Prereq: Mastery of intermediate-level of Japanese, Chinese, Arabic, or Sanskrit and consent of instructor.

4120 Selected Topics in Asian Studies (4) Content varies. May be repeated. Maximum credit 12 hours.


4434-35 Spoken Lebanese/Palestinian Arabic I, II (4,4) Audio-oral introduction to a central dialect of the Arabic-speaking world. Prereq: Asian Studies 2431-32-33 or consent of instructor.

4531-32-33-34 Advanced Chinese I, II, III, IV (4,4,4,4) Taped language program. Prereq: 3331-32-33 or equivalent or consent of instructor.

4631-32-33 Advanced Japanese (4,4,4) Class will include conversation, drill, and composition practice.
with native speaker. Must be taken in sequence. Prereq: 3631-32-33 or equivalent.

4740-50-60 Elementary Sanskrit (4,4,4) (Same as Religious Studies 4740-50-60.)

4770-80-90 Intermediate Sanskrit (4,4,4) (Same as Religious Studies 4770-80-90.)

Asian Language and Literature

ARABIC (127)

1431-32 Spoken Arabic I, II (4,4)

2431-32-33 Elementary Modern Standard Arabic (4,4,4)

3431-32-33 Intermediate Modern Standard Arabic (4,4,4)

3610 Islamic Literature in English Translation (4)

4101 Foreign Study (1-16) See page 159.

5101 Foreign Study (1-12) See page 159.

5102 Off-Campus Study (1-12) See page 159.

5103 Independent Study (1-12) See page 159.

CHINESE (249)

Asian Studies 2531-32-33 Elementary Chinese I, II, III (4,4,4) Taped language program. Must be taken in sequence.

Asian Studies 3531-32-33 Intermediate Chinese I, II, III (4,4,4) Taped language program. Prereq: 2531-32-33 or equivalent or consent of instructor. Must be taken in sequence.

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

HEBREW (458)

Asian Studies 2831-32-33 Elementary Modern Hebrew I, II, III (4,4,4) Taped language program. Must be taken in sequence.

Asian Studies 3831-32-33 Intermediate Modern Hebrew I, II, III (4,4,4) Taped language program. Prereq: 2831-32-33 or equivalent or consent of instructor. Must be taken in sequence.

JAPANESE (698)

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

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

Asian Studies 4631-32-33 Advanced Japanese I, II, III (4,4,4) Class will include conversation, drill, and composition practice with native speaker. Must be taken in sequence. Prereq: Asian Studies 3621-32-33 or equivalent.

PERSIAN (744)

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

Asian Studies 3731-32-33 Intermediate Persian I, II, III (4,4,4) Taped language program. Prereq: 2731-32-33 or equivalent or consent of instructor. Must be taken in sequence.

SANSKRIT (895)

4740-50-60 Elementary Sanskrit (4,4,4) (Same as Religious Studies 4940-50-60.)

4770-80-90 Intermediate Sanskrit (4,4,4) (Same as Religious Studies 4770-80-90.)

Approved Area Courses

(a) Art, Asian Cultures, Literature, and Music

Art 3775 Art of Indian Asia (4)

Art 3776 Chinese Art (4)

Art 3777 Japanese Art (4)

Asian Studies 3310 Indian Culture (4)

Asian Studies 3320 Chinese Culture (4)

Asian Studies 3330 Japanese Culture (4)

Asian Studies 3340 Islamic Culture (4)

Asian Studies 3610 The Literature of India in English Translation (4)

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

Asian Studies 3670 Islamic Literature in English Translation (4)

Asian Studies 4010-20-30 Readings in Asian Literature (4,4,4)

Music 4260 Introduction to Ethnomusicology (3)

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

Economics 4232 The Political Economy of Asian Development (3)

Geography 3870 Geography of Asia (4)

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

History 3795 Contemporary Middle East (4)

History 3800 North Africa since 1800 (3)

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

History 4791 Modernization of the Middle East (3)

History 4792 Historical Writers in Islamic History (3)

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

History 4870 Cultural History of China (3)

History 4880 History of Modern China (3)

History 4890 History of Contemporary China (3)

Political Science 3621 Contemporary China and Japan (4,4)

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

Political Science 3795 Contemporary Middle East (4)

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

Philosophy 3650 Philosophy and Religion in India (4)

Philosophy 3660 Buddhist Philosophy and Religion (4)

Philosophy 3671 Religion and Philosophy in China (4)

Religious Studies 3650 Philosophy and Religion in India (4)

Religious Studies 3660 Buddhist Philosophy and Religion (4)

Religious Studies 3671 Religion and Philosophy in China (4)

Religious Studies 3672 Religion and Society in Japan (4)

Religious Studies 3680 Islam (4)

Religious Studies 3760 Eastern Religions and Western Thought (3)

Religious Studies 3770 Zen Buddhism (3)

Religious Studies 4670 Topics in Eastern Religions (4)

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

Sociology 3672 Religion and Society in Japan (4)

Cinema Studies

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

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

Approved Area Courses

Art 3935 Film Design (4)

Broadcasting 3670 TV Film News (3)

Broadcasting 4030-40 Television Production (3,3)

Comparative Literature 4032 Topics in Film and Literature (3)

English 3233 Film and American Culture (3)

English 3440 Literature and Film (3)

English 4090 Topics in Film Study (3)

Italian 3340 The Italian Cinema (3)

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 12 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 (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 (courses in Philosophy and Speech and Theatre may be substituted with the approval of the chairperson 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.

3010 Computer Techniques for Literacy Study (3) Introduces students to the growing field of computer...
### Approved Area Courses

| Classics 3210-20-30 Greek and Roman Mythology (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) |
| English 4730 Popular Ballad (3) |
| English 4950 Approaches to Literature (3) |
| English 5860 Introduction to Literary Research (3) |
| German 3210-20-30 Masterpieces of German Literature in English Translation (3,3,3) |
| German 4030 German Drama in English Translation (3) |
| German 4040 The Modern German Novel in English Translation (3) |
| German 4050 The Faust Legend (3) |
| Russian 3210-20-30 Survey of Russian Literature in English Translation (3,3,3) |
| Romance Languages 4010-20-30 French Literature in English Translation (3) |
| Romance Languages 4020 Masterpieces of French Drama in English Translation (3) |
| Romance Languages 4030 Masterpieces of Spanish Literature in English Translation (3) |
| Romance Languages 4040 Masterpieces of Spanish Drama in English Translation (3) |
| Romance Languages 4050-60-70 Dante and Medieval Culture (3,3,3) |

### Ancient Mediterranean Civilizations

The concentration in Ancient Mediterranean Civilizations consists of Classics 2810, Classics 2820, Religious Studies 2611, and 28 additional hours from the following list: 

- **Ancient Near Eastern Cultures:** History 3751, 3752; Religious Studies 3110, 3120, 4210.
- **Greek Culture:** Classics 3210, 3220, 3310, 3320, 3340, 3350, 4100, 4220 (where applicable), 4230 (where applicable); History 3760; Philosophy 3111, 4410, 4420; Political Science 3601.
- **Roman Culture:** Classics 3230, 3330, 3340, 4220 (where applicable), 4230 (where applicable), 4510; History 3770; Religious Studies 3311-12, 3330, 4300, 4330.

Courses of variable content, topics courses, reading and research, off-campus, or foreign study in the Departments of Art, Classics, History, Philosophy, or Religious Studies can be applied to the three divisions as appropriate.

Students are encouraged to satisfy the Foreign Language requirement with Greek, Latin, or Hebrew.

For further information, consult Dr. H. C. Rutledge (Classics) or Dr. W. L. Humphreys (Religious Studies).

### Latin American Studies (600)

Consists of 36 hours including one course from 4012-22-32 or consent of instructor.

- **Concentration consists of 36 hours including one course from 4012-22-32 or consent of instructor.**
- **Major project will be preparation of seminar paper in comparative literature. Prereq: 2010 and one course from Geography 3800 or 3790, History 3870-80, Political Science 3625-26, and Spanish 3730 or 3790 and 6-7 hours of acceptable elective courses in any of the participating departments or in the Latin American studies sequence 2510-20 (4,4) or Independent Research 4010, or Senior Seminar 4970.

Two years of Spanish or Portuguese or a practical working knowledge acquired independently are a prerequisite.

Minor: Consist of 24 quarter hours selected from Geography 3800 or 3790, History 3870-80-90, Political Science 3625-26, Spanish 3310-20-30 or Portuguese 3510-20, and the Latin American studies sequence 2510-20 (4,4) or Independent Research 4010.

For further information, consult the chairman of the Latin American Studies Committee.

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 Latin America through Independence era; 2520—Latter 19th century and the Modern period.

3010-20-30 Spanish and Spanish American Literature in English Translation (3,3,3) 3010—Masterpieces of classical Spanish literature: Cervantes, realism and the picarosque novel, religious mystics, Golden Age Theatre. 3020—Masterpieces of 20th century Spanish literature: Unamuno, Lorca, Baroja, Ortega. 3030—Contemporary Spanish American fiction: Marquez, Borges, Fuentes, Asurias. No change in credit hours after add deadline. Option of 4 hrs. credit must present an appropriate amount of extra work above that required for 3 hrs. (Same as Romance Languages 3010-20-30.)

3310-20-30 Aspects of Spanish American Literature (3,3,3) 3310-30 Aspects of Spanish American Literature (3,3,3) Study (not usually chronological) of various periods of the literature; emphasis upon the genres (poetry, novel, drama) varies. May be taken in place of 3110-20-30 or 3010-20. Prereq: 2130, 2520 or equivalent (Same as Romance Languages 3210-20-30.)

3510-20 Aspects of Portuguese Literature (4,4) Prereq: 2520 or equivalent. Recommended for literature majors. Same as Romance Languages Portuguese 3510-20-30.)

3580 Peoples and Cultures of Mesoamerica (3) Ethnographic survey of aboriginal peoples and post-conquest changes in Indian cultures. Emphasis upon understanding of small rural communities using modern village studies as source materials. Recommended prereq: 2530. (Same as Anthropology 3590.)

3625-26 Latin American Government and Politics (4,4) (Same as Political Science 3625-26.)

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. (Same as Geography 3790.)

3800 Geography of South America (4) Not open to students who have taken 3730, 3750, or 3780. (Same as Geography 3800.)

3870-80 History of Latin America (3,3) 3870—Exploration, conquest, settlement, and colonial life to 1800; 3870—Latin America, 1800—present. (Same as History 3870-80.)

4001 Cultural Plurality in Latin America (3) Introduction to value systems and behavioral patterns based on Spanish—Mediterranean, Luxo—Mediterranean, indigenous Indian and African heritage existing today in Latin America.

4002 Institutional Changes in Latin America (3) Introduction to government, political parties, the role of the military, the Church, educational institutions, democracy and dictatorship, nationalism, and the family. Course focus will be on the evolution of the institutions in Luso and Hispanic America.

4010 Independent Research in Latin American Studies (3-8) Directed research in any topic fully released to Latin American Studies to be undertaken by a student off-campus, normally in a Latin American country. The research will be supervised and evaluated by the Latin American Studies Committee and directed by a faculty member involved in the study of the Latin American area. Credit to vary according to the scope and length of the project.

4231 The Political Economy of Latin America (3) Description, analysis, and comparison of major economic problems and policies of various Latin American countries. (Same as Economics 4231.)

4310-20-30 Directed Readings in Brazilian and Portuguese Literature (3,3,3) May be repeated with consent of instructor. (Same as Romance Languages Portuguese 4120-20-30.)

4420-30 Latin American Civilization (4,4) Prereq: 2130, 2520, or equivalent. (Same as Romance Languages Spanish 4420-30.)

4461 Quantitative Analysis of Language (3) (Same as English 4461.)

4727 Politics of Inter-American Relations (4) Analysis of selected theoretical and policy issues concerning international relations in the Americas with emphasis upon imperialism, intervention, and the Cuban revolution, nationalism, foreign assistance, trade, or economic integration. (Same as Political Science 4727.)

4810-20-30 Topical Survey of Spanish American Literature (3,3,3) 4810—Prose fiction: major examples of the short story and novel. 4820—Poetry: land and essay; the modern period. (Same as Romance Languages 4810-20-30.)

4840 History of Mexico (3) (Same as History 4840.)

4850 History of the Caribbean (3) Caribbean region from discovery and colonization to contemporary times. (Same as History 4850.)

4970 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 psycholinguistics, 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. (The following languages offer sequences appropriate for this requirement: French, German, Italian, Portuguese, Russian, and Spanish.)
(b) Two quarters of a non-Indo-European language to be selected from the following:
- Arabic 2431-32 (2433 is recommended);
- Asian Studies 2531-32 (Chinese, 2533 is recommended);
- Asian Studies 2631-32 (Liapanesse, 2633 is recommended);
- Religious Studies 3140-50-60 (Hebrew);
- other non-Indo-European languages offered in a sequence of at least two four hour courses and approved by the Linguistics Committee.

Concentration
The concentration shall consist of 36 hours distributed as follows:
(a) 33 hours composed of Audiology and Speech Pathology 3050; English 3330, 3332, 4440; French, German, Russian, or Spanish 4250-60-70; Speech 4611; Linguistics 4120-30.
(b) 6 hours of the following, selected in consultation with the Linguistics Committee:
- Anthropology 3420; Audiology and Speech Pathology 3200, 4650, 5651, 5790; Educational Curriculum and Instruction 3562-63; Special Education and Rehabilitation 5220, 5310-20-30; English 3331, 4450, 4455, 4460, 4461, 4471, 4481, 5150, 5170-80; French 4210-20-30, 5110-20-30; German 4310-20; 4810-20-30, 5710-20-30; Linguistics 4000; Russian 4310-20-30; Philosophy 4630; Psychology 4650, 4660, 5360-70; Spanish 4210-20-30, 5110-20-30.
(c) Other hours may be substituted in (b) by approval 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 4120-30; English 3332; French, German, Russian, Spanish 4250-60.

Note: In addition to the above listed courses for the concentration and the minor there are occasional offerings in the Honors Series or 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. Bethany Dumas, or the program advisor, Dr. Chauncey Mellor.

1900 Language, Linguistics and Society (3) Introduction to linguistics with focus on language development and use of language by individuals and groups.

3330 Introduction to Study of English Language (4) (Same as English 3330.)

3331 Cultural History of the English Language (3) (Same as English 3331.)

3332 Modern English Grammar (3) (Same as English 3332.)

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

4020-30 Historical Linguistics, Neogrammarians, Classical School, and Growth of Structuralism (3,3) 4020-30: 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 Cours and growing impact of anthropology and behaviorism on linguistic studies.

4250 Introduction to Descriptive Linguistics (3) (Same as French, German, Russian, and Spanish 4250).

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

4270 Introduction to Romance Linguistics (3) (Same as French and Spanish 4270).

4271 Introduction to Slavic Linguistics (3) (Same as Russian 4271).

4440 Sociolinguistics (3) (Same as English 4440.)

4460 Special Topics in English Linguistics (3) (Same as English 4460.)

4461 Quantitative Analysis of Language (3) (Same as English 4461.)

Medieval Studies (674)
A concentration in Medieval Studies focuses upon culture and society from the collapse of the Roman Empire to the 16th 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 4010 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) the arts—history of art, architecture, music, and speech and theatre. Courses should not be selected at random but should either form a related pattern (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 J. Heffernan.

Latin is the most appropriate language for students in the Medieval Studies concentration 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.

2601 Literature of the Dark Ages (5th-10th Centuries) (3-4) Critical analysis and interpretation of selected classical works from the medieval period. Focuses on tests representing the major genres of the early Middle Ages (e.g., narrative, lyric-epical, biographical). Readings include St. Gregory's Life of St. Benedict, Augustine's Confessions, the life of Charlemagne, etc. Students registering for 4 credit hours will be assigned additional work to satisfy the fourth credit hour.

2602 Literature of the Later Middle Ages (11th-14th Centuries) (3-4) Critical analysis and interpretation of selected classical works from the medieval period. Focuses on romance, allegorical and mystical writings from the high and later Middle Ages, e.g., the Song of the Nibelungen, the Romance of the Rose, St. Bernard's Commentary on the Song of Songs, Peter Abelard's History of My Calamity, etc. Should be taken in sequence with 2601. Students registering for 4 credit hrs. will be assigned additional work to satisfy the fourth credit.

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 3060 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 4560 History of Medieval England (3)

History 4710-20 Medieval History (3,3)

Philosophy 3121 Medieval Philosophy (4)

Political Science 3802 Studies in Political Thought (4)

Religious Studies 3070 History of Western Religious Thought and Institutions (4)

Religious Studies 3411 Renaissance and Reforma tion (4)

Religious Studies 4610 Topics in Western Religious Thought and Institutions (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)

Classics 4370 Readings in Medieval Latin (3) (Same as Classics 4370)

Comparative Literature 4012-22-32 Special Topics in Comparative Literature (3,3,3) (when subject is part of medieval culture and society)

Comparative Literature 4050-60-70 Dante and Medieval Culture (3,3,3)

English 3331 Cultural History of the English Language (4) (Same as English 3331)

English 4410 Introduction to Study of English Language (3) (no language requirement)

English 4420 History of English Language (3) (no prerequisites)

English 4930-40 Chaucer (3,3) 4930—The Canterbury Tales. 4940—Trovilis and Criseyde and early poems. (Same as English 4930-40.)

French 3210 Medieval 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 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)

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)
Prerequisites to the major are the completion of Russian 2110-20-30 and Russian 2540-50. The major consists of 42 hours distributed as follows: Geography 3680; six hours from History 3470-80-90; Philosophy 3550; Political Science 3631 and four additional hours from Political Science 3632, 3796, 4815, 5370, and 5380; Russian 3110-20-30; Russian 4010 (Selected Topics in Russian and East European Studies); and any eight additional hours in courses numbered 3000 or above from the list "Approved Area Courses" which can be obtained from the chairman of the Russian and East European Studies Committee, Dr. Donald Fiene.

4010 Selected Topics in Russian and East European Studies (3) An interdisciplinary seminar on a selected topic using a comparative approach.

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 E. Wallace.

2500 Interdisciplinary Urban Studies (4) Fundamenta-

2000 Selected Topics in Urban Studies (4) May be repeated with consent of the committee. Maximum credit 12 hours.

3750 The Urban Polity (4) (Same as Political Science 3750).

4000 Directed Field Work (1-16) Participant observa-
tion 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 credit 16 hours.

4100 Survey of Planning (3) (Same as Planning 4100).

4330 Urban Ecology (4) (Same as Sociology 4330).

4440 Urban Anthropology (3) (Same as Anthropology 4440).

4670 Cities and Urbanization in American History (4) (Same as History 4670).

4900 Aspects of Urban Environment (4) (Same as Architecture 4900).

Urban Studies Curriculum:
For the concentration and minor, courses may be selected to fit the respective requirements from the following:

Anthropology:
3450 Community Studies in Complex Culture (3)
4440 Urban Anthropology (3)

Architecture:
2000 Man-Environment Systems I (4)
3930 Behavioral Approaches to Environmental Design (6)
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 Polity (4)
3760 Urban Policy Process (4)

Real Estate and Urban Development:
3610 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 Ecology (4)
4530 Community Organization (4)

Women's Studies (944)
Minor: Consists of Women's Studies 2010-20 and 16 hours of appropriate courses numbered 3000 or above. Courses approved for the Women's Studies minor are listed below. Students may petition the Women's Studies Committee for approval of courses other than those listed. For further information consult the chairperson of Women's Studies, Dr. Martha Lee Osborne, at the Women's Studies offices, 206 Alumni Hall, 974-2409, or in the Philosophy Department, 607 McClung Tower, 974-7212 or 974-3255.


2015 Images of Women in Literature: Fiction, Poetry, Drama (4) An introduction to the study of women through the roles and stereotypes portrayed in a variety of literary genres (fiction, poetry, and drama), including the works from diverse historical periods and cultures.

2020 Women in Society (4) An examination of the role played by women in various societies during different historical periods, a study of the factors which have limited women's participation in society, and an assessment of social scientists' assumptions about women.

3010 Emergence of the Modern American Women (3) An examination of the role of women in the development of American civilization and values. Major topics include women's legal and political status, the emergence and development of feminism, women and the creative arts, and women's roles in industrial and post—industrial American society.

3830 Women in the Greek and Roman World (3) (Same as Classics 3830).

4000 Topics in Women's Studies (4)

4280 Women in European History (4) (Same as History 4280)

4290 Women in American History (4) (Same as History 4290)

Supporting courses from several departments and colleges on the UT campus include:

Afric-American Studies 4830 Black Women in American Society (4)
Child and Family Studies 2120 Sex Roles and Marriages (3)

English 3310 Women Writers in England and America (3)

French 3240 Women in French Culture (4)

History 4280 Women in European History (4)

History 4290 Women in American History (4)

History 5210 Topics in Women's History (3) (graduate course; variable contents)

Music 3095 Women in Music (3)

Philosophy 3430 The Concept of Woman (4)

Philosophy 3435 Philosophy of Feminism (4)

Public Health 4430 Women's Health (3)

Psychology 4870 Contemporary Research in the Behavior of Women (4)

Sociology 3150 Gender in Society (4)

Speech and Theatre 4960 Rhetoric of the Women's Rights Movement (4)

Educational and Counseling Psychology 4110 Psychology of Sex Role Development (3)

Educational and Counseling Psychology 5110 Psychology of Women (3)

Cultural Studies (270)

1000 Selected Topics (2-4) May be repeated. Maximum credit 8 hours.

4000 Selected Interdisciplinary Cultural Topics (1-12) 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. May be repeated for credit up to maximum of 12 hours.

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 pages 159 and 171.

4102 Off-Campus Study (1-16) Acceptable for credit in any cultural studies concentration or minor except
Graduate: Consult the Graduate Catalog for listing of graduate level courses.

Economics (283)

See faculty list, page 83.

UNDERGRADUATE

The program in economics combines a broad liberal education with the rigorous study of current issues of the day such as employment, inflation, poverty, wealth, and the benefits and costs of economic growth.

Courses offered in the Department of Economics of the College of Business Administration provide opportunity for a major or minor in economics in the College of Liberal Arts. See page 83 for description of the courses available.

Requirements for a B.A. major in economics consist of: (1) Economics 2510, 2520, or equivalent honors courses; and (2) a minimum of 33 additional hours in upper-division economics courses. Economics 3110 (or 3111 and 3112) and 3120 are required as part of the upper-division work and should be taken as early as possible in the upper-division program as possible. A minor consists of (1) Economics 2510, 2520, and (2) 15 additional hours in economics at the upper-division level. Minors are encouraged to include Economics 3110 and 3120.

In addition, certification to teach economics in secondary schools is available. Students with such an interest should consult the Certification Coordinator, 207 Clayton Education Building as early in their program as possible to determine the appropriate requirements.

GRADUATE

See page 84 in the College of Business Administration. The department offers the following degrees: M.A. and Ph.D. Also, the MBA degree with a concentration in economics is offered.

English (339)

Professors:

- J. B. Trahan (Head), Ph.D. Princeton; P. G. Adams, 1 Ph.D. Texas; E. W. Brackett (Associate Head), Ph.D. Illinois; K. Curry (Emeritus), Ph.D. Yale; R. Y. Drake, Jr., Ph.D. Yale; J. H. Fisher, Ph.D. Pennsylvania; J. A. Hansen (Emeritus), Ph.D. Yale; R. M. Kelly, Ph.D. Duke; K. L. Krienerbrokeer (Emeritus), Ph.D. Yale; B. J. Leggett, Ph.D. Florida; F. D. Miller (Emeritus), Ph.D. Virginia; R. B. Miller, Ph.D. Brown; R. E. Parker (Emeritus), Ph.D. California (Berkeley); A. R. Penner, Ph.D. Colorado; J. E. Reese (Chancellor), Ph.D. Kentucky; N. J. Sanders, Ph.D. Shakespeare Institute, Stratford-on-Avon; J. J. Schindler, Ph.D. Northwestern; M. A. Stacey, Ph.D. Illinois; R. B. White, Ph.D. Stanford; J. D. Whitney, M.A. Tennessee; C. P. Williams, Ph.D. Georgia; D. A. W. Wilson, Ph.D. California, (Santa Cruz); M. P. Richards, Ph.D. Wisconsin; F. K. Robinson, Ph.D. Texas.

- Ph.D. North Carolina; J. M. White, 1 M.A. Cambridge; N. Wright (Emerita), Ph.D. Yale.

Associate Professors:

- J. M. Armstrong, Ph.D. Duke; L. S. Burghardt; Ph.D. Chicago; D. A. Carroll; Ph.D. Northwestern; B. A. Coates, Ph.D. North Carolina; K. Cox, Ph.D. Missouri; B. K. Dumas, Ph.D. Arkansas; J. E. Gill, Ph.D. North Carolina; D. A. Hendrickson, Ph.D. Yale; N. M. Goslee, Ph.D. University of Tennessee; T. J. Heffelman, Ph.D. Cambridge; M. A. Lofaro, Ph.D. Maryland; C. J. MacIain, Ph.D. Michigan; M. L. Pryce, Ph.D. California, (Santa Cruz); M. P. Richards, Ph.D. Wisconsin; F. K. Robinson, Ph.D. Texas.

Assistant Professors:

- K. H. Adams, Ph.D. Florida; D. L. Denniston, Ph.D. Brown; P. G. Hammons, M.A. Tennessee; G. B. Hutchinson, Ph.D. Indiana; M. Kallet, Ph.D. Rutgers; M. L. Keene, Ph.D. Texas; L. P. Lomdell, Ph.D. Illinois; E. N. Stillman, Ph.D. Pennsylvania; S. M. Walt, Ph.D. Illinois.

Instructors:

- P. S. Adams, M.A. Tennessee; W. J. Curtis, M.A. Tennessee; C. M. Hoffman, M.A. Iowa; M. S. Lewis, Ph.D. Pennsylvania; G. M. Logsdon, M.A. Texas; E. D. Overby, M.A. Virginia; M. H. Simpson, M.A. Oregon; P. A. Tschentsch, M.A. New Mexico State.

Young Professor

- John C. Hodges Professor

UNDERGRADUATE

General Prerequisites and Corequisites:

English 1010 or 1011; 1020; 1031 or 32 or 33 or the equivalents are prerequisites to all upper-division courses in English.

English. English courses in 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 (2100-2102) and upper-division (2103-2105) offerings.

For prerequisites and other advice, consult specific course descriptions below and departmental advisories.

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

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

(1) English 3042.

(2) at least three courses in major figures of periods before 1800;

(3) at least two courses concerned with approaches other than literary history, such as literary forms or modes, the theories of criticism, or other unifying approaches or ideas;

(4) a total of three courses in writing or the English major may be counted towards 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 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, English 3331;
(2) four courses in linguistics and the English language selected from among those offered by the English department and, with English 3331, one of the following: Anthropology 3420, Psychology 4660, or Linguistics 4000;
(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 advisors. These programs need not necessarily fulfill all of the requirements listed above.

Honors 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 Honors in English. Interested students should consult their advisors 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, Clayton 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 recommended for students with ACT English scores at or above an average score of 25. (Same as English 1010) by the English Department. Emphasis on invention, organization, style, and revision; intensive study of essays for meaning, development, and style; matching of invention, organization, and revision; and the writing of several compositions and conferencing on individual writing problems. A, B, C, C, N, W grading. Students may not receive credit for both 1010 and 1011.

1011 English Composition (4) Expository writing recommended for students who lack the ACT English score needed for 1010 or who have previously failed to pass that course. Includes the material of 1010 with two additional class hours of individual and group instruction in grammar, mechanics, sentence patterns, reading, and paragraph development. A, B, C, C, N, W grading. Students may not receive credit for both 1010 and 1011.

1019 Writing Workshop (1) Self-paced laboratory course only for students remanded to it at the beginning of the quarter by their English Composition teachers. Individual study of grammar, mechanics, sentence patterns, and paragraph development. To receive credit, a student must participate at least two hours per week and must pass the composition class in which he/she is currently enrolled. May be repeated once for credit, but may not be taken for credit concurrently with 1011. S/NC grading. F, W, S.

1020 English Composition (3) Analytical writing based on study of great themes in literature; practice in composition, writing based on study of non-fiction prose. Introduction to research writing. 1036—Analytical and research writing based on study of great literature. Students receiving a grade below 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 A+ also receive credit and a grade of no less than B for 1028 and may continue into 1030; all students with A's and those with B's and consent of department have additional option of completing a year's work in English composition with any 3000-level writing course. A, B, C, N, W grading. F, W, S, F/1038-W.

1221 Written and Oral English for Foreign Students (6) Emphasis on the more advanced structures of English grammar and on paragraph writing. Required during the first term for foreign students who on the English Proficiency Examination demonstrate need for work in English structure, but not at the intensive level of 1121. Required also of foreign students who complete 1211. A, B, C, I, W grading. Students registered for this course are permitted to register for only two other courses.

1261 English Pronunciation for Foreign Students (3) Sound and intonations pattern of American English and relation of spelling to sound. Designed to improve student's ability to speak and understand English. May be repeated. Maximum credit 6 hours. S/NC. (Same as Audiology and Speech Pathology 1261.)


1441 English Composition for Foreign Students (3) For students whose native language is not English, written based on reading and discussion with attention to grammar and mechanics. English 1441 replaces English 1010 for undergraduate foreign students. Prereq: 1221 or recommendation based on English Proficiency Examination. A, B, C, I, W grading. F, W, S.

1451 English Composition for Foreign Students (3) For students whose native language is not English, written based on reading and discussion with attention to grammar and mechanics. English 1451 replaces English 1010 for undergraduate foreign students. Prereq: 1221 or recommendation based on English Proficiency Examination. A, B, C, I, W grading. F, W, S.

1518-28-38 Honors: English Composition (3,3,3) Open only to students who on major texts: 2531 examines the development of American literature from the beginnings to 1900; 2532 covers the literature from 1890 to the present; 2533 examines Black American literature exclusively, as a distinct literary expression. Writing assignments. 2560-70-80 Literature of the Western World (4,4,4) 2560—Ancient and medieval. 2570—Renaissance through the 18th century. 2580—19th and 20th centu- ries. 2560-F, W, S; 2570-W; 2580-S.

2660 Introduction to Drama (4) Study of selected plays to provide critical techniques necessary for understanding of drama. F, W, S.

2670 Introduction to Poetry (4) Study of selected poems to provide critical techniques necessary for reading of different types of poetry. F, W, S.

2680 Introduction to the Novel (4) Study of selected novels to provide critical tools necessary for judging longer works of fiction. F, W, S.

2690 Introduction to Film Studies (4) Selected world cinema feature films are studied to provide critical techniques necessary for understanding and analysis of narrative cinema. Emphasizes basic elements of film expression and contours of film history. Writing assignments.

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)

3050-51 English Culture (3,3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history. 3050—Beginnings to 1660. 3051—From 1660 to present.

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.


3135 Tennyson and His Successors (3) Includes such poetry as that by Prophets, novelists, and Decadents.

3156 Browning, Arnold, and Hopkins (3)

3150 Melville (3)

3160 The Short Story (3) British and Continental European, with emphasis on 20th century.

3170 The American Short Story (3) From 19th century beginnings to present; emphasis on 20th 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—1830-1869. 3220—1870-1900.

3230 Literature and Other Fields (3) Content varies. Focus on religious, philosophical, historical, or other pertinent aspects of literature. May be repeated with consent of department. Maximum 6 hours.

3233-34 Forms of Popular Literature and Culture (3,3) Content varies. Detective fiction, science fiction, film, or other topics. May be repeated with consent of department. Maximum credit 6 hours each. (Same as American Studies 3233-34.)

3236-37 Special Themes in Literature (3,3) Content varies. The city, the frontier, the sea, the American woman, or other topics. May be repeated with consent of department. Maximum credit 6 hours each. (Same as Comparative Literature 3236-37.)

3310 Women Writers in England and America (3) Emphasis upon the literary consciousness of women in the 19th and 20th centuries. (Same as Women's Studies 3310.)

3311 Women in American Literature (3) Analysis of women as writers and as subjects in American literature from its beginnings to the present.

3320 Introduction to Study of English Language (4) (Same as Linguistics 3320.)
Emphasis upon Dryden and Pope.

3480 Writing Drama (3) Introduction to writing both

3440 Literature and Film (4) Aesthetic relationships, from beginnings to 1500. Structuralism and introduction to generative-transformational theory. (Same as Linguistics 3332.)

3360 Old and Middle English Literature in Translation (3) Major texts and genres of English literature from beginnings to 1500.

3411-12-20-30 Modern Drama (3,3,3,3) 3144—Continental to 1930, 3412—Continental since 1930. 3420—British. 3440—Theatre.

3440 Literature and Film (4) Aesthetic relationships, emphasis upon media comparison.

3450 Writing Fiction (3) Introduction to writing novels and short stories.

3470 Writing Poetry (3) Introduction to writing poetry.

3480 Writing Drama (3) Introduction to writing both one-act and full-length plays.

3510 Sixteenth-Century Prose and Poetry (3) More and Wyatt to Spenser.

3520 Elizabethan Drama (3) Marlowe, Jonson, and others.

3610 Restoration and Eighteenth-Century Poetry (3) Emphasis upon Dryden and Pope.

3620 Restoration and Eighteenth-Century Drama (3) Dryden through Sheridan.

3630 Restoration and Eighteenth-Century Prose (3) Defoe, Addison, Steele, Swift, and others.

3670 Age of Johnson (3)

3710 Literature of English Bible (3) Types of Old Testament literature, excluding Wisdom literature. (Same as Religious Studies 3710.)

3711 Literature of the English Bible (3) Old Testament Literature and types of New Testament literature. (Same as Religious Studies 3711.)

3721 Introduction to Folklore (3) Essential terms and concepts in modern folklore/folk-life studies. Emphasis on North American materials: folklore, folksong, myth, legend, proverb, riddle, superstition, dance, game, and language.

3840-50 Writing Non-Fiction Prose (3,3) Strategies of writing on personal and academic subjects. Discussion of student and professional writing. Conferences on individual student’s goals and problems. Open to sophomores with instructor’s consent. 3840—How to find, develop, and present an idea. 3850—How to convince a reader through logical and emotional appeals. 3840-F, W, S.

3860 Special Topics in Writing (2) Original writing integrated with reading, usually taught by professional author. Topics vary. May be repeated. Maximum credit 9 hours.

3870 Writing the Screenplay and the Television Play (3) Advanced, specialized course in dramatic writing. Completion of English 3450-60-70 is desirable, but students with active interest in the medium are invited to seek consent to enroll.

3910-20-30 Comparative Literature (3,3,3) 3910—Ancient. 3920—Medieval and Renaissance. 3930—Modern.

3940 Novel of the Contemporary Western World (3) Proust, Joyce, Mann, and others.

4010-20 Shakespeare (3,3) 4010—Early plays, c. 1590-1601, including / Henry IV, Twelfth Night, and Hamlet. 4020—Later plays, 1601-1613, with emphasis upon tragedies and dramatic romances.

4042-43 Topics in Mode and Genre (3,3) Contient varies. Special topics in principal forms and modes of British and American literature, e.g., comedy, tragedy, epic, lyric, satire, etc. May be repeated with consent of department. Maximum credit 6 hours each.

4045 Topics in Literary Theory and Criticism (3) Content varies. Special topics in theoretical and practical approaches to British and American literature. May be repeated with consent of department. Maximum credit 6 hours.

4047 Special Topics in Literature: Major Authors (3) Content varies. Studies in major British and American Writers. May be repeated once with consent of department.

4050-00-70 American Novel (3,3,3) 4050—From earliest sentimental novels through Brown, Cooper, and Kennedy, to 1875. 4060—Henry James and Mark Twain through early works of Faulkner and Hemingway. 4070—Early twentieth to present.

4090 Topics in Film Study (3) Content varies. In-depth study of particular director, film genres, national cinema movements, or other topics. May be repeated with consent of department. Maximum credit 6 hours.

4101 Foreign Study (1-16) See page 159.

4102 Off-Campus Study (3-12) See page 159.

4103 Independent Study (1-12) See page 159.

4118-28-38 Honors: Senior (0,0,0) Admission by consent of department. 4118-28 graded S.

4140 Advanced Technical Writing (3) For students planning careers in business, industry, education, and government who will need technical writing skills after they graduate. The writing of definitions, process descriptions, sets of instruction, descriptions of mechanisms, recommendation reports, abstracts, proposals, and technical reports. Prereq: upper standing in student's major or consent of instructor. F, W, S.

4150 Professional Writing (3) The writing of articles, theses, and dissertations in which data are marshalled and analyzed. The writing of abstracts, varied styles of documentation, use of proper use of visuals, guidelines and procedures for manuscript submission, and the process of editorial review. Prereq: 4410 or consent of instructor.

4250 Advanced Fiction-Writing (3) Further development of skills acquired in basic writing fiction course. Prereq: 4340 and consent of instructor.

4254 Writing the Detective and Mystery Story (3) Instruction and writing cover entire crime field—surmise, police procedural, private eye, spy, and adventure fiction. Prereq: 3450-60-70 or consent of instructor.

4256 Writing Science Fiction and Fantasy (3) Survey of general development and basic texts of science fiction, speculative fiction, and fantasy. Exercises in writing in genres, in accordance with techniques learned in basic fiction writing course.

4270 Advanced Poetry Writing (3) Further development of skills acquired in basic poetry writing course. Prereq: English 3470 or consent of instructor.


4440 Sociolinguistics (3) The study of language in relation to society. Empirical and theoretical study. Emphasis both on individuals and on large-scale social units such as tribes, nations, and social classes. Prereq: 3330 or Linguistics 2000 or consent of instructor. (Same as Linguistics 4440.)

4450 Dialectology (3) Theories and methodologies of dialect research, fieldwork, and analysis. Prereq: 3340 or consent of instructor. (Same as Linguistics 4450.)

4455 American Dialects (3) Characteristics of the major social and regional dialects of American English. Their origin and functions. Implications for cultural pluralism. Prereq: 3330 or Linguistics 2000 or consent of instructor.

4460 Special Topics in English Linguistics (3) May be repeated for credit with consent of department. (Same as Linguistics 4460.)

4461 Quantitative Analysis of Language (3) Introduction to techniques of the study of variation in language both in spoken language and in written texts, including literature. Emphasis on identifying questions, collecting, analyzing, and interpreting data. Implications for linguistics and/or literary theory. Prereq: English/Linguistics 3330 or Linguistics 2000 or consent of instructor. (Same as Linguistics 4461.)

4471-81 English as a Second or Foreign Language (3,3) 4471—Applied linguistics in teaching and learning of English as second or foreign language. Phonological and grammatical structure of present-day English. Analysis of differences (phonological, grammatical, and lexical) between English and another language. Prereq: Second year of a foreign language. 4478-79 Material methods and methods of language teaching, with emphasis on preparation of materials and structured teaching situations. Theory of testing language competence and performance, with emphasis on construction of tests. Team teaching with an experienced member of the staff. Prereq: 4471. (Same as Linguistics 4471-81.)

4510-20 Black Literature (3,3) Trends and developments.

4640 Black American Literature and Aesthetics (3) Evaluation of major texts in Black American Literature and Aesthetics since 1899, with emphasis on the more recent works.

4551 Southern Literature through the Nineteenth Century (3) Southern literature to the end of 19th century, including frontier humorists and local color writers.

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

4650 Emerson and Thoreau (3)

4680 American Humor through Mark Twain (3)

4721-31-41 Ballad and Folktaie (3,3,3) 4721—Study of traditional English and Scottish popular ballads and their North American variants; 4731—Study of Native American ballad and folk tale; 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.

4930-40 Chaucer (3,3) 4890—The Canterbury Tales. 4940—Troilus and Cressida and early poems.

GRADUATE Consult the Graduate Catalog for listing of graduate level courses.

French
See Romance Languages.

Geography (415)

Professors: S. R. Jumper (Head), Ph.D. Tennessee; C. S. Aiken, Ph.D. Georgia; E. H. Hammond, Ph.D. California (Berkeley); R. G. Long (Emeritus), Ph.D. Northwestern; C. W. Minkel (Dean for Graduate Studies), Ph.D. Syracuse; T. H. Schmudde, Ph.D. Wisconsin.

Associate Professors: T. L. Bell (Assistant Dean for Research), Ph.D. Iowa; L. W. Brinkman, Jr., Ph.D. Wisconsin; J. R. Carter, Ph.D. Georgia; C. T. Pakhom, Ph.D. Colorado; B. A. Ralston, Ph.D. Northwestern; J. B. Rehder, Ph.D. Louisiana State.

Assistant Professors: T. J. Blasing (Assistant), Ph.D. Wisconsin; R. A. Foresta, Ph.D. Rutgers; L. M. Pulsipher, Ph.D. Southern Illinois.

UNDERGRADUATE B.A. Major: A minimum of eight hours at the 1000 or 2000 level is required as an
Introduction to a major. Geography 3700, 4100, 4210, and 4990 are also required, along with an additional 28 hours selected from courses at the 3000 and 4000 level. At least one course must be selected from each of groups A, B, C, D, and E below:

- **A. Physical Geography**: 3510, 3520, 3530, 3540, 3550.
- **B. Economic Geography**: 3410, 3430, 3490, 4075, 4610, 4830.
- **C. Cultural Geography**: 3000, 3450, 3600, 3610, 3660, 4240.
- **D. Regional Geography of the United States**: 3910, 3920, 3930, 3940.
- **E. Regional Geography of Foreign Areas**: 3790, 3800, 3810, 3830, 3840, 3860, 3870. Students in the 3/2 program are encouraged to take 12 of their 28 upper-division credit hours from group B.

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

Minor: Eight hours in courses numbered at the 1000 or 2000 level are recommended as 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 advisor. 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.

1610-20 Introduction to Geography (4,4) Selected problems or situations of contemporary interest are studied in depth, illustrating geographical points of view and techniques. Need not be taken in sequence. 1610-E, 1620-W, S.

1610-20-30 Geography of the Natural Environment (4,4,4) Characteristics and processes of earth's surface and lower atmosphere; their interaction to produce surface matter and environmental events significant to man. Must be taken in sequence. 3 hr. lecture and 2 hrs. of lab per week. 1610-F, W, 1620-W, S.

1910 Introductory Cultural Geography (4) Basic concepts of culture. Patterns and distributions of cultural phenomena including geography of languages, religions, cultural regions, population, settlements, and forms of economy.

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

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


3430 Urban Geography (4) Concepts and theories concerning development and morphology of cities and internal morphology of cities.

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 upon energy and mineral 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 Climatology (4) Overview of general circulation system leading to world pattern of climates. Climatic change and modification, and interrelationships of climate and human activity.

3530 The Land-Surface System and Man (4) Nature and regional variations in relationships among surface form, water, vegetation, 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 in understanding political relationships within and among nations; spatial implications of political decision-making processes; geography of administrative units.

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

3700 Maps and Aerial Photographs (4) Introduction to scales, sources, uses, design, and production of maps, aerial photos, and other forms of spatial images.

3750 Geography of Middle America (4) Covers Mexico, Central America, and the West Indies. Same as Latin American Studies 3750.

3800 Geography of South America (4) (Same as Latin American Studies 3800.)

3830 Geography of Africa (4) Survey of major physical, cultural, and economic characteristics of Africa with particular emphasis on the area to the south of the Sahara. (Same as Afro-American Studies 3830.)

3840 Geography of Australia and Oceania (4) Survey of major physical, economic, and social characteristics of Australia, New Zealand, and of impact of western civilization on selected island groups of the southwestern Pacific.

3870 Geography of Asia (4) A survey of the physical, cultural, and economic characteristics of the countries of Asia, excluding the Soviet Union.

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.

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) Interection of physical, economic, and social patterns to give distinctive character to the region and its parts, especially southern Appalachia. Appalachia in perspective in the current American scene.

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

4100 Quantitative Methods in Geography (4) Geographical applications of statistical techniques, point pattern analysis, and analysis of aerial units. Prereq: Mathematics 3000 or consent of instructor.
The Department of Geological Sciences provides training for (1) those who plan careers as professional geologists in industry, federal and state governments, education, or other fields which utilize earth sciences; and (2) those who seek a general knowledge of geology and its relationship 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 advisor. A list of advisors and office hours is available in the departmental office.

UNDERGRADUATE

B.S. Major: Prerequisites: Geology 1410, 1420, 1430. Students who have less than one year of high school biology must take Biology 1210-20. Before registration, students who have had one or more years of high school Biology should take any two of the following courses: Biology 1230; Botany 1110, 1111-20 (Biology 3130); Chemistry 1110-20; Physics 1310-20 or 2210-20. In addition, one of the following must be taken: Chemistry 1130 or the third quarter of the physics sequence already taken by a student. Math 1810-20 or Math 1820-30 is recommended. Those who seek a general knowledge of civilization may take a wide base from which qualified students may choose a major field. Most of the following courses and minors are available in the departmental office.

2210 History of Life on Earth (4) Chronological account of origin and evolution of life, its environment, and societal patterns. Not intended for geology majors; 3 hours and 1 lab or field period.


2510 Geochemical Cycles and the Global Environment (4) Introduction to the use of geochemical cycles for identifying potential environmental problems on a global scale and the techniques recommended. 3 credits and 1 problem session.

2610 Introductory Geology for Engineers (3) Materials and structures of the earth. For College of Engineering students only. 2 lectures and 1 lab or field period.

2710 Introductory Oceanography (4) Introduction to the study 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.

3180 Mineralogy (4) Introduction to crystallography and study of minerals. Laboratory includes hand specimens, chemical and X-ray methods of identification. Prereq: 1420, Geology 1110-20 or equivalent. 3 lectures and 1 lab.

3190 Introduction to the Petrographic Microscope (4) Introduction to the petrographic microscope and optical methods for minerals identification in thin section. To be taken concurrently with 3310. 1 lab per week. S/NC grading only.

3210-20 Invertebrate Paleontology (4,4) Systematic review of important invertebrate fossil groups. 3210—Porifera to Annelida, including cnidarians, echinoderms, and conodonts. 3220—Mollusca through Tertiary Chordata, including arthropods and echinoderms. May be taken separately or in sequence. Prereq: 3260, Biology 1210-20, or consent of instructor. 3 lectures and 1 lab or field period.

3260 Paleobiology (4) Introduction to principles and materials of paleontology as applied to interpretation of earth history. Prereq: 1420. 3 lectures and 1 lab or field period.

3270 Geological History of Land Organisms (4) Geologic history and stratigraphic record of terrestrial organisms and ecosystem with special emphasis on fossil record of land plants and vertebrates. 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. Prereq: 3180. 3 lectures and 1 lab. Coreq: 3190.

3360 Geology of East Tennessee (4) Lectures and field excursions. Prereq: 12 hours of geology and consent of instructor.

3360 Stratigraphy—Sedimentation (4) Introductory study of stratigraphic principles and their application to geological processes and environment. Prereq: 1420 and 3360. 3 hours 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, Math 1840-50 or equivalent. 3 hours and 1 lab.

3510 Introductory Environmental Geology (4) Geologic problems involving earth environments and resources, its interaction with human activities, and scientific study of their control and misuse. Prereq: 1420 or consent of instructor. 2 lectures and 2 lab or field periods.

3610 Quaternary Geology for Engineers (3) Earthquakes, erosion, deposition, glaciation, ground-
4333 Quaternary Field and Lab Techniques (4) Techniques for environmental characterization and reconstruction, including pollen and plant macrofossil identification, description of soil stratigraphy, and sedimentology. Prereq: 1410 or consent of instructor. 2 lectures and 2 labs.

4370 Tectonic Styles (4) The tectonic evolution of structures and their environments (orogens), reaction with metamorphism, plate motions, and stratigraphic assemblages as determined through case study examination of different environments. 3 lectures and 1 seminar or lab. Prereq: 3370 or consent of instructor.

4440 Field Geology (9) Five weeks’ field course, first term summer quarter. Advanced undergraduates or first-year graduates in geology. Emphasizes entire time of student. Field techniques are demonstrated, practiced, and applied to the solution of geologic problems. Prereq: 12 hours of geology and consent of instructor.

4460 Geologic Photography, Photogrammetry and Remote Sensing (4) Principles of terrestrial, airborne, and satellite geologic remote sensing, including photographic principles and practice, geometry of terrestrial and aerial photography, and principles of nonphotographic remote sensing systems.

4510 Principles of Geomorphology (4) Gradational processes acting on earth's surface and landforms produced. Prereq: 1410-20-30. 3 hours and 1 lab.

4520 Process Geomorphology (4) Gradational processes acting on earth's surface and its present and past environments. Field work in geomorphology. Prereq: 1400 and 4510. 3 hours and 1 lab or field period.

4550 Optical Mineralogy (4) Identification of minerals and explanation of crystal-chemical parameters using petrographic microscope.

4610 Principles of Geochemistry (4) Application of chemical principles to geologic problems. Emphasis on systematics, chemistry and relation between basic atomic structure and distribution of elements in the earth's crust. Prereq: Chemistry 1110-20 or equivalent required. Recommended 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 seismic wave motion in rock masses in a potential field. Stress-strain behavior of rock as a function of temperature and pressure. 3 lectures per week. Prereq: 3310, Math 1830, Physics 1330. Recommended Math 2610 and 2820.

4770 Evolution of Oceans and Continents (4) Introduction to study of origin and changes that have occurred in the earth's crust, with emphasis on modern concepts of continental drift and plate tectonics. Prereq: 1420.

4780 World Geology of Petroleum (4) Geological habitat of petroleum deposits, methods of exploration and reserve assessment, geology and global distribution of known and potential reserves. Prereq: 1410 or equivalent and 3160 or equivalent.

4810 Special Problems in Geology (1-4) Prereq: Consent of instructor. May be repeated. Maximum credit 4 hours.

GRADUATE

The general requirements for master's and doctoral degree as well as course descriptions are given in the Graduate Catalog.

Germanic and Slavic Languages

Professors: H. Krawt (Hosid), Ph.D. Ohio State; J. E. Falen, Ph.D. Pennsylvania; H. Fuller (Emeritus), Ph.D.

Wisconsin: L. L. Hiller (Emeritus), Ph.D. Cornell; J. C. Osborne, Ph.D. Northwestern; M. P. Rice, Ph.D. Vanderbilt.

Associate Professors: J. S. Elliott, Ph.D. Michigan; D. M. Fiens, Ph.D. Indiana; N. A. L. Bebbington, Ph.D. Wisconsin; D. E. Lee, Ph.D. Stanford; C. J. Mellor, Ph.D. Chicago; U. C. Ritzenhof, Ph.D. Connecticut.

Assistant Professor: C. Hodges, Ph.D. Chicago

Instructor: M. H. Harris, M.A. Illinois.

UNDERGRADUATE

Placement Examination: Students who have 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 German 4101 Foreign Study and Russian 4101 Foreign Study. See page 159. Students should consult the department before registering for the foreign study course.

German

B.A. Major: Majors or minors in German should carefully prepare their programs in consultation with a departmental faculty advisor. German 1510-20 is a prerequisite to the major. The major shall consist of at least 36 hours of German in courses numbered above 3000, which normally include German 3110-20-30. It is recommended that German majors also take History 1510-20 or 3710-20-30 and 8 hours of sophomore English. Majors are also strongly urged to consider a minor in some other area of the humanities.

German 2110-20-30 or its equivalent is a prerequisite to the minor. The minor shall consist of at least 24 hours of German courses numbered above 3000, which normally include German 3110-20-30 (or 3410-20-30), and 15 additional hours of courses numbered above 3000, excluding 3010-20-30 and courses in English translation.

Russian

B.A. Major: Russian majors should carefully prepare their programs in consultation with a departmental faculty advisor. The major in Russian shall consist of at least 45 hours of Russian courses, including Russian 3110-20-30; 3610-20-30; 9 hours from Russian 2210-20-30; 2270, 3220, 3221, 3240, 3250, 3260, 3280, 3281, or 3710-20; and 9 hours of courses numbered above 4000. It is recommended that majors also take History 3470-80-90 and 9 hours of sophomore English. Majors are urged to consider a minor in some other area of the humanities.

Minor in Russian and East European Studies. See Cultural Studies.

Certification for Teaching German and Russian in Tennessee

Consult Certification in the School of Education. The department certifies to the following programs:

German (433)

1110-20-30 Elementary German (3,3,3) Must be taken in sequence.

1510-20 Elementary German (4,4) Must be taken in sequence.

1518-2518-28 Honors: Elementary and Intermediate German (6,6,6) Honors course for students of superior ability. Freshmen are admitted on the basis of high school average and performance on the American College Testing Program. Upperclass students must have a B average. A grade of C or above must be achieved in 1518 with a combination of 2518. A student obtaining a grade of D or better in 1518 and an average of 1530 is eligible for 1530. This sequence is equivalent to 1510-20 or 1110-20-30 and 2110-20-30 and its completion allows the student to enter all 2000 level German courses.

1530 Elementary German through Individualized Instruction (1-8) Same materials as in German 1510-20, but student may proceed at own pace, with a minimum of one credit hour per quarter. Completion of four hours student has option of transferring to 1520. May be repeated. Maximum credit 8 hours.

2110-20-30 Intermediate German (3,3,3) Must be taken in sequence.

2210-20-30 German Literature in English Translation (3,3,3) Survey of German literature from earliest times to the present. No foreign language credit. Writing-emphasis courses. The three-semester course fulfills Divisional Distribution Requirement in the Humanities, Part 1 (or any two quarters fulfills the two-course requirement). Students who have completed 1530 may proceed at their own pace, with a minimum of one credit hour per quarter. Completion of four hours student has option of transferring to 1520. May be repeated. Maximum credit 8 hours.

3010-20-30 Elements of German for Upper-Division and Graduate Students (3,3,3) Elements of language, elementary and advanced readings. Open to gradate students preparing for language examination or for graduate work, and upper-division students desiring reading knowledge of the language. Undergraduate credit only. No credit for students having completed 1510 or 1110-20-30.

3040 Elementary Dutch (3) Prereq: Reading knowledge of German. Primarily for graduate students in German. No graduate credit allowed.

3110-20-30 Introduction to German Literature (3,3,3) Prereq: 2130 or equivalent. Need not be taken in sequence.

3610-20 Culture of the German-Speaking Peoples (3,3,3) Studies in the culture and life-style of German-speaking peoples from their first contact with the Romans to the present. Readings in English. No foreign language credit. A writing-emphasis course. Fulfils Upper Level Distribution Requirement for Foreign Studies for those who have not satisfied the history requirement with western civilization.

3810-20 Conversation and Composition (3,3,3) Prereq: 2130 or equivalent.

ADVANCED UNDERGRADUATE AND GRADUATE

4101 Foreign Study (1-16) See page 159.

4102 Off-Campus Study (1-16) See page 159.
4103 Independent Study (1-16) See page 159.

4110-20-30 Studies in Classical and Modern Writers (3,3,3) Content varies. May be repeated for credit with the consent of the department. Prereq: 9 hours of 3000 courses (exclusive of 3010-20-30, or courses in English translation) or equivalent.

4140-50 Selected Topics in German Literature from 1750 to the Present (3,3,3) Prereq: 9 hours of 3000 courses (exclusive of 3010-20-30, or courses in English translation) or equivalent.

4160 Studies in German Authors (3) Life and works of a single outstanding German literary figure. Content varies. May be repeated for credit. Prereq: 9 hours of 3000 courses (exclusive of 3010-20-30, or courses in English translation) or equivalent.

4170 Theatrical German (1-3) Performance in one or more German plays. May be repeated for credit with the consent of the department. Prereq: 2130 or equivalent or consent of instructor.

4210-20-30 Studies in German Literary Types (3,3,3) 4210—Lyric poetry. 4225—Drama. 4250—Narrative prose. Prereq: 9 hours of 3000 courses (exclusive of 3010-20-30, 3210-20-30, 3310) or equivalent.

4250 Introduction to Descriptive Linguistics (3) (Same as Russian, French, Spanish, and Linguistics 4250.)

4260 Introduction to Historical and Comparative Linguistics (3) Theories of language change, proto-language, phonological and morphological change. Historical, sociological influences upon the development of language. Semantics and context. Change. Lexicography. All topics copiously illustrated by selected examples from Indo-European languages.

4270 Introduction to Germanic Linguistics (3) The phonetics and phonemics of German. German grammar and the German vocabulary from a descriptive point of view. The dialects of German. An introduction to the study of the other Germanic languages.

4310-20 History of German Language (3,3)

4630 German Civilization (3) Prereq: 2130 or equivalent.

4618-28-38 Honors: Senior German (3,3,3) Intended to give student of special aptitude greater opportunity to do independent study than is possible in ordinary coursework. Prereq: Senior standing, with a record of A in German and the consent of the department.

4810-20-30 Advanced Conversation and Compositions (3,3,3) Prereq: 3810-20-30 or equivalent or consent of department.

4850 Business German (3) Survey of German used in fields of business and economics, intended primarily for students wanting to major in minor in business or economics. Prereq: 3110-20-30.

GENERAL COURSES

3260 German Drama in English Translation (3) From Lessing to present. No foreign language credit.

3270 Modern German Novel in English Translation (3) From 1900 to present. Remarque, Hesse, Mann, Kafka, Frisch, and Grass. No foreign language credit.

3280 Goethe’s Faust in English Translation (3) Intensive study of Faust I and II and survey of criticism and interpretations of the work. No foreign language credit.

3310 Dramas of Bertolt Brecht (3-4) Chronological survey of Brecht’s dramatic works and theoretical writings in English translation. No foreign language credit.

3320 Novels of Hermann Hesse (3-4) Study and analysis of Hesse’s major novels in English translation. No foreign language credit.

3340 Special Topics in German Literature in English Translation (1-4) Topics and credit hours vary and are announced in advance. Student suggestions for topics are welcome. No foreign language credit. May be repeated for credit.

GRADUATE

The Department of Germanic and Slavic Languages offers three advanced degrees. They are Master of Arts (M.A.) in German, Master of Arts in College Teaching (M.A.C.T.) in German, and Doctor of Philosophy (Ph.D.) in German Language and Literature. The requirements for these degrees as well as course descriptions are in the Graduate Catalog.

Russian (886)

1110-20 Elementary Russian (4,4,4) Must be taken in sequence.

1510-20 Elementary Russian (4,4) Must be taken in sequence.

1630-40-50 Elementary Serbo-Croatian (4,4,4) Must be taken in sequence.

2110-20-30 Intermediate Russian (4,4,4) Must be taken in sequence.


2270 Russian Philosophical and Theological Thought (3) Survey of the development of philosophical and theological thought in Russian from the Middle Ages to the Revolution. Special emphasis on the expression of this thought in Russian literature and literary criticism. A writing emphasis course; no knowledge of Russian required.

3110-20-30 Russian Composition and Conversations (3,3,3) Practice in writing and speaking; grammar review and vocabulary building. Prereq: Completion of 2110-20-30.

3610-20-30 Russian Literature (3,3,3) 3610—Russian poetry. 3620—Russian short stories. 3630—Russian short novels. Prereq: 2130 or equivalent. Need not be taken in sequence.

ADVANCED UNDERGRADUATE AND GRADUATE

4010 Selected Topics in Russian and East European Studies (3) Interdisciplinary seminar on selected topics using comparative approach. See Russian Studies.

4101 Foreign Study (1-16) See page 159.

4103 Independent Study (1-16) See page 159.

4110-20-30 Studies in Major Russian Writers (3,3,3) Content varies. Pushkin, Lermontov, Gogol, Turgenev, Tolstoy, Dostoevsky, Chekhov, and others. Prereq: 9 hours of 3000 courses (exclusive of 3010-20-30, 3210-20-30-40-50-60-70, 3310) or equivalent. May be repeated for credit.

4250 Introduction to Descriptive Linguistics (3) (Same as German, French, Spanish, and Linguistics 4250.)

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

4271 Introduction to Slavic Linguistics (3) (Same as Linguistics 4271)

4510-20-30 Seminar in Russian Literature (3,3,3) A course for majors in Russian; minors admitted at the discretion of the instructor. Intensive and integrated study of language, culture, literary style, and literary criticism based on selected texts.


GENERAL COURSES

3220 Works of Leo Tolstoy in English Translation (3-4) War and Peace, Anna Karenina, and other works.

3221 Works of F. M. Dostoevsky in English Translation (3-4) Crime and Punishment, Brothers Karamazov, and other works.

3240 The Russian Drama in English Translation (3-4) Selections from works of Chekhov, Gorky, Gogol, Pushkin, Gogol, Ostrovsky, Turgenev, and others.

3250 The Works of Ivan Turgeniev and Anton Chekhov in English Translation (3-4)

3260 Russian Folklore in English Translation (3-4)

3280 Special Topics in Russian Literature in English Translation (4) Topics vary and are announced in advance. Student suggestions for topics are welcome. No foreign language credit. May be repeated.

3710-20 Background and Main Currents of Russian Culture (3,3) A broad interdisciplinary approach to the appreciation of the language, religion, literature, art, music, history, geography, and social problems of Russia. No knowledge of Russian required. A writing emphasis course. Credit limited to upper level distribution requirement for Foreign Culture.

Greek See Classics.

Hebrew See Religious Studies.

History (462)

Professors: P. H. Bergeron, Ph.D. Vanderbilt, E. V. Chmielowski, Ph.D. Harvard, R. E. Duncan, Ph.D. California (Berkeley); L. P. Graf, Ph.D. Harvard, Y. P. Hao, Ph.D. Harvard, A. G. Haas, Ph.D. Chicago; R. W. Hawkins (Emuniversity), Ph.D. California (Berkeley); C. O. Jackson (Associate Dean, Liberal Arts College), Ph.D. Emory, M. M. Kleiner, Ph.D. Columbia, R. G. Landen (Dean, Liberal Arts College), Ph.D. Princeton.


Instructor: D. B. Morrow, M.A. UTK.

*Benwood Distinguished Professor. **Alumni Distinguished Service Professor. ***Lucy Young Professor.

UNDERGRADUATE

History is a rewarding subject for students seeking a general education. Historians traditionally have done well in a number of careers, such as law, business, journalism, public service, teaching and research, library and archival fields, and ministry. Many students majoring in other subjects take history courses: to develop their skills in thinking, writing, reading, and speaking; to assist them in their search for personal identity; and to help them in their lifelong effort to understand change, continuity, and the links between past, present, and future.
B.A. Major: Majors in history should prepare their programs in consultation with a department faculty advisor. History 1510-20 (or their honors equivalents), or 1610-20, are prerequisites to a major which consists of 41 hours, including: (1) 8 hours of History 2510-20 (or their honors equivalents); (2) 3 hours of a thematic course, History 2015; and (3) 30 upper-division hours. The distribution of upper-division courses shall be in such a way that they include at least: (1) one course dealing predominantly with a period prior to 1750, and (2) two courses in each of the following areas: 1) United States, 2) Europe-Latin America, and 3) Asia-Africa. It is highly recommended that majors take History 4010, and History Colloquium.

Minor: History 1510-20 (or honors equivalent) is prerequisite to a minor which consists of 24 hours of courses numbered 2000 or above, including at least: (1) 8 hours in United States history; and (2) 12 upper-division hours.

History for Non-Majors: The department welcomes non-majors in its courses. Few history courses have formal prerequisites.

Departmental Course Information: The Department of History offers honors sections of the Western Civilization and United States history survey course. Some entering freshmen are invited to participate. Any interested students may apply. These survey courses are open to non-majors. An honors major requires successful completion of three special courses at the junior level (3008, 3038, 3048) and a senior thesis (4018-4028). The honors major consists of 50 hours, including 41 hours as outlined above, plus 3008-36-48. All rising juniors who are declared history majors with an overall GPA of at least 3.0 are invited to join the Junior-Senior Honors Program. Students interested in honors work should consult the department's honors coordinator.

Departmental Course Information: Students can obtain additional information about the content and availability of history courses in the departmental office, 1101 McClung Tower, or from any member of the history department. The department also prepares a course description brochure for each quarter.


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

1518-28 Honors: Development of Western Civilization (4,4) Consent of department required. 1518—F; 1526—W.

1610-20 A History of World Civilization since 1450 (4,4) Interaction of Western World and non-Western peoples since the 15th century. 1610—ca 1450-1600; 1620—1800 to present. 1619—F; 1620—W.

1950-60 Afro-American History: An Introduction (4,4) Survey of the Afro-American experience to 1865. Traditional African societies from which Afro-Americans emerged; evolution of prejudice and racism in America; the institution of slavery; free Negroes; Civil War and Reconstruction. 1950—The Afro-American experience from 1890. The Afro-American struggle for political, civil, and social equality; leaders of the struggle; political movements and programs, responses of Black community institutions to the challenges of the post-war urban ghetto; the Civil Rights and Black Power movements.

2000 The City in Europe, ca. 1200-1900 (3) Survey of European urban growth, with comparative analysis of major periods of urbanization of 13th and 19th centuries. Emphasis on relationship between demographic, economic, political conditions of cities and political and cultural development.

2015 Historical Issues (3) Introduction to broad, thematic issues in historical perspective. A lecture-discussion course in which the content will change from quarter to quarter. Especially suitable for non-majors; also open to majors. May be repeated. Maximum credit 9 hours.

2350 U.S. and World Crisis, 1899 to Present (4) Present political and social issues confronting the United States today in historical perspective. Emphasis varies to reflect recent developments in world affairs. In tended for non-history majors and may not be used to satisfy history major or minor requirements.

2510-20 History of the United States (4,4) 2510—Settlement of 1866. 2520—1865 to present. E.

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 Legislative requirements in American history, or for transfers who enter liberal arts with credits, but fewer than eight, in an American history and understanding. 2511—1866, Ideologies and political conflict with non-Western world views, and the search for individual identity in circumstances of cultural disruption.

3060-70-80 History of Western Religious Thought (4,4,4) Considers the development of religious thought from the origins of Judaism and Christianity to present. F, W.

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

3038 Honors: Philosophy and Methods (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.

3050 The West and the Third World Since 1870 (3) Examination of the relationships between the West and Africa, Asia, and Latin America since 1870 across a broad spectrum of critical issues. Includes economic, political, social, and cultural issues facing the Third World. 3051 Revolutions in Historical Perspective (3) Comparative history of major revolutions which transformed political, social, and economic structures and values, such as those in France, Russia, China, Mexico, and Iran. Contrasts and common patterns in their causes, phases, and outcomes. Relations between leaders and masses. Major theories of revolution.

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

3121 Ancient History to 500 A.D. (3) The cultural foundations of western civilization. Considers such topics as the rise of the Greek polis, classical Greek culture and philosophy, Alexander the Great and the Hellenistic era, the rise and fall of the Roman Empire, the origins of Judaism and Christianity.

3122 Medieval Europe, 500-1450 (3) The emergence of a distinctive western European civilization from classical, Christian, and Germanic roots. Considers such topics as the Carolingian renaissance, feudalism, state-making in England and France, the social and spiritual power of the church, the rise of cities, the Black Death and early Renaissance.

3123 Early Modern Europe, 1450-1750 (3) The transition to modern society. European religious wars and civil wars, peasant rebellions, the spread of European contacts with the non-European world, population fluctuation, preindustrial economic growth, rise of modern states, the Scientific Revolution, witchcraft.

3124 Modern Europe, 1750,1900 (3) The political, industrial and intellectual revolutions against traditions. Considers such topics as industrialization, urbanization, the political emergence of the middle class and the masses, nationalism, imperialism, rationalism and Romanticism in social and political thought.

3125 Contemporary Europe, 1900-Present (3) The transformation from industrial to post-industrial society and the decline and rise of modern political systems. Considers such topics as war and depression and consequent political and social instability; the Russian Revolution, Nazism, the impact of Freud and Einstein; welfare states; European reunification.

3140-50-60 History of England (3,3,3) 3140—To 1688. 3150—1689 through Reform Bill of 1832. 3160—1832 to present. Medieval state, church, and society; origins of Anglo-American law, the monarchy and the economic development; law and the Reformation, 17th Century revolutions, commercial, agricultural and industrial revolutions; class conflict, empire, the welfare state, world wars, economic crisis.

3201 American Studies: Individualism and Community (3) Examination of the ways in which Americans have organized their lives so as to retain the benefits of individual and small group identities, yet achieve the purposes that come from larger shared values and goals. Topics include conflicting and competing tendencies in laissez-faire and "Americanism" and ethnic identity.

3202 American Issues: War and the Peaceful Ideal (3) Examination of the evolution of the dual tendency among Americans to fight and resist their imperial conquests and, at the same time, to engage in war and exercise economic or political dominance over other peoples. Topics include the relationship between leaders and followers, patterns of dissent, mobilization for war, and post-war attitudes.

3210 History of Sports in United States (3) Analysis of development of sports and their significance in American life from colonial period to present. Emphasis on social, cultural, economic, and political impact of both spectator and participatory sports in 20th century.

3240 Law in American History (3) The law and economic development of the United States. This course examines the role of law in the Revolution and the Civil War, and the rise and development of the legal profession. Not for graduate credit.

3270 History of Human Services and Public Health in United States (3) Development of human services in modern society, focusing on how and why public housing, health, and welfare services emerged in the United States and explaining the underlying historical, social, and economic forces that shaped these changes. An introduction to the political economy of the welfare state.

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

3411 The Renaissance (3) (Same as Religious Studies 3411.)

3412 The Reformation (3) The Reformation, Counter Reformation, and Wars of Religion. (Same as Religious Studies 3412.)

3421-22 Early Modern Europe (3,3) 3421—17th century Europe. 3422—18th century Europe.

3431-32 Nineteenth Century Europe (3,3) 3431—French and industrial revolution to 1869. The milieu of ferment for conflicting economic, social and political ideas, culminating in a massive revolutionary upheaval. 3432—Maturity and Challenge (1848-1914). Industrial growth, capitalism, the rise of a large bourgeoisie, the welfare state, world wars, and modern social change.

3445-46 History of France (4,4) 3445—Emergence of Modern France (1715-1875). Social, intellectual and economic pressures in the ascen regime; era of experimentation as revolutionary and traditional France contended with each other. 3446—Since 1914.

3470-80-90 History of Russia (3,3) 3470—To 1861. 3480—19th century 3490—20th century.

3610-20 The American Colonies and the American Revolution (3) Emphasis on major themes rather
than chronological coverage of the years 1607-1769. Changing historical interpretations of European colonization; colonial society, economy, religion, culture and politics; and consequences of the American Revolution, and the nature of the Federal Constitution of 1787.

3830-40-50 The United States: Formation to Reunification (3, 3, 3) 1760-1875 to 1939. The Federal Constitution of 1787. The industrialization, urbanization, overseas expansion, and spread of Islamic civilization to the 16th century. The effects of absolutism, the Enlightenment, romanticism, revolution, reaction, and industrial economics on German society and State. The Austrian-Prussian rivalry in the 19th century to the present.

4010 Colloquium in History (3) Examination of a historical theme or problem. Emphasis on questions and skills, discussion of both primary and secondary sources. Recommended for seniors. Recommended but not required that History 4000 and 4100 be taken in sequence.

4015 Studies in History (3-4) Variable content course affording opportunity to offer subject matter not covered in an existing course. May be repeated for credit.

4018-28 Honors: Senior Paper (0-6) Required of students working for honors in history.

4040 History Behind the News (4) The contemporary history and the historical background of selected newsworthy events in North and South America, Europe, and the non-Western world are studied to acquire a fuller understanding of their significance. May satisfy history major requirements (except those of geographical distribution). Non-majors may repeat once for credit.

4051 Foreign Study (1-16) See page 159.

4100 Off-Campus Study (1-16) See page 159.

4103 Independent Study (1-16) See page 159.

4130 History of Colonialism and Imperialism (3) 19th century to the present.

4260-From Enlightenment to Age of Realism (1700-1870). 4270-From Subjectivism to Relativism (1870-present).

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. (Same as Women's Studies 4280.)

4290 Women in American History (4) Approaches of 4280 applied to American society. (Same as Women's Studies 4290.)


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 1500 to 1950, Western Europe, Russia, and America. Emphasis on Western Europe: e.g., Dreyfus Affair, Army in Nazi Germany, and Truman-MacArthur controversy.

4410-20-30 Europe in the Twentieth Century (3, 3, 3) 4410—1890 to 1919. 4420—1919 to 1939. 4430—1939 to present.

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 18th century to present, emphasizing problems of Westernization, nationalism, and revo- lutionary tradition.

4490 Soviet Foreign Policy (3)

4500 History of Medieval England (3) A survey from the Anglo-Saxons to the coming of the Tudors with emphasis on the relationship between legal and constitutional development and the structure of society.

4510-20 Tudor-Stuart England (3, 3) 4510—Emphasis on such topics as the Renaissance and Reforma- tion, the Tudor and Stuart courts, the Middle Ages, Thomas More, Elizabeth I, and Mary. Queen of Scots. 4520—Emphasis on such topics as Puritanism, the English Civil War, the Restoration, the French Revolution and the Sci- entific Revolution, and on such figures as the Stuart kings, Oliver Cromwell, Milton, Hobbes, and Locke.

4551 Great Britain from Burke to Bright (1780-1840) (3)

4570 Twentieth-Century Britain (3) The emergence of a welfare state; the political and social movement, World War II, and the persistence of class.

4610-20-30 The American Frontier and Westward Movement I, II, III (3, 3, 3) Settlement and development of the "West" throughout American history, 4610—From the Atlantic to the Mississippi. 4620-30—The Trans-Mississippi West.

4641-51 America: Mind, Mood and Society (3, 3) Surveys social and cultural history and thought from mythology behind colonization to the major beliefs and values which form the foundation of present-day life in the United States. (Same as Urban Studies 4670.)

4680 History of Knoxville (3) Knoxville as a historical case study to analyze the interplay of tradition and change in urban America in general and urban South in particular. Economic growth and develop- ment, urban problems, regional, social, political and cultural conflicts over issues connected with change and modernization.

4710-20 Medieval History (3, 3) 4710—Age of Her- roes, 500-1000. The pattern of early medieval heroism, its social and intellectual assumptions, the individuals who exemplify it, and the continuing harsh environ- ment of the early Middle Ages. 4720—Age of Chivalry, 1000-1300. The emergence of chivalry—from the heroes of the feudal epics of the 11th century to the questing knights of the 13th century romances.

4741 Italian City-States, 1250-1500 (3) Evolution of urban culture in north and central Italy in the medieval and Renaissance periods. Architectural and townscapes forms studied in socioeconomic as well as cultural contexts. Renaissance focus, but other major city- states are also included.

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

4811-21 History of Japan (4, 4)

4840 History of Mexico (3) (Same as Latin American Studies 4840.)

4850 History of the Caribbean (3) Caribbean region from discovery and colonization to contemporary times. (Same as Latin American Studies 4850.)

4870-80-90 History of China (3, 3, 3) 4870—Cultural History of China. Chinese high culture from Confucius to Mao-Tse-tung. Traditional religion, philosophy, fine arts, and literature (including a novel); cultural legacy underlying modernism; similarities and differences be- tween Chinese and Western cultures. 4880—To 1850. Emphasis on the unique origins of the Chinese civilization, its influence on Japan and the West, and its relevance in today's world. 4890-Modern China since 1850. The Chinese Revolution in context: Imperialism, rebellion, nationalism, communist movement, Mao-Tse-tung, and China in today's world. No previous knowledge of China required.

Human Services (532)

The Program in Human Services was established in 1971 for the purpose of providing education, training, and experience, at the undergraduate level, for individuals interested in working to enhance and increase the well-being of our society. The course of study provided by the faculty is also appropriate for individuals who wish primarily to improve their understanding of themselves and of the society in which they live.

Graduates of the program are employed in a wide variety of settings, including child and family service agencies, community centers, school systems, mental health centers, hospitals, court systems, family planning clinics, extended care facilities, and state human service departments. Many of our graduates enter graduate and professional schools for advanced study in areas such as psychology, business administration, criminal justice, education, guidance, law, occupational therapy, public administration, special education, social work, and vocational rehabilitation. The program is approved by the Council for Standards in Human Service Education (CSHE).

The curriculum of the program includes required courses, elective courses, advising, and supervised experiences in two human service agencies or organizations. A B.A. major in human services may be obtained by completing the following: H.S. 2690, 3300, 3900, 4220, 4221, 4400, 4401, and one course from each of the four lists of courses:

1. Psychology 3650 (4)
2. Political Science 3565 (4), Political Science 3566 (4), or Sociology 4560 (4).
3. Psychology 3120 (4) or Sociology 3130.

Total Credit Hours: 55-56

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

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. W, S.

3200 Peoples and Problems of Appalachia (4) Course designed to provide better understanding of Appalachian peoples, exploring their life style and institutions from 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 thoughtful, informed, and empathic attitudes toward human beings-those providing service as well as those receiving service. F, W.

3900 Information Assessment and Interpretation (4) The knowledge and skills of information gathering and assessment for human services are examined in depth in relation to human services practice. Emphasis is placed on formulating questions, identifying relevant data, using related resources, interpreting information and applying this information in a practical setting. F, S.

4010 Foreign Study (1-16) Foreign Study Application filed no later than the first week of the quarter prior to the quarter of enrollment. For additional information, see page 159.

4020 Off-Campus Study (1-16) Off Campus Study (1-16) Application filed no later than the first week of the quarter prior to the quarter of enrollment. For additional information, see page 159.

4030 Independent Study (1-16) Independent Study (1-16) Application filed no later than the first week of the quarter prior to the quarter of enrollment. For additional information, see page 159.

4220 Human Services Methodologies (4) Introduction to some specific helping techniques essential to administration and delivery of human services. F, W.

4221 Human Service Methodologies II (4) A continuation of HS 4220 with emphasis on general helping skills essential to the administration and delivery of human services. Prereq: 4220. W, S.

4229 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 instruction. May be repeated up to 12 credit hours.

4300 Working Within the System (6) A survey of the context within which the need for human services arises and an analysis of the process by means of which such services are provided. Prereq: senior standing.

4400 Human Services Field Work I (8) 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. Must be taken for 8 hours Fall and Spring Quarters. S/NC. Prereq: 4220, 4221, F, S.

4401 Human Services Field Work II (8) 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 to and involved in the roles and functions of social services; to provide some direct services in a supervised learning situation. For majors only. Must be taken for 8 hours Winter and Summer Quarters. S/NC. Prereq: 4220, 4221, 4400. W, SU.
Prerequisites:

Students who have completed the requirements of the major are encouraged to inquire at the Mathematics Office, Ayres 121, about the possibility of taking ad

Advanced Mathematics Courses: Include 1300 and all courses numbered 1310 or above, except 2320, 2510, and 2661.

1. 2840-50-60 (or honors version) and have completed 1840-50-60 (or honors versions) and have programming skill sufficient to take 3155.

2. Students who have taken calculus in high school are encouraged to omit 1540 and begin with algebra and geometry, and present an ACT score of at least 32 in mathematics.

2. 3550-60. Students who complete 2848-58-68 in sequence, fall-winter-spring, and complete the Honors Program with an overall grade point average of at least 3.4, or 3.6, or 3.8 will be graduated with Honors, High Honors, or Highest Honors in Mathematics, respectively.

In exceptional cases, other courses of the same level; operations research, or statistics; applied mathematics, computer science, operations research, or statistics; for teaching, at the school or college level; for careers in business, law, medicine, or any other areas requiring training in mathematics. These programs, along with other useful information for majors, are published in a Program Planning Guide, which is available on request at the department office, room 121, Ayres Hall. Prospective students are invited to write for copies.

1140 Basic Mathematical Skills (3) Sets, elementary deductive logic; problem solving, elementary probability and statistics. Satisfactory Academic Skills in Mathematics for B.A./B.S. candidates in the College of Liberal Arts. No student who enters the University with a grade of C or better may subsequently receive credit for Math 1540 or 1700. Prerequisite: Two years of high school algebra or one year of algebra and one year of geometry.

1140 Basic Mathematical Skills (3) Sets, elementary deductive logic; problem solving, elementary probability and statistics. Satisfactory Academic Skills in Mathematics for B.A./B.S. candidates in the College of Liberal Arts. No student who enters the University with a grade of C or better may subsequently receive credit for Math 1540 or 1700. Prerequisite: Two years of high school algebra or one year of algebra and one year of geometry.

1140 Basic Mathematical Skills (3) Sets, elementary deductive logic; problem solving, elementary probability and statistics. Satisfactory Academic Skills in Mathematics for B.A./B.S. candidates in the College of Liberal Arts. No student who enters the University with a grade of C or better may subsequently receive credit for Math 1540 or 1700. Prerequisite: Two years of high school algebra or one year of algebra and one year of geometry. These programs, along with other useful information for majors, are published in a Program Planning Guide, which is available on request at the department office, room 121, Ayres Hall. Prospective students are invited to write for copies.

1510-60 Introductory Calculus—General Mathematics (4.4)-1550—Equations of straight lines, conics, derivatives of algebraic functions, applications of derivatives, maxima and minima, related rates, antiderivatives, integration of algebraic functions, applications of integration to areas, volumes, and lengths of curves. Differentials, mean value theorem, formal integration, improper integrals. Determinants, matrices, systems of linear equations and inequalities, Cramer's Rule, linear programming, trigonometric functions, applications, arithmetic and geometric series, simple and compound interest, annuities, exponential and logarithmic functions, law of growth, applications. Prerequisite: 1550 or equivalent.

Note: No student who has received a grade of C or better in Mathematics 1560 may subsequently receive credit for Mathematics 1550.
may subsequently receive credit for Math 1540 or equivalent. No student who has received credit for Math 1540 or students who have had a significant introduction to calculus after taking 1850-60. Special sections of 1858 will be made available to students wishing to continue the study of calculus after completing 1850. (Same as Computer Science 2215.)

2215 Discrete Structures I (3) Prereq: 1620 and Math 1550. (Same as Computer Science 2215.)

2450 Calculus (4) For students who have completed 1560 or at least one semester of high school calculus. Must be taken in sequence. NOTE: Credit will not be granted for both 1840 and 1841. Prereq: Two years of high school algebra, one year of geometry, and one semester of trigonometry or equivalent.

141 Calculus for Biological Sciences (4) Course for students whose intended major is in an area of the life sciences. Functions, differentiation, exponentials and logarithms, techniques of integration, applications to problems in the life sciences. Must be taken in sequence. NOTE: Credit will not be given for both 1840 and 1841.

184-52-62 Single Variable Calculus with Computer Support (5,5,5) Same coverage of calculus as 1840-50-60 but supplemented with computer. Elementary FTC-TRAN is introduced and applied to problems from following areas: computer evaluation of functions; limit concepts; continuity of functions; definition of derivative; approximation via differentials; approximate solution of equations by bisection; secent methods and Newton's method; rectangular, polar, and spherical coordinates. Simpson's rules for numerical integration; Euler's method for initial value problems. Prereq: Two years of high school algebra, one year of geometry, and one semester of trigonometry or equivalent.

188-58-68 Honors: Single Variable Calculus (4,4,4) Honors course for students who have had trigonometry, selected on basis of placement test scores and high school grades. Prereq: Math 1540. Receiving a grade of B or better in 1848 will complete the year's work in calculus by taking 1858. Sections of 1858 will be offered for students who perform well in 1848. Must be taken in sequence.

190 Selected Topics (4) Applications of definite integration; approximation integration; simultaneous linear equations; matrix inversion; elementary linear programming; infinite series; descriptive statistics and finite probability. This course is especially recommended for architecture majors. Prereq: 1840-50. A student wishing to continue the study of calculus after taking 190 should consult the mathematics department.

2110-20-30 Structures of the Number System (3,3,3) 2110—Set theory: whole numbers, integers, 2120—Inverses, order properties, rational numbers. 2130—Elementary number theory, rational and irrational numbers. Elementary combinatorics. Prereq: 1840. Prereq: 1 year of high school algebra and at least sophomore standing in elementary education, College of Education, or consent of instructor.

2215 Discrete Structures I (3) Prereq: 1820 and Math 1580. (Same as Computer Science 2215.)

2450 Calculus (4) For students who have completed 1550 or students who have had a significant introduction to calculus in high school. Definition of a derivative, applications, the chain rule, differential, continuity, applications of derivatives; Rolle's Theorem, the Mean Value Theorem, maxima and minima; infinite integrals and applications, the definite integrals and applications, Fundamental Theorem of Integral Calculus. Derivatives and integrals of transcendental functions, parametric equations, vectors, differential of vector functions, derivative and integral of vector functions, the chain rule, the total differential, maxima and minima, line integrals, exact differentials, multiple integrals, Jacobian, partial derivatives, spherical and cylindrical coordinates, series, tests for convergence, power series, Taylor's series. Prereq: Math 1560 or at least one semester of high school calculus.


2848-58-68 Honors: Multivariable Calculus and Matrix Algebra (4,4,4) Honors course for selected students admitted on the basis of performance in 1848-58-68 or 1840-50-60. Prerequisites. If specific courses are listed below as prerequisites, equivalent preparation satisfactory to the instructor of the course. Graduate students are encouraged to enroll in the honors course if they have completed a significant mathematics course. Prereq: 1882. Graduate standing in courses numbered above 600. Undergraduates working towards a major in mathematics with a view to taking advanced work are strongly advised to include 4510-20-30 and 4150-60 during the junior or senior year.

3000 Elementary Quantitative Methods (4) Elementary 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.

3050 Elementary Probability and Statistical Analysis (3) Combinatorial problems; sample spaces, sets, and events; statistical independence; axiomatic probability theory; random variables and their distributions; simple random processes. Prereq: 1550-60 or equivalent. Does not satisfy the requirements of a major or minor in mathematics.

3060 Elementary Statistical Analysis (3) Elementary probability distributions; sampling theory; confidence intervals and hypothesis testing; least squares and linear regression. Prereq: 3050 or consent of instructor. Does not satisfy the requirements of a major or minor in mathematics.

3090 Polynomials and Rings (3) An introduction to abstract algebra, beginning with study of integers followed by the more general notions of rings, integral domains, fields, and finite fields. Treats certain ring theoretic properties shared by integers and polynomial rings over fields. Prereq: Math 3100 or consent of instructor.

310 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 mathematics. Does not satisfy the requirements of a major or minor in mathematics.

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. Does not satisfy the requirements of a major or minor in mathematics.

3150 Introduction to Numerical Algorithms and Programming (3) (Same as Computer Science 3150.)

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

3215 Discrete Structures II (3) (Same as Computer Science 3215.)

3220 History of Mathematics (3) Survey of development of mathematics, from ancient to modern times. Not acceptable for satisfying requirements for a major or minor in mathematics. Prereq: Math 1860 or 2550 or equivalent.

3310 Advanced Euclidean Geometry (3) Triangles and circles, constructions, modern concepts. Prereq: 1 year of college mathematics.

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

3330 Transformational Geometry (3) Fundamental transformations in Euclidean geometry. Classification of geometries and similarities; symmetries and polyhedra, inversions. Prereq: One year of college mathematics.

3510 Intermediate Analysis for Teachers (3) Primarily for students in secondary mathematics education. Course covers elementary calculus from an advanced viewpoint with emphasis on proofs of basic theorems. Topics covered include limits of sequences and functions, convergence of series, properties of continuous functions, uniform convergence, Riemann integrals. Prereq: One year of college mathematics.

3510-52-54 Intermediate Analysis (3,3,3) Real number system, functions, sequences, uniform convergence, continuity, differentiabilility, and Riemann integration. Must be taken in sequence. Prereq: 2640-50-60.

3720 Theory of Equations (3) Techniques for finding roots of polynomials, covering such topics as factorization, complex, integral, and rational roots, multiple roots, separation of roots, Sturm's Theorem, Horner's method of polynomial division, interpolating formulas for quadratic, cubic, and biquadratic equations. Prereq: 1 year of college mathematics.

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

3780 How to Prove It (3) Course is designed to improve understanding of nature and methods of mathematical proofs. Focus on process and participation in seminar setting. Variable content will include certain standard topics such as elementary set theory, relations, functions, derivatives, definite integrals, and fundamental theorem of integral calculus. Coreq: 2860 or 2850.

3810 Introduction to Topological Spaces (3) Introduction to the theory of topological spaces and their structure. Prereq: Math 2860 or consent of instructor. Does not satisfy the requirements of a major or minor in mathematics.

3820-30 Topology of Euclidean Spaces (3,3) Topics include coordinate systems, open and closed sets, continuity, compactness, connectedness, completeness, continuous functions, homeomorphism, connected and topological invariants. Must be taken in sequence. Prereq: 3810 or 2868 or consent of instructor.

3861 Mathematical Models in the Life Sciences (3) Introduction to difference equations and differential equations. Mathematical modeling techniques applied to biological phenomena. Prereq: Math 2850 or consent of instructor. Does not satisfy the requirements of a major or minor in mathematics.

3880-40-50 Matrix Algebra and Applications (3,3,3) Vector spaces, linear transformations, eigenvalues and eigenvectors, similarity and unitary transformations, singular value decomposition and the least squares problem, vector and matrix norms, and general matrix forms, evolution of discrete and continuous systems, quadratic forms and variational principles, related topics. Must be taken in sequence. Prereq: Math 2860.

4070 Matrix Algebra and Applications (3) Topics to be chosen at the discretion of the instructor. Prereq: 4050-60.

4102 Off-Campus Study (1-16) See page 159.

4210 Linear Algebra (3) Abstract vector spaces, linear transformations and their matrices, systems of linear equations and determinants, inner products, and diagonalization of symmetric matrices. Prereq: Math 2860 or 4050.

4510-50-60 Abstract Algebra (3) Equivalence relations and partitions, properties of integers, elementary theo-
4225 Numerical Solution to Equations and Numerical Approximations (3) Introduction to computation, instability, rounding errors. Solution of a single nonlinear equation; introduction to iterative methods for linear and nonlinear systems. Polynomial equations, root finding and power methods for eigenvalues. Approximation by polynomials, piecewise polynomials, splines, and rational functions. Prereq: 2150 or 3155. (Same as Computer Science 4225.)


4250-60 Introduction to Complex Analysis (3,3) Complex numbers, Cauchy-Riemann equations, Cauchy's theorem, Taylor and Laurent series, residues and their applications. 4260—Conformal mapping and applications. Dirichlet problem, applications (steady temperatures, electrostatics, fluid flow), additional topics in complex functions. Mathematics 3710 may be taken in sequence. Prereq: 2660; one 4000-level mathematics course recommended.

4510-20-30 Introduction to Analysis (3,3,3) Real number system, functions, sequences, limits, continuity, uniform continuity, differentiation, integration, functions of several variables, implicit function theorem, multiple integrals, infinite series, sequences and series of functions, uniform limits. Prereq: Coreq: 3519. Should be taken in sequence. NOTE: Credit will not be given for both 4530 and 4710.

4540 Infinite Series and Functions of Several Variables (3) General theory, power series and Taylor's formula; uniform convergence. Partial differentiation and maxima and minima for functions of several variables. Lagrange multipliers. Prereq: 2660.

4550 Partial Differential Equations (3) Fourier series; Fourier integral; orthogonal functions; the vibrating string; solution by series; heat flow, Bessel functions. Prereq: 2660; 4610 or 4710 recommended.


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 for 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 and course descriptions are in the Graduate Catalog.

Medieval Studies
See Cultural Studies.

Microbiology

Professors: A. Brown (Head), Ph.D. Chicago, R. W. Beck, Ph.D. Wisconsin; J. M. Becker, Ph.D. Cincinnati; R. J. Courtney, Ph.D. Cornell; W. J. D. Maryland; J. O. Mond (Emeritus), Ph.D. Michigan State; W. S. Riggsby, Ph.D. Yale; B. T. House, Ph.D. Gueghe (Canada); D. C. White, Ph.D. (England); J. M. Woodward (Emeritus), Ph.D. Kansas; C. J. Wust, Ph.D. Indiana.

Associate Professors: D. A. Bemis, Ph.D. Michigan; G. S. Stacey, Ph.D. Texas-Austin.

Assistant Professors: D. A. Bemis, Ph.D. Cornell; R. N. Moore, Ph.D. Texas-Austin; K. M. Sierkino, Ph.D. Michigan State; G. Stacey, Ph.D. Texas-Austin.

hypercentric, and normal distributions. 4760—Expectation, conditional expectation, and characteristic function of random variables, the weak and strong laws of large numbers, and the central limit theorem. 4770—Markov chains, limiting probabilities, stationary and time-dependent processes: Kolmogorov equations. Prereq: Math 2849-50-60.

4810 Elementary Number Theory (3) Divisibility; congruences, theorems of Fermat and Wilson, primitive roots, indices, quadratic reciprocity. Prereq: 2660 or consent of instructor.

4910 Senior Topics (3) Topics vary. Assignments will include library research and oral and written reports. May be repeated once for credit. Prereq: 3500-60, senior standing, and consent of instructor.

4940 Mathematical Modeling (3) Survey of construction and development of mathematical models used in science and industry. Models studied may draw upon Markov chains, linear optimization, graph theory, or differential and integral equations. Mathematics developed to understand the modeling and associated scientific problem that it approximates. Projects emphasized. Prereq: 2840-50-60.

4980 Readings in Mathematics (1-3) Open to superior or independent studies. Independent study with faculty guidance. May be repeated. Maximum credit 9 hours.

4990 Studies in Mathematics (1-4) Credit determined at registration. May be repeated for credit with consent of department; maximum credit 9 hours. Prereq: Coreq: 3519, 3700, and 16 hours of upper-division mathematics. Only to students in the College of Nursing, preverteiniology, veterinary medicine, food technology, food science, nutrition, or food systems management. Others by consent of instructor. Students do not receive credit for 2910 if 2919 has been taken. Prereq or coreq: 2910.

2910 General Microbiology (3) General properties of bacteria, viruses, and fungi including study of pathogenesis, immunity, and applied bacteriology. The combination of 2910-2911 or 2910-2911 meets the needs of programs that require a one-quarter course in microbiology. Coreq: 2919.

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

2919 Laboratory in General Microbiology (2) Laboratory exercises designed to accompany 2910. Open only to students in the College of Nursing, preverteiniology, veterinary medicine, food technology, food science, nutrition, or food systems administration. Others by consent of instructor. Students do not receive credit for 2910 if 2911 has been taken. Prereq or coreq: 2910.

2920 Medical Microbiology (3) Disease producing microorganisms including bacteria, viruses, and fungi; basic principles and methods of examination, cultivation, and identification of microorganisms. Place of microorganisms in environment. Prereq: Chemistry 1110-20-30, Biology 3120; coreq: 3519, Biology 3110.

3519 Introductory Microbiology Laboratory (2) Basic techniques for examination, cultivation, and identification of microorganisms. Coreq: 3250 or 3700.


3810 Food Bacteriology (3) Standard methods for examination, cultivation, and identification of bacteria associated with food fermentation and food spoilage. Prereq: 2910 or 3700 and Chemistry 2230 or 3211. 2 hours and 2 labs.

3819 Food Bacteriology Laboratory (2) Laboratory methods for examination, cultivation, and identification of bacteria associated with food fermentation and food spoilage. Prereq: 2919 or 3519, coreq: 3810.

3820 Yeasts and Molds (3) Morphology, taxonomy, and physiology of yeasts, yeasts, and fungi of industrial importance. Prereq: 2910 or 3700 or consent of instructor. 2 hours and 2 labs.

3829 Yeasts and Molds Laboratory (2) Laboratory methods for examination and cultivation of yeasts and molds. Prereq: 2919 or 3519, coreq: 3820.

4010 Biology of Soil Microorganisms (3) (Same as Entomology and Plant Pathology 4010.)

4011 Foreign Study (1-16) See page 159. No more than 3 hours may be applied toward a major or minor in microbiology. May be repeated. Maximum credit 16 hours.

4012 Off-Campus Study (1-16) See page 159. No more than 3 hours may be applied toward a major or minor in microbiology. May be repeated. Maximum credit 16 hours.
Tats. Prereq: 3519; coreq: 4150 or consent of instructor.

Techniques for assessment of microbial forms, functions, and interactions in a variety of habitats. Emphasis on basic techniques in experimentation in microbial genetics. Coreq: 4140.

Principles, theories, and instrumentation related to the qualitative and quantitative evaluation of cellular elements of blood and other body fluids; factors of hemostasis; qualitative chemical analysis of urine, and renal function studies. Emphasis is placed on microscopic identification of cells and the significance and correlation of laboratory data.


Principles and Clinical Microscopy (6,6) Performance and interpretation of broad range of clinical serological and immunological procedures with emphasis on principles and clinical correlation. Formal lecture series included.

4240 Clinical Serology and Immunology (2) Performance and interpretation of broad range of clinical serological and immunological procedures with emphasis on principles and clinical correlation. Formal lecture series included.

4241 Immunohematology (4,4) Theory and practice of diagnostic medical technology. Orientation to basic techniques of methods of collection and handling, significance of results, and quality assurance. Includes blood gas analysis, including radionuclide, and analysis of blood and other body fluids for enzymes, hormones, and other constituents of clinical interest, utilizing both automated and manual techniques.

4270 Immunology (3) Principles of bacterial physiology, pathogenesis, and correlation of laboratory data.

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

Pathogenic Bacteriology (3) Disease producing microorganisms including bacteria, rickettsia, and chlamydia. Prereq: 3200.

Pathogenic Bacteriology Laboratory (2) Techniques for isolation, cultivation, and identification of pathogenic bacteria. Prereq: 3200; coreq: 4320.

Medical Mycology (3) Disease caused by fungi, cytology, physiology, pathogenesis, and immunity, emphasis on methodology of isolation and identification. Prereq: 3700.

Medical Mycology Laboratory (2) Prereq: 3519; coreq: 4350.

Molecular Virology (3) Molecular aspects of the replication, assembly, and expression of viruses, with emphasis on HIV. Prereq: 3519; coreq: 4330.

Molecular Virology (3) General virology with emphasis on medical aspects. Prereq: 3200.

Medical Virology Laboratory (2) Laboratory procedures for isolation, handling and culturing of animal viruses. Prereq: 3519; coreq: 4430.

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 hours may be used toward a major in microbiology. May be repeated. Maximum credit 12 hrs.

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

Graduate Consult the Graduate Catalog for listing of graduate level courses.

Medical Technology (669) Courses in this major are open only to qualified students who have completed the first three years of the Science-Medical Technology Curriculum, described on page 152, 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 pathological growths from human and animal sources, methods of culture, techniques of identification, and evaluation of antibiotic sensitivity. Gross and qualitative chemical examination of infectious agents and methods of purification of protozoa and helminth parasites of man.

4021-22 Clinical Chemistry (6,6) Clinical aspects of biochemistry, including overview of principles and instrumentation on practical laboratory application of analytical procedures, specimen collection and handling, significance of results, and quality assurance. Includes blood gas analysis, including radionuclide, 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; qualitative chemical analysis of urine, and renal function studies. Emphasis is placed on microscopic identification of cells and the significance and correlation of laboratory data.


4043 Clinical Serology and Immunology (2) Performance and interpretation of 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-life radioactive materials. Emphasis placed on in vivo diagnostic medical uses and radiation safety.

4060 Histology (1) Overview of techniques of preparation of tissue for microscopic evaluation 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 of methods of study include procedures for collection and handling of specimens, preparation of many laboratory equipment, review of laboratory math, and introduction to quality control procedures. Portions of course extend over entire clinical year.

4072 Principles of Supervision and Education in Medical Technology (1) Seminars in basic principles of management, supervision, and education theories and methods. Comprehensive examination covers entire course.

Music (698)


Columbia: W. P. Scarlatt, M.M. Louisiana State; D. Stutzzeberger, D.M.A. Maryland; S. E. Young, Ph.D. North Carolina.


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 who have a strong interest in music, but desire a comprehensive liberal studies program. Information regarding requirements for the B.M. degree may be found on page 154.

B.A. Degree/Music Requirements:

Prerequisites: Hours
Music Theory 1111-21-31...
9
Music Ear Training 1112-29-30...
9
Applied Study (1000 level)...
3
Courses toward the major:

Music Theory 2111-21-31...
9
Music History 2300-10-20-30-40...
15
Applied Study (2000 and above, 2 hrs. per quarter)...
9-12
Ensemble...
3

Courses selected from Aesthetics of Music 5420, Music 5900, Independent Study 4100, 4200; Lecture recital 5064.

3-6
Electives...
3-6
Solo Class (required when taking 2 lessons per week)...
0

(Prerequisites)...
15

TOTAL HOURS: 90-66

Minor:

(a) Concentration in Applied Music—consists of 24 hours in courses numbered 2000 and above, distributed as follows: Music 2300, 12 hours in applied music and 9 hours in music electives. Prerequisites are Music 1000 or equivalent and three quarters of applied music study at the 1500-1599 levels.

(b) Concentration in Music History and Literature—consists of 24 hours in courses numbered 2300 and above, distributed as follows: Music 2300, 12 hours in Music History and Literature courses and 9 hours in music electives. Prerequisites are Music 1000 or equivalent and three quarters of applied music study at the 1500-1599 levels.

The Bachelor of Science in Music Education, designed for preparation for elementary teaching, is administered by the Department of Music Education. See page 99 for requirements.

GENERAL

1000 Fundamentals of Music Theory (3) Theory and practice of basic elements of music. 3 hours.

1010-20-30 Class Piano (1,1,1) For music and music education majors only. Must be taken in sequence. Course may be waived, upon successful completion of Piano Competency Examination. Waived courses must be substituted with an equivalent number of quarters of study in Music 1580 or above.
1015 Class Voice (1) Development of basic vocal skills. May be repeated for credit.

1025 Class Voice (1) Prereq: Consent of instructor. May be repeated for credit.

1085-95 Class Guitar (1,1) Must be taken in sequence. Prereq: Consent of instructor.

2000 Solo Class (0)

2010 Introduction to Musical Theatre Technology (3) Stage technology unique to lyric stage.


2020 Vocal Techniques in Popular Music (1) Development of performance techniques in Broadway and other contemporary music styles. Prereq: Consent of instructor. May be repeated for credit.

2040-50-60 Class Piano (1,1,1) Must be taken in sequence. Music and Music Education students may waive courses by successful completion of piano competency examination, but waived courses must be substituted with an equivalent number of quarters of study in Music 1580 or above.

2055-65-75 Dictation 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, harmonizing, and accompanying on the organ. Prereq: 1131 and 6 hours in organ.

2109 Techniques of Sound Recording (3) Theory and applications of tape recording. Topics include room acoustics, microphones, processing, noise reduction, mixing, editing, dubbing, and recorder maintenance.

210-20-30 Jazz Piano (1,1,1) Harmonic language of jazz; interpretation of chord symbols, form, and applications of tape recording. Prereq: 2075 and consent of instructor. Must be taken in sequence. 2 hours per week.

3000 Junior Recital (0)

3012-22-32 Song Literature (2,2,2) Study of literature from 1750 to present with emphasis on performance practices. 3012—Classical and Romantic German art songs; 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 credit 6 hrs. Prereq: Consent of instructor.

3018 Introduction to Styles in Jazz Drumming (2) Examination and study of major composers and performers who have contributed significantly to creation of principal styles of jazz drumming.

3052-53 Jazz Improvisation (3,3) Study and application of principles of improvisation, including nomenclature, chord progressions, chord-scales, patterns, melodic development, and free form devices. Prereq: 1141.

3044-54 Brass Literature (2,2) Prereq: Consent of instructor.

3070 Opera Production (1-3) Supervised work on operatic productions. May be repeated for credit. Prereq: Consent of instructor.

3071-81-91 Church Service Playing II (1,1,1) Continuation of Music 2071-81-91, which is prereq.

3095 Women in Music (3) The history of women in music from the Middle Ages to present as composers, performers, educators and patrons. (Same as Women's Studies 3095).


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.

4009-19-29 Talent Education Program of S. Suzuki (2,2,2) May be repeated. Maximum credit 12 hrs. Prereq: Consent of instructor.

4109-20-30 Piano Techniques (1,1,1) Problems of piano playing; development of piano technique; style and interpretation; program building. Prereq: Consent of instructor.

4122-32-42 Principles of Vocal Pedagogy (1,1,1) Examination and evaluation of concepts and approaches to teaching singing (past and present) and related teaching materials. Collaborative laboratory experiences accompany the study. Prereq: Consent of instructor.

4036-37-38 Advanced Piano Literature (2,2,2) Piano music from preclassical period to present. 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. 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.

4055-56-57 Elementary and Intermediate Piano Pedagogy (2,2,2) Study and practice of piano methods and materials designed for teaching precollege level students. Prereq: Consent of instructor.

4060 Advanced Choral Conducting I (3) Development of refinement of conducting techniques; including chart and changing meters. Prereq: Music Ed. 4510 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.

4085 Harpsichord Techniques (1) Technique; literature, performance practice, continuo playing, and basic tuning and maintenance. Requires a thorough keyboard background. May be repeated. Maximum credit 3 hrs. Prereq: 3113.

4091 Special Topics in Performance (1-3) Prereq: Consent of department head. May be repeated. Maximum credit 8 hours.


4400 Jazz Directing (1) Rehearsal techniques of jazz ensembles: special conducting techniques, repertoire, library systems, programming, and supervised laboratory experiences in rehearsing university jazz ensembles. Prereq: Enrollment in applied music with jazz emphasis or consent of instructor.

4840 Jazz Pedagogy (1) Methods and materials relating to teaching jazz and administering of jazz program. Prereq: Enrollment in applied music with jazz emphasis or consent of instructor.

4860 Advanced Improvisation (2) Emphasis on further development of individual skills and solving individual problems in jazz improvisation. Prereq: Music 3052-53.

1141 Jazz Theory (2) Fundamentals of the jazz language, including terminology, chord symbols, chord scales, and chord progressions. Prereq: 1111 or consent of instructor.

1199 Fundamentals of Music Composition (3) Methods in composition may be repeated. Maximum credit 4 hours. Prereq: Consent of instructor.

1400 Analysis of Jazz Styles (2) Individual improvisatory styles through analysis of their transcribed solos. Training and function of ear in music. Transcription of solos from recordings and preparation of analyses. Prereq: Music 1141.

2111-21-31 Theory II (3,3,3) Materials of music with emphasis on literature of Romantic and contemporary periods. Exercises in writing and analysis. Must be taken in sequence. Prereq: 1131 or 1138 or consent of instructor.

2113-23-33 Advanced Ear Training (1,1,1) Should be taken concurrently with 2111-21-31 or 2118-29-38. Must be taken in sequence. 2 hours per week.

3041 Keyboard Harmony (1) Melody harmonization, figured bass realization, and improvisation. Prereq: 1131-3 and keyboard proficiency at the 2000 level.

3062-63-64 Sight Reading at the Piano (1,1,1) Prereq: Consent of instructor.

3111-21-31 Tonal Counterpoint (3,3,3) Contemplative techniques of 18th century, with emphasis on works of J. S. Bach. Must be taken in sequence. Prereq: 2131 or 2138.

3112 Instrumentation (3) Basic techniques in scoring for voices; brass, woodwind, and string choirs; and percussion. Prereq: 2131 or 2138.

3113 Analysis I (3) Study and practice in analysis of structures of music from smallest structural units to large compound forms. Emphasis on macroanalytical techniques. Prereq: 2131 or 2138 or equivalent.

3122 Orchestration (3) Advanced techniques in instrumental writing with emphasis on scoring for the concert orchestra. Prereq: 3112 or consent of instructor.

3123 Analysis II (3) Continuation of Analysis I with emphasis on micro and linear analytic techniques. Prereq: 3113.

400 Independent Study in Music Theory (1-3) May be repeated for credit. Prereq: Consent of department head.

4101 Foreign Study (1-16) See page 159.

4113 Pedagogy of Music Theory (3) Techniques, methods and materials involved in college-level theory programs. Prereq: Consent of instructor.

4117 Choral Arranging (3) Analysis of scores and writing of arrangements for men's, women's and mixed choruses. Prereq: 3112 or consent of instructor.

4123 Marching Band Arranging (3) Study and application of techniques employed in scoring for marching band. Prereq: 3112 or equivalent.

4124 Concert Band Arranging (3) Study and application of techniques employed in scoring for concert band. Prereq: 3112 or equivalent.

4150 Survey of Music Theory (3) Theory of music with emphasis on harmonic practice of Baroque, Classical, and Romantic periods. Exercises in writing and analysis. Recommended as review course for graduate students. Prereq: Consent of instructor.

4850 Jazz Composition (2) Prereq: Music 4870-75.

4870-75 Stage Band Arranging (2,2) Analysis of scores and scoring for the stage band. Prereq: 3112 and consent of instructor. Must be taken in sequence.

MUSIC HISTORY AND LITERATURE

1210-20 Orientation in Music Appreciation (3,3) 1210—Developing perceptive listening skills through study of materials of music, musical styles, and musical aesthetics. Illustrative examples selected from 4th through the 20th centuries. 1220—Introduction to
masterworks of music from 1600 to present. For nonmusic majors. Prereq: 1210 for 1220 or consent of instructor.

1230 History of Rock (3) Study and appreciation of rock, its origins in blues and rock and roll, and its relationship with other popular musics—country, gospel, jazz, and folk.

2300 Introduction to Music Literature (3) Acquaintance with basic terms of music and accepted masterworks through chronological approach. For music majors and minors only.


3212 Orientation in Music: Music for the Theatre (3) Study of selected, representative music composed for Broadway stage, films, operetta, and opera. Prereq: 1210 or consent of instructor.

2240 The Symphony (3) Survey of symphonic literature from precursors of classical symphony to present.

3260 Chamber Music (3) Survey of chamber music from 1750 to present.

3271-3272 History of Opera (3,3) Dramatic, vocal, and orchestral elements in operas of Italian, French, and German School. 3271—1600-1800. 3272—1800-present.

3340 Oratorio (3) Choral works other than those from precursors of classical symphony to present.

3350 Introduction to Afro-American Music (3) Historical and theoretical background of African music, blues, gospel music, and jazz with emphasis on Black artists and their contributions.


3950 Evolution of Jazz (3) Study of origin, development, and styles of jazz music and its exponents.

4003-4004-4005 The Organ and Its Literature (3,3,3) The development of the organ and organ literature from the Middle Ages to the present; problems of style and interpretation; pedagogical literature and methods; organ design. Prereq or coreq: 2310-2330-2340 and consent of instructor.

4035 Keyboard Literature Before 1750 (2) A survey of keyboard music from 1600 to 1750. Emphasis will be on Baroque period and composition of the 18th century. Includes elements of music theory and musical style. Prereq: 1210.

4200 Independent Study in Music History and Literature (1-3) May be repeated for credit. Prereq: Consent of department head.

4205 Survey of Music History (3) History of music with emphasis on genres, style changes, and cultural forces. Covers the Western European tradition from 400 to 1900. Recommended as a review course for graduate students. Prereq: Consent of instructor.

4241 Music of the United States (3) U.S. music from colonial times to present. Emphasis on 20th century. Includes both folk and art music traditions. Recommended: Music 1210.


4290 Gregorian Chant (3) Chants of Latin rite. Masses and Masses examined as functional music as well as by type.

4340-4350 Works of Bach (1,3) Detailed examination of sonatas, chamber, keyboard, and orchestral works; cantatas, motets, Passions, and oratorios. 4340—instrumental works; 4350—vocal works.

APPLIED MUSIC

Applied study is classified as Principal or Secondary.

Students studying their principal (major) instrument register for credit appropriate to their program, 2-4 credit hours; students studying a secondary instrument register for 1 hour of credit. Study at the principal level requires one hour of private instruction per week or a one-half hour private lesson plus a half-hour private lesson. Determination of the mode of instruction rests with the department. Study at the secondary level requires one-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, etc.) and instruction time is available.

Undergraduate students seeking entrance to applied music courses must be concurrently registered for no less than six 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 the applied music registration is necessary to complete of degree requirements.

Advancement 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 any 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 partial 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.

1577-2577-3577-4577 Electric 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.

2595-3595-4595-5595 String Bass (1-4) May be repeated for credit. Prereq: Consent of instructor.

2595-3597-4597-5597 Composition with Electronic Media (1-3,1-3,1-3) May be repeated for credit. Prereq: 3199 and consent of instructor.

ENSEMBLES

Ensemble participation during each quarter of residence is required of all students studying applied music. String, woodwind, brass, and percussion students must meet the following ensemble requirements: (1) string students must participate in orchestra each quarter; (2) woodwind, brass, and percussion students must acquire a minimum of six credits in any of the following ensembles: marching band, concert band, campus band, symphony orchestra, jazz ensemble; (3) voice students must acquire a minimum of six credits in any of the following ensembles: Concert Choir, Chamber Singers, University Chorus, Women's Chorale.

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.

3611-5611 Marimba Choir (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.
3830-5630 Chamber Singers (1,1) May be repeated for credit.
3832-5632 Collegium (1,1) May be repeated for credit.
3834-5634 Saxophone Choir (1,1) May be repeated for credit.
3840-5640 Opera Theatre (1,1) May be repeated for credit.
3842-5642 Opera Workshop (1,1) May be repeated for credit.
3850-5650 Concert Band (1,1) May be repeated for credit.
3852-5652 Campus Band (1,1) May be repeated for credit.
3854-5654 Varsity Band (1,1) May be repeated for credit.
3856-5656 Laboratory Band (1,1) May be repeated for credit.
3857-5657 Marching Band (1,1) May be repeated for credit.
3870-5670 Symphony Orchestra (1,1) May be repeated for credit.
3880-5680 Concert Choir (1,1) May be repeated for credit.
3882-5682 University Chorus (1,1) May be repeated for credit.
3887-5687 Women's Chorale (1,1) May be repeated for credit.
3899-5699 Accompanying (1,1) May be repeated for credit.

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

Organizational Psychology Program
See Graduate School.

Philosophy (745)

Professors:
J. W. Davis (Head), Ph.D. Emory; R. E. Aginal, Ph.D. Northwestern; L. B. Cebik, Ph.D. Nebraska; R. B. Edwards, Ph.D. Emory; G. C. Graber, Ph.D. Michigan; D. Van de Valle, Ph.D. Yale.

Associate Professors:

Assistant Professors:
H. P. Hamlin, Ph.D. Georgia; E. R. Jones III, Ph.D. Chicago; M. Lavin, Ph.D. Stanford; J. E. Neit, Ph.D. Chio State.

Philosophy seeks to understand humans, 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 for those students preparing for careers as writers (whether journalistic or literary), lawyers, ministers, or teachers, or for positions in various types of political and government service or for non-technical positions in business or 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:
B.A. Major: 36 hours in courses numbered 2000 and above. Majors should discuss their programs 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.

1510 Introduction to Philosophy: Human Nature and Values (4)

1511 The Human Condition: Value and Reality (4) The meaning of life, the existence of God, freedom of the will, human nature and value.

1520 Introduction to Philosophy: Consciousness and Reality (4) May be taken before 1511.

1521 The Human Condition: Consciousness and Reality (4) The place of mind in a material universe and the nature and possibilities of human knowledge. May be taken before 1511.

1600 Topics in Philosophy (4) May be repeated once for credit.

1611 Foundations of Western Thought: Antiquity through 1500 (4) Plato, Late Antiquity and the Medieval period.

1621 Foundations of Western Thought: through Early Twentieth Century (4) Development of Rationalist and Empirical thought, Nineteenth Century and early Twentieth Century philosophy. May be taken before 1611.

1710 Informal Reasoning (4) Arguments, informal fallacies, use of languages, definitions.

2110 Introduction to Symbolic Logic (4) Formal deductive reasoning; propositions, arguments in natural language, symbolization, truth and validity, propositional logic, predicate logic.

2310 Elementary Ethics (4) Theories of ethical values.

2410 Art and Experiences (4) Introduction to various understandings of art.

2510 Elementary Logic (4) Introduction to deductive logic, including truth tables and elementary formal proofs.

3000 Special Topics (4) May be repeated for credit one time.

3100 Socrates (4) An attempt to delineate the philosophical tenets of the historical Socrates on the basis of the views of the character Socrates depicted in Plato's dialogues, in Xenophon's Socratic works, and in Aristotle's/Plato's Clouds.

3111 Ancient Western Philosophy (4) E.

3121 Medieval Philosophy (4)

3121 Seventeenth- and Eighteenth-Century Philosophy (4)

3141 Nineteenth-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 19th century; 3312—Late 19th 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 epistemic principles of literary arts.

3430 The Concept of Woman (4) An inquiry into the nature of woman as it has been conceived by major western philosophers from Plato to Simone de Beauvoir. (Same as Women's Studies 3430.)

3435 Philosophy of Feminism (4) An examination of various feminist theories and their application to current issues of concern to women today. (Same as Women's Studies 3435.)


3510 Existentialism (4)

3550 Marxism as Philosophy (4)

3570 Philosophical Foundations of Democratic Society (4) Philosophical systems relating to nature and justification of the central values, principles, and concepts of democratic society.

3590 Business Ethics (4) Ethical problems as they confront both business as a social institution and individuals in business.

3605-06 Professional Responsibility (4,4) 3605—Critical analysis of selected classic texts from philosophy, religious studies, and social sciences dealing with the nature of responsibility, the nature of professionalism, and the application of concepts of responsibility to professional activity. Illustrations will be drawn from a variety of professional fields of practice. 3606—Application of the theoretical principles and analytic skills developed in 3605 to selected case studies and other detailed descriptions of professional practice from the following professional fields: Engineering/Architecture; Business/Accounting; and at least one of (a) Law/Politics; (b) Helping Professions (Social Work, Human Services, Religious Ministry); (c) Teaching. (Same as Religious Studies 3605-06.)

3611 Medical Ethics (4) Explores ethical issues in medicine such as abortion, euthanasia, human experimentation, fairness in health care delivery and the doctor-patient relationship. (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; 3745—The development and decline of Newtonian science; historical evolution of thought on the nature of matter and of light, and on that of life. Prereq: 8 hours of 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.
The physical sciences minor is designed particularly for students majoring in one of the biological sciences and/or preparing for graduate studies in a biological science or medicine.

Math 2840 is a prerequisite for these courses.

**Physics and Astronomy**

**Professors:**
- W. M. Bugg (Head), Ph.D., Tennessee
- C. R. Birmingham, Ph.D., Tennessee
- L. E. Biass, Ph.D., Michigan
- M. A. Breazale, Ph.D., Michigan
- T. A. Callow, Ph.D., Purdue
- L. G. Christophorou, Ph.D., Manchester (England)
- G. T. Condo, Ph.D., Illinois
- C. J. Craven (Emeritus), Ph.D.
- M. D. North, Ph.D., Ohio State
- S. Gwogzhi, Ph.D., Manchester (England)
- G. E. Harris, Ph.D., Tennessee
- E. L. Hart, Ph.D., Cornell
- P. G. Huray, Ph.D., Pennsylvania
- N. M. Gaisler, Ph.D.
- R. D. Ohio State
- J. B. Oehse, Ph.D.

**Assistant Professors:**
- A. A. Mason, Ph.D., Tennessee
- A. H. Nielsen (Emeritus), Ph.D.
- M. D. Michigan
- F. E. Oberholtzer, Jr., Ph.D.
- B. Pittsburgh
- L. R. Painter, Ph.D., Pennsylvania
- D. J. Peck, Ph.D., New Hampshire
- M. W. Peters (Emeritus), Ph.D.
- M. D. Pennsylvania
- R. R. Ritchie, Ph.D., Tennessee
- J. H. Winkler, Ph.D.

**Research Assistants:**
- R. L. Fowler, Ph.D., Illinois
- J. Thompson, Ph.D., Illinois
- A. W. Welton, Ph.D., Illinois

**GRADUATE:**
- The Graduate Catalog for listing of graduate level courses.

**Astronomy (150)**

1510-20-30 Introductory Astronomy (4,4,4) Introductory survey of the universe, structure and dynamics of the universe. Members and components of solar system are introduced and discussed, incorporating results from interplanetary exploration. Stellar evolution is treated as a chain of events. Characteristics of galaxies and evolution of the universe are examined. Principles by which one interprets astronomical observations are reinforced by lab experience. Must be taken in sequence. 3 hrs. lecture, 2 hrs. lab. Only one of three sequences Astronomy 1510-20-30, 1610-20-30, 2118-28-38 may be taken for credit.

2118-28-38 Honors: Introductory Astronomy (4,4,4) An introduction to astronomy. Components of solar system are described from viewpoint of interplanetary exploration. Evolution and properties of stars are studied. Galactic structure is examined and models of universe are discussed. Observational technique and interpretation of underlying laws of physics are emphasized in accompanying lab. 3 hrs. lecture, 2 hrs. lab. Coreq: Math 1840 or 1550 or equivalent. Only one of three sequences Astronomy 1510-20-30, 1610-20-30, 2118-28-38 may be taken for credit.


**Physics (773)**

**UNDERGRADUATE:**
- B.S. Major: The B.S. major in physics is designed to give the student a broad background in the fundamental principles of classical and modern physics and in the applications of these principles to the physical world. It is also preparation for graduate study in the research fields of modern physics. A major in engineering physics, shown in tabular form on p. 121 and described on p. 130, is also offered.

Physics 1318-28-38 and Math 1840-50-60 are prerequisites to the major in Physics. The major includes the following courses: Math 2540-50, Physics 2318-28-38, 3110-20 (Mechanics), 3230 (Thermodynamics), 3310-20 (Electricity and Magnetism), 4110-20-30 (Quantum Mechanics), at least six hours of physics electives from 3130, 3330, 4140, 4210-40-50, 4610, 4620-30, and at least six hours of physics lab electives from 3610-20, 4510-20, 4540-50. Physics 4010-20 may be taken to satisfy the upper-level distribution requirement for a capstone experience.

Physic 1310-20-30 and Basic Engineering 3110-20-30 may be substituted for 1318-28-38. Transfer students from other schools and departments may substitute 2510 for 1310-20 or 1318-28, Students who do not expect to pursue graduate studies may substitute 3710-20-30 for 4110-20-30.

**Minor:** A minor in physics shall consist of Physics 2100-20-30 or 2118-28-38 and five hours from physics and astronomy courses numbered 3000 and above. Substitution provisions in the major statement also apply to the minor.

1210-20-30 Introductory Physics (4,4,4) A general course for students whose major is outside the physical sciences. Concepts of physics are developed by observation of phenomena and logic; using a minimum of mathematical analysis. Topics include properties of matter and motion; effects of force on mechanical systems, use of conservation laws to solve physical problems; forms and uses of energy; energy and systems; Physics and Electricity and magnetism, wave phenomena including sound and light, with applications to current technologies. 1210-30 Physical systems: microscopic systems including atoms, molecules,
nuclei and applications such as lasers and energy technologies; also physics of particles moving at extremely high speeds. Should be taken in sequence. 4 hrs. lecture and demonstration.

1310-20-30 Fundamentals of Physics: Mechanics and Heat (4,4,4) First course in physics for engineers and liberal arts majors in mathematics and the physical sciences. Basic Engineering 1310-20-30 is a prerequisite for graduation purposes. Must be taken in sequence. Coreq. Math 1840-50-80. 3 hours of lecture, 2 hours of lab.

1318-28-38 Honors: Fundamentals of Physics: Mechanics and Heat (4,4,4) Honors course designed for physics and engineering physics majors and for qualified seniors from other disciplines. Must be taken in sequence. Coreq. Math 1840-50-80. 3 hours of lecture, 2 hours of lab.

1410-20-30 Nature of the Physical World (4,4,4) Introductory course in concepts and principles of physical sciences which enables a student to establish a unified picture of the physical universe. In the first two terms the principles of mechanics, electricity, and wave motion are developed and applied to such varied fields as solar systems, atomic and molecular behavior, radiation, dynamic changes in the atmosphere and in the earth's crust, and to stellar and galactic phenomena. In the third term these principles are applied in modern physics to such topics as nuclear energy, cosmology, atmospheric and oceanic phenomena, drifting continents, and science and society. May be taken out of sequence with permission of instructor. 4 hours including demonstration lab.

1450 Physics of Athletic Activity (4) Principles of physics, particularly mechanics and heat, are introduced. Discussion of these ideas will emphasize their role in physical education, particularly sport-related. Course topics include statics, equilibrium, linear and angular motion, momentum, forces, work, energy, 4 hours lecture and demonstration.

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

2210-20-30 Elements of Physics (4,4,4) 2210—Mechanics, properties of fluids, heat, 2220—Electricity and magnetism, sound waves. 2230—Optics, atomic and nuclear physics, radiation protection. Basic physical principles and applications required in pre-medical, pre-dental, pre-pharmacy, and pre-veterinary programs. Must be taken in sequence. Prereq: Math 1550-60 or Math 1840-50 (or equivalent) 3 hours of lecture and 3 hours of lab.

2240-50-60 Elements of Physics for Architects (4,4,4) Basic physical principles with emphasis on architecture. Elementary principles of mechanics: coreq. Math 1840 or 1550. 2250—Properties of fluids, heat and thermodynamics, wave motion, optics. coreq: Math 1850 or 1560. 2260—illumination and color, electricity and magnetism, alternative energy topics. Should be taken in sequence. 3 hrs. lecture, 3 hrs. lab.

2310-20-30 Fundamentals of Physics: Electricity, Waves and Optics, Modern Physics (3,3,3) Required of all engineering students. 2310—Electricity. 2320—Waves and Optics. 2330—Modern Physics. Must be taken in sequence. Prereq: 1310-20-30 or Basic Engineering 1310-20-30, or Physics 2510; coreq: Math 2860-50. 3 hrs. lecture, 2 hrs. laboratory and recitation per week.

2318-28-38 Honors: Fundamental of Physics (4,4,4) Honors course designed for selected students admitted on basis of performance in 1318-28-38, 1310-20-30, 2310-30. 4 hours of lecture, 3 hours of laboratory-problem sessions. Prereq: Math 2840-50. 3 hours of lecture, 3 hours of lab. Honors credit. 4 hours of lecture-recitation. 3 hours of laboratory-problem sessions. Prereq: Math 2840-50. 3 hours of lecture, 3 hours of lab. Honors credit.

2510 Mechanics (5) Statics, kinematics, Newton's laws, momentum, work, power. 4 hours of lecture-recitation. 3 hours of laboratory-problem sessions. Prereq: Math 2840-50. 5 hours of lecture, 3 hours of lab. Honors credit. 4 hours of lecture-recitation. 3 hours of laboratory-problem sessions. Prereq: Math 2840-50. 5 hours of lecture, 3 hours of lab. Honors credit.


3230 Heat and Thermodynamics (3) Concepts of temperature and heat; laws of thermodynamics; applications of laws to simple physical and chemical problems. Prereq. Coreq. for 3230 and calculus; 3110-20 or instructor's consent.

3310-20-30 Electricity and Magnetism (3,3,3) 3310—Electrotechnics in vacuum and material media. 3320—Modern theories of magnetic fields. 3330—Maxwell's equations, electromagnetic waves. Must be taken in sequence. Prereq. 2320 and Math 2660.

3610-20 Electronics (3,3) Electronic components and circuits of interest to physicists. Prereq. 2310-20 or 2210-20-30 and calculus. 3 labs.

3630 Nuclear Electronics Laboratory (3) Elements of circuitry of interest in nuclear instrumentation are designed and built, and their characteristics are tested as a function of various parameters. Prereq. 361000.

3710-20-30 Introduction to Atomic and Nuclear Physics (3,3,3) 3710—Special relativity and early quantum theory; 3720 — Atomic and molecular physics; 3730 — Nuclear Physics. Prereq. Math 2860 and Physics 2310-20. 4 hours of lecture and demonstration. Prereq. or consent of instructor. 3710 for 3720-30, 3 labs.

3900 Junior Seminar (1-3) Topic of current interest. May be repeated for credit with consent of department.

4010 Background of Physics (3) Survey of historical development and philosophical foundations of natural science. Classical. Modern. Special emphasis on quantum mechanics, quantum electrodynamics, and developments in physics, including various forms of electromagnetic radiation with matter, radiation quantities and units, point kernel and extended sources, X-rays and gamma rays, neutron activation, induction heating, magnetic levitation, forming, pumping, and flow measurement. Includes lab. Prereq. 3320 or equivalent.

4640 Kinetic Theory (3) Emphasis is placed on transport properties, interaction of electromagnetic radiation with the nucleus and nuclear radiation. Classical and quantum distribution functions are discussed. It is recommended that 4640 and 4650 be taken in sequence.

4660-70 Solid State Physics (3,3) 4660—Symmetry and crystal structure, lattice dynamics, specific heat. 4670—Electron band theory, transport properties, optical properties. Must be taken in sequence. Prereq. 3320 or equivalent.

4710-20-30 Introduction to Health Physics (3,3,3) Radioactivity, interaction of electromagnetic radiation with matter, radiation quantities and units, point kernel 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. 3790.

4918-28-38-58-58-78-88-98 Honors: Research and Independent Study (1 hour each) Designed for excellent undergraduate majors. Provides opportunity for research and independent study with faculty guidance. May be repeated for credit. 9 hours of department required. Maximum credit 9 hours.

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 as well as course descriptions are found in the Graduate Catalog.
BUREAU OF PUBLIC ADMINISTRATION

Professor: T. D. Unger (Director), Ph.D. Iowa.
Associate Professor: M. R. Fitzgerald, Ph.D. Oklahoma.
Assistant Professors: P. K. Freeman, Ph.D. Wisconsin; D. F. Olshaski, Ph.D. Temple.

UNDERGRADUATE

A B.A. major consists of 40 hours that must be distributed as follows:

1. Eight hours at the 2000 level in political science.
2. Thirty-two hours in political science courses numbered 3000 and above. These 32 hours must include at least one course in each of four areas of the discipline: United States Government and Politics/Public Administration; Comparative Government and Politics; International Relations; and Political Theory and Methodology.

A minor consists of 24 hours that must be distributed as follows:

1. Eight hours at the 2000-level in political science or in political science courses not used for divisional distribution credit but included on the Social Science list.
2. Sixteen hours in political science courses numbered at 3000 and above. Upper-division courses on the distribution list may be included.

Honors in Political Science: The Honors concentration encourages highly motivated students to obtain a superior liberal education and more rigorous preparation in the discipline. Admission is selective. The Honors concentration is usually a two-year program and consists of 56 hours, including:

1. Eight hours at the 2000 level in political science.
2. Forty-eight additional hours in political science courses including:
   - (a) Political Science 3918-28-38
   - (b) Political Science 4918-28-38
   - (c) 24 additional hours numbered 3000 and above. These 48 hours must include at least one course in each of four areas of the discipline: United States Government and Politics/Public Administration; Comparative Government and Politics; International Relations; and Political Theory and Methodology.

To graduate with Honors in Political Science, the student must have a GPA of at least 3.3 in Political Science, and a cumulative GPA of at least 3.0.

Public Administration. See page 69 and page 158.

American Studies. See Cultural Studies.
Asian Studies. See Cultural Studies.
Latin American Studies. See Cultural Studies.

Russian and East European Studies. See Cultural Studies.

2020 Introduction to Political Science (4) A variety of the basic substantive concepts and concerns of political science.

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: Congress, the Presidency, administrative politics, 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 a B average; selected entering freshman 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)

2560 Governments in Knox County (4) Analysis of political institutions and processes in Knox County.

United States Government and Politics/Public Administration

3110 Political Community (4) The course examines a variety of value systems and social and political structures related to political community.

3130 Popular Culture and American Politics (4) Popular culture as it relates to American politics and government focusing on the role of film, television, fiction, music, drama, art and sports.

3545 United States Constitutional Laws: 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 civil rights. 2510-20 desirable as preceding courses.

3564 United States Constitutional Law: Civil Rights and Liberties (4) Emphasis on judicial interpretation of First Amendment freedoms, the right to the accused, racial equality, and the right of privacy.

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

3565 Introduction to Public Administration Organization and Management (4) Organization and decision-making theory, line and staff, public administration, leadership, personnel and fiscal management, and political administration. 2510-20 desirable as preceding courses.

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

3710 State Politics (4) Focus on formal and informal state government. 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. (Same as Urban Studies 3750.)

3760 Urban Policy Process (4) Analysis of urban problems and policies in metropolitan areas.

3880 American Political Thought (4) Examination of selected political ideas, doctrines, and theories 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 politically relevant attitudes and opinions; role of leadership, persuasion, and communication in opinion-policy process.


4545 The Judicial Process (4) The study of courts as components of political systems, and public policy formulation through judicial decision making. 2510-20 desirable as preceding courses.

4550 Congress (4) Nature, functions, and processes of the U.S. Congress.

4575 Special Topics in United States Government and Politics (4) May be repeated to a maximum credit of 8 hours with consent of department.

4510 Budgetary Process (4) Fiscal planning, budget and expenditure processes in government, their policy and administrative implications.

4620 Public Personnel Administration (3) Development of the merit system in government, career systems, public personnel management functions, organization for personnel management.

4760 Political Parties and Elections (4) Analysis of party systems and electoral process.

4760 Political Campaigns (4) Coverage includes all aspects of campaign process.

Comparative Government and Politics

3390 Contemporary Issues in American Public Policy (4) Examination of selected public policy issues confronting the nation, including the background, nature, and effects of present policies, and options for the future.

3415 Law in American Society (4) Law as a process through which social problems are addressed in the United States. Examples are drawn from case law, legislation, and administrative regulation.


3961-62 Government and Politics of the People's Republic of China (4) Examination of the Chinese political setting, political structures, participation and selected policy areas.

3825-26 Latin American Politics and Government (4,4) (Same as Latin American Studies 3825-26.)

3820 Government and Politics of the Soviet Union (4,4)

3835-36 Politics in Western Democracies (4,4) Political culture, patterns, and institutions of Western democratic systems.

3941 Government and Politics of Middle East and North Africa (4)

3795 Contemporary Middle East (4) (Same as History 3795.)

4060 Revolution (4) Examination of characteristics, theories, and consequences of revolution, with particular focus on left-wing revolutions and movements.

4665-66 Policy Making in Democracies (4,4) Comparative approach to theory and process of making public policies.

4675 Special Topics in Comparative Government and Politics (4) May be repeated for a maximum credit of 8 hours with consent of department.

International Relations

3701-02 Introduction to International Relations (4,4) 3701—Basic elements on international politics: major conflicts; problems of peace and security. 3702—Impact of population, resources and economic problems on international politics. International law and organizations particularly the U.N.

3712-22 U.S. Foreign Policy Process (4,4) Processes whereby U.S. foreign policies are made and implemented, focusing on interaction within federal bureaucracy and roles of the President, Congress, the press, and public opinion.

3790 Contemporary Diplomatic and Military Problems (4) Analysis of current international events.
3796 Contemporary Problems of Soviet Foreign Policy (4)

4711 International Law (4)

4727 Politics of Inter-American Relations (4) Analysis of methodological and policy issues concerning international relations in the Americas with emphasis upon imperialism, intervention, and the Cuban revolution, nationalism, foreign assistance, trade, and economic integration. (Same as Latin American Studies 4727.)

Political Theory and Methodology

3090 Introduction to Political Analysis (4) Introduction to nature, character, and functions of research design, data collection, and statistical techniques used in study of politics.

3801 Studies in Ancient Political Thought (4) Classical Greek and Roman political thought.

3802 Studies in Medieval Political Thought (4) From Augustine to Luther: Emphasis on problems and theories of religion and politics.

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.

4831-32 The Systematic Study of Politics (4,4) Sociological 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.

Other

3918-28-39 Junior Honors Seminar (4,4,4) Required of honors majors; admission with consent of Department.

4101 Foreign Study (1-16) See page 159.

4102 Off-Campus Study (1-16) See page 159.

4103 Independent Study (1-16) See page 159.

4918-28-39 Senior Honors Thesis and Seminar (0,0) Required of honors majors; admission with consent of Department. Maximum credit 12 hours.

GRADUATE

General requirements for the master's degree and doctoral degree as well as course descriptions are found in the Graduate Catalog.

Psychology (830)

Professors:

Associate Professors:
J. M. Barlow, Ph.D. Tennessee; E. A. Elliott, M.S. Tennessee; D. S. Freeman, Ph.D. Tennessee; M. G. Johnson, Ph.D. Johns Hopkins; J. Kandilakis, Ph.D. Tennessee; J. E. Lander, Ph.D. North Carolina; K. A. Lawler, Ph.D. North Carolina; S. Loucks, Ph.D. Tennessee; J. W. Lounsbery, Ph.D. Michigan State; A. McKeen, Ph.D. Yale; W. M. Morgan, Jr, Ph.D. Tennessee; M. J. O'Connell, Ph.D. Tennessee; R. S. Saudargas, Ph.D. Florida State; E. D. Sundstrom, Ph.D. Utah; C. L. Travis, Ph.D. California (Davis).

Assistant Professors:

Honorary

N. Distinguished Service Professor

UNDERGRADUATE

B.A. Major: (Concentration in General Psychology) Designed to give students a broad and comprehensive background in the theory and application of psychological methods and principles. Psychology 2518-28 and two courses from 2520-30-40 or 2518-28 are prerequisite to a major consisting of Psychology 3150 or 4150, at least 20 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. Prerequisite to the major include Psychology 2518-28 (or 2500 together with 2 courses from 2520-30-40) 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 (including 3319), and 26 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.

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. Prereq for 2518: Minimum ACT Composite 28; GPA 3.2. Prereq 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 the development of individuals, their behavior, and the progressive changes in behavior that occur in natural environments, introduction to personality, developmental, and abnormal psychology. Recommended: 2500. E.

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

3129 Social Psychology Laboratory (2) Prereq: 3120; recommended prereq: 3189.

3130 Environmental Psychology (3) Influence of the physical surroundings on individual experience, interpersonal relations, and social systems. Includes such topics as overcrowding, air pollution, urban settings. Prereq: 2500 or equivalent recommended.

3150 Psychological Statistics (4) Introduction to basic statistical methods used in behavioral sciences. Not open to students with credit in Statistics 2100, Mathematics 3000, Sociology 3920, or equivalent. Prereq: 2 years of high school algebra or one course in college algebra.

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

3219 Laboratory in Learning and Thinking (2) Prereq: 3210; recommended prereq: 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 (3) Basic techniques of research in behavioral science, including experimentation and naturalistic observation.

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). E.

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

3750 Psychological Problems in Childhood (3) Considers functional and developmental psychopathologies occurring in children, including autism, fears and phobias, and learning problems. Major contemporary theories and empirical research are emphasized. Prereq: 3550.

3616-28 Human Relations (3,3) The study of interpersonal relations and communication through structured small group experience.

3750 Abnormal Psychology (4) Constitutional and environmental factors in abnormal behavior; neurotic and psychotic reactions; non-technical discussion of diagnostic and therapeutic methods. 2540 recommended. E.

3720 Ethology and Sociobiology (3) Basic concepts of the evolutionary approach to behavior with special reference to controversial issues in applications to psychology, the social sciences, and the arts.

4101 Foreign Study (1-16) See page 159.

4102 Off-Campus Study (1-16) See page 159.

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 4163, 4107, 4109, 4110 combined.

4103 Independent Study (1-16) May be repeated. Maximum credit 16 hours. See page 159.

4107 Experience in Individual Instruction (1-4) Experience as a proctor in individualized instruction. Prereq: Consent of instructor. May be repeated. Maximum 6 hrs.

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

4110 Undergraduate Participation in Community Research (1-16) May be repeated. Maximum credit 16 hours. See page 159.

4115 Psychology of Sex Role Development (3) Survey as Educational and Counseling Psychology 4110.

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

4200 Topics in Health Psychology (4) May be repeated. Maximum 6 hrs.

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

4239 Laboratory in Sensory Processes and Perception (2) Prereq or coreq: 4230.
Religious Studies (863)


Assistant Professors: J. L. Fitzgoff, Ph.D.; Chicago; M. W. Harris, Ph.D. Harvard; M. L. Levering, Ph.D.; Harvard; L. M. Tober, Ph.D. Vanderbilt; Adjunct, J. O. Hodges, Ph.D. Chicago; T. Paton, M.A. Yale.

UNDERGRADUATE

B.A. Major: Two options are available in religious studies. Designed to assure that students study at least two different religious traditions, and attain skills to analyze and interpret theoretical issues in the study of religion, the basic option consists of at least 36 hours of study at the 1000 level and above or in courses at the 3000 level or above, including the following: (1) 3660; (2) one of the following, 3650, 3671, 3672, 3770; (3) 3370 and 3380; (4) two of the following, 3011, 3021, 3600, 3690, 3720, 3740, 3750; and (5) one 4000 level seminar selected in consultation with the student’s advisor. The remaining eight hours which complete the major requirement shall not include courses from related language studies. As an alternative to the basic option, a student-initiated option is recommended for students who plan to pursue graduate study in religion or related fields. Prereq: Consent of instructor.

GRADUATE

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

Religious Studies (863)

4978-88 Honors Thesis (4,4,4) Honors candidates only.

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

Religious Studies (863)


Assistant Professors: J. L. Fitzgoff, Ph.D.; Chicago; M. W. Harris, Ph.D. Harvard; M. L. Levering, Ph.D.; Harvard; L. M. Tober, Ph.D. Vanderbilt; Adjunct, J. O. Hodges, Ph.D. Chicago; T. Paton, M.A. Yale.

UNDERGRADUATE

B.A. Major: Two options are available in religious studies. Designed to assure that students study at least two different religious traditions, and attain skills to analyze and interpret theoretical issues in the study of religion, the basic option consists of at least 36 hours of study at the 1000 level and above or in courses at the 3000 level or above, including the following: (1) 3660; (2) one of the following, 3650, 3671, 3672, 3770; (3) 3370 and 3380; (4) two of the following, 3011, 3021, 3600, 3690, 3720, 3740, 3750; and (5) one 4000 level seminar selected in consultation with the student’s advisor. The remaining eight hours which complete the major requirement shall not include courses from related language studies. As an alternative to the basic option, a student-initiated option is recommended for students who plan to pursue graduate study in religion or related fields. Prereq: Consent of instructor.

GRADUATE

General requirements for the master's degree and doctoral degree as well as course descriptions are given in the Graduate Catalog.
4411-21 Modern Religious Philosophies (4,4) Examination of the religious implications of major thinkers and movements. 4411—Nicolás de Cusa to Humo. 4412—Kant and the 19th century. Prereq: 9 hours of philosophy other than logic. (Same as Philosophy 4411-21.)

4200 Classical Indian Systems of Philosophy: The Makahana Tradition (3,3) Basic readings and philosophical problems of the traditions of Samkhya, Yoga, and Vedanta. Prerequisite Religious Studies/Philosophy 3650 or 3660. (Same as Philosophy 4200.)

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 Palestinian Judaism; analysis of what Apostle Paul made of the tradition of and about Jesus. 2610 or 2611 recommended.

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

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

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

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

4610 Topics in Western Religious Thought and Institutions (4) Selected figures, issues, and institutions. Seniors and graduate students only, except by consent of department. Prereq: 3650-70. May be repeated. Maximum credit 12 hours.

4640 Topics in Early Christianity and Hellenistic Religions (4) Selected figures, issues, and institutions. Seniors and graduate students only, except by consent of department. Prereq: Consent of instructor. May be repeated. Maximum credit 12 hours.

4670 Topics in Eastern Religions (4) Selected figures, issues, and institutions. Seniors and graduate students only, except by consent of department. Prereq: 3650-60-71. May be repeated. Maximum credit 12 hours.

4810-20-30 Readings and Research in Religious Studies (3,3-4,3-4) Seniors and graduate students only, except by consent of instructor. May be repeated. Maximum credit 12 hours.

4910-20-30 Readings and Research in Religious Studies (3-4,3-4,3-4) Seniors and graduate students only, except by consent of instructor. May be repeated. Maximum credit 12 hours.

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

GRADUATE Consult the Graduate Catalog for listing of graduate level courses.

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 Mishnah Hebrew. Prereq: 3151 or consent of instructor.

4740-50-60 Elementary Sanskrit (4,4,4) Introduction to grammar of classical Sanskrit and reading of selected readings. (Same as Asian Studies 4740-50-60.)

4770-80-90 Intermediate Sanskrit (4,4,4) Advanced grammatical constructions and reading of epic and classical religious and narrative materials (e.g. Bhagavad Gita, Mahabharata, Ramayana, Kathasaritsagara). Prereq: 4760 or consent of instructor. (Same as Asian Studies 4770-80-90.)
primary interest is literature must have the following courses (or their equivalent, with consent of the department): 3110-20-30 or 3810-20-30 (Aspects or Survey of Literature, 9 hours); 3410 or 3420 or 3430 or 3450 (Intermediate Composition and Conversation or Composition and Conversation for Careers in Business, 3 hours); 4210 (Phonetics, 3 hours); 4220 or 4230 (Advanced Grammar, 3 hours); 9 additional hours selected from courses in literature, language, or civilization. Students whose primary interest is language must have the following courses (or their equivalent, with consent of the department): 3110-20-30 or 3810-20-30 (Aspects or Survey of Literature, 9 hours); 3410 or 3420 or 3430 or 3450 (Intermediate Composition and Conversation or Composition and Conversation for Careers in Business, 3 hours); 4210 (Phonetics, 3 hours); 4220 or 4230 (Advanced Grammar, 3 hours); 6 hours selected from courses 3410-20-30 or 3450 (Intermediate Composition and Conversation or Composition and Conversation for Careers in Business, 3 hours); 4220-30 (Advanced Grammar), or 4250-70-70 (Linguistics); 5 hours of literature at the 4000 level are required; 9 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 such substitutions with consent of department.

Minor: Consists of 24 hours in courses numbered 3110-3450, 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 advisor. Courses which are the equivalents of the foregoing may be substituted 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 is recommended for students intending to take upper-division courses in French. Must be taken in sequence. 3 hours and 2 labs.

1118-20-38 Honors: Elementary French (3,3,3) Honors course for students of superior ability. 1118 not for students who have completed high school French. Freshmen admitted to 1128 and 1128 on basis of diagnostic test, high school average, and performance on ACT. Class held to a maximum of 15 for individual attention. Class covers normal elementary French for first year, but is enriched. Students expected to spend normal amount of preparation time. Students finding course too difficult may request permission to repeat. Potential majors and minors in French are urged to take this course. Students passing 1110 with grade of B or higher are eligible for 1128 rather than 1120. Students passing 1120 with grade of B or higher are eligible for 1130 rather than 1130.

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

2118-28-38 Honors: Intermediate French (3,3,3) Honors course for students of superior ability in French. Freshmen admitted on basis of diagnostic test, high school average, and performance on ACT. Class held to a maximum of 15 for individual attention. Class covers normal intermediate course program which emphasizes speaking ability and reading, including literary selections. Students passing 2110 with a grade of B or higher are eligible for 2128 rather than 2110. Students passing 2120 with a grade of B or higher are eligible for 2138 rather than 2310. Students earning a grade of A in 2138 are eligible to take a proficiency exam for French 3000; credit for French 3000 given to students receiving a grade of A or B on this examination.

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

3010-20-30 French Literature in English Translation (3,4,4,3-4) 2910: From the origins through the Renaissance: Life of St. Alexis, Song of Roland, Romance of the Enchanted Rose. 2920—7th century to the Renaissance: the great dramatists, La Princesse de Clèves, Voltaire, Rousseau. 2930—18th century: Voltaire, Balzac, Flaubert, Proust, Camus. No change in credit hours after add deadline. Option of 4 hours credit must be approved, with minimum of extra work above that required for 3 hours.

3000 French Translation (3) Development of linguistic skills necessary for satisfactory work in courses above 3000. Recommended for students who feel they would benefit from additional training in French. May be taken as a follow-up to French 1110, 1118, 1120, 1130, or 1138. Not for credit for those having had 1110-20-30, 1118-20-38, or 1128-30. Not for credit for those having had 1110-20-30, 1118-20-38, or 1128-30.

4210 Phonetics (3) Prereq: 2130, 2520, or equivalent.

4220-30 Advanced Grammar (3,3,3) Prereq: 2130, 2520, or equivalent.

4250 Introduction to Descriptive Linguistics (3) Prereq: 2130, 2520, or equivalent.

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

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

4550-60-70 Medieval French Literature (3,3,3) Medi eval works in modern French texts. Prereq: 2130, 2520, or equivalent.

4610 Readings in French Literature (3)

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

4820 Introduction to Historical and Comparative Linguistics (3) (Same as German, Russian, Spanish, and Linguistics 4820.)

4820 Introduction to Comparative Linguistics (3) Prereq: 2130, 2520, or equivalent.

4920 Medieval Latin (3) Same as Modern Latin 4920.
Grammar, Composition, and Conversation, 9 hours; 3110-20-30 or 3510-20 (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 Italian literature in English translation may not be counted toward either a major or a minor.

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

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

2120-20-30 Intermediate Italian (3,3,3) Must be taken in sequence. Three class meetings and 2 laboratory periods.

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

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

3110-20-30 Aspects of Italian Literature (3,3,3) Prereq: 2110, 2510, or equivalent. Recommended for literature majors.

3310 Italian Literature in English Translation (3-4) Sicilian School, the Florentine School, Dante, Petrarco, Boccaccio, Machiavelli, Ariosto, Tasso. No change in credit hours after deadline. Option of 4 hours credit must present appropriate amount of extra work above that required for 3 hours.

3410-30-30 Advanced Grammar, Composition, and Conversation (3,3,3) Laboratory work, drills, and tapes. Prereq: 2120, 2520, or equivalent. Recommended for literature majors.

420 Italian Drama in English Translation (3-4) 20th century theatre: operatic drama, the commedia, Pirandello, De Filippo, Frati. No change in credit hours after add deadline. Option of 4 hours credit must present appropriate amount of extra work above that required for 3 hours.

4050-60-70 Dante and Medieval Culture (3,3,3) Prereq: 2130, 2520, or equivalent. Students may substitute Foreign Study (4101) for any of the above courses.

1520-20 Elementairy Portuguese (4,4,4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

2520-20 Intermediate Portuguese (4,4,4) Must be taken in sequence. 4 class meetings and 2 laboratory periods.

3000-01 Advanced Portuguese (3,3,3) An accelerated class for beginning students of Portuguese who already have a strong background in Spanish, French, or Italian. Conversation and reading with a quick survey of grammar. Introduction to the culture and literature of Portugal and Brazil. Prereq: Permission of instructor.

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

4101 Foreign Study (1-16) See page 159.

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

GRADUATE Consult the Graduate Catalog for listing of graduate level courses.

Spanish (924)

UNDERGRADUATE

B.A. Major: Consists of 36 hours in courses numbered 3110-30 or above. Students whose primary interest is literature must have a minimum of 9 hours chosen from the following sequences: 3110-20-30, 3310-20-30 (Aspects of Spanish literature or Aspects of Spanish American literature, 12 hours); 3410 plus 3420 or 3430 (Composition and Conversation, 6 hours); 4210 (Phonetics, 3 hours); 9 hours of literature at the 4000 level; 3 hours of civilization; sufficient additional hours selected from courses in literature, language, or civilization to fulfill the major requirement. Students whose primary interest is language must have a minimum of 9 hours chosen from the following sequences: 3110-20-30, 3310-20-30 (Aspects of Spanish Literature, or Aspects of Spanish American literature, 9 hours); 3410 (Composition and Conversation, 3 hours); 4210 (Phonetics, 3 hours); 9 hours selected from courses 3420-30 (Composition and Conversation, 4220-30 (Advanced Grammar), or 4250-60-70 (Linguistics); 3 hours of literature at the 4000 level; 3 hours of civilization; sufficient additional hours selected from courses in literature, language, or civilization to fulfill the major requirement. 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 a minimum of 8 hours from the following sequences: 3110-20-30, 3310-20-30 (Aspects of Spanish Literature or Aspects of Spanish American Literature, 9 hours); 3410 (Composition and Conversation, 3 hours); 4210 (Phonetics, 3 hours); additional hours selected from courses in literature, language, or civilization to fulfill the minor requirements. Students pursuing a minor are strongly advised to consult with a departmental advisor.

Courses which are the equivalents of the foregoing may be substituted with consent of the department, but courses in Spanish literature in English translation may not be counted toward either a major or a minor.

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

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

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

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

2518-28 Honors: Intermediate Spanish (4,4,4) 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. Class held to a maximum of 15 so that each student may receive more attention. Students follow enriched program with continuing emphasis upon speaking ability and 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 Spanish 3000. Prereq: Spanish 1110-20-30, 1510-20, 1518-28, or equivalent.

2910-20-30 Spanish and Spanish American Literature in English Translation (3-4,3-4,3-4) 2910—Masterpieces of classical Spanish literature: Cervantes, realism and the picaroon novel, religious mystics, Golden Age Theatre. 2920—Masterpieces of 20th century Spanish literature: Unamuno, Lorca, Ortega, Marquez, Borges, Fuentes, Asturias. No change in credit hours after add deadline. Option of 4 hours credit must present an appropriate amount of extra work above that required for 3 hours. (Same as Latin American Studies 3010-20-30.)

3000 Spanish 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 2130 or 2520 in basic skills of reading, speaking, and writing Spanish.

3110-20-30 Aspects of Spanish Literature (3,3,3) 3110—Introduction to Spanish literature, using selections from prose, drama, and poetry of the modern period; 3120—Aspects of Golden Age literature, including the mystics, Cervantes, and Lope de Vega. 3130—Aspects of modern Spanish literature, including Unamuno, Ortega y Gasset, and Garcia Lorca. Prereq: 2130, 2520 or equivalent. Recommended for literature majors. Not offered for graduate credit.

3310-20-30 Aspects of Spanish American Literature (3,3,3) Study (not usually chronological) of various periods of the literature; emphasis upon the genres (prose, novel, poetry, drama) varies. May be taken in place of 3110-20-30. Prereq: 2130, 2520 or equivalent. (Same as Latin American Studies 3310-20-30.)

4310-20-30 Intermediate Composition and Conversation (3,3,3) Not offered for graduate credit.

4050-60-70 Hispano-Arabic Literature and Culture (3,3,3)
4101 Foreign Study (1-16) See page 159.

4115 Cervantes (3) Life and works of Cervantes, focusing on Don Quijote, but including other works; prerequisites: Third-year literature course in Spanish or consent of instructor.

4125 The Comedia (3) Study of Golden Age dramas with emphasis on works by Lope de Vega, Tirso de Molina, Alarcón, and Calderón de la Barca. Prerequisites: Third-year literature course in Spanish or consent of instructor.

4135 Generation of '98 (3) Study of the books of Granet and Lain Entralgo on the Generation; readings from works by Gasset, Garret, Baraja, Azorin, Valle-Inclán, Antonio Machado, Jimenez, Benavente and Ortega y Gasset. Prerequisites: Third-year literature course in Spanish or consent of instructor.

4140 Teatral Spanish (1-3) Performance in one or more Spanish plays. Prerequisite: Intermediate Spanish or equivalent and consent of instructor. May be repeated with consent of department. Maximum 6 hrs.

4160-70-80 Advanced Conversation (2,2,2) Intensive training in prepared and spontaneous conversations. Subjects range from travel and current events to literary and cultural determinants of human behavior. Prerequisite: Completion of 9 hours of courses on 3000 level.

4210 Phonetics (3) Prerequisite: 2130, 2520, or equivalent.

4220-30 Advanced Grammar (3,3) Prerequisite: 2130, 2520, or equivalent.

4250 Introduction to Descriptive Linguistics (3) (Same as French, German, Russian, and Linguistics 4250.)

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

4270 Romance Linguistics (3) (Same as French and Linguistics 4270.)

4410 Spanish Civilization (3) Prerequisite: 2130, 2520, or equivalent.

4420-30 Latin American Civilization (3,3) Prerequisite: 2130, 2520, or equivalent. (Same as Latin American Studies 3010-20-30.)

4510 Special Topics in Nineteenth Century Spanish Literature (3) Prerequisite: 2130, 2520, or equivalent. (Same as Latin American Studies 3010-20-30.)

4618 Honors: Readings in Literature (3) Prerequisite: 3130, 3330, or equivalent and at least 3.0 on all university work. No credit for grade less than B.

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

4810-20-30 Topical Survey of Spanish American Literature (3,3,3) 48101-481092—481080—Prose fiction: major examples of the short story and novel. 48201-Poetry: landmark figures of past and present. 48301-Drama: plays and essay: the modern period. (Same as Latin American Studies 4810-20-30.)

GRADUATE: The Master's Program
See Catalogue for requirements and course descriptions.

Russian
See Germanic and Slavic Languages.

Russian and East European Studies
See Cultural Studies.

Social Work (906)

Assistant Professors: F. H. Daskin (Director), Ph.D. AGSW, Connecticut.

4101 Foreign Study (1-16) See page 159.

4115 Cervantes (3) Life and works of Cervantes, focusing on Don Quijote, but including other works; includes an introduction to Cervantes criticism and bibliography across the centuries. Prerequisite: Third-year literature course in Spanish or consent of instructor.

4125 The Comedia (3) Study of Golden Age dramas with emphasis on works by Lope de Vega, Tirso de Molina, Alarcón, and Calderón de la Barca. Prerequisites: Third-year literature course in Spanish or consent of instructor.

4135 Generation of '98 (3) Study of the books of Granet and Lain Entralgo on the Generation; readings from works by Gasset, Garret, Baraja, Azorin, Valle-Inclán, Antonio Machado, Jimenez, Benavente and Ortega y Gasset. Prerequisites: Third-year literature course in Spanish or consent of instructor.

4140 Teatral Spanish (1-3) Performance in one or more Spanish plays. Prerequisite: Intermediate Spanish or equivalent and consent of instructor. May be repeated with consent of department. Maximum 6 hrs.

4160-70-80 Advanced Conversation (2,2,2) Intensive training in prepared and spontaneous conversations. Subjects range from travel and current events to literary and cultural determinants of human behavior. Prerequisite: Completion of 9 hours of courses on 3000 level.

4210 Phonetics (3) Prerequisite: 2130, 2520, or equivalent.

4220-30 Advanced Grammar (3,3) Prerequisite: 2130, 2520, or equivalent.

4250 Introduction to Descriptive Linguistics (3) (Same as French, German, Russian, and Linguistics 4250.)

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

4270 Romance Linguistics (3) (Same as French and Linguistics 4270.)

4410 Spanish Civilization (3) Prerequisite: 2130, 2520, or equivalent.

4420-30 Latin American Civilization (3,3) Prerequisite: 2130, 2520, or equivalent. (Same as Latin American Studies 3010-20-30.)

4510 Special Topics in Nineteenth Century Spanish Literature (3) Prerequisite: 2130, 2520, or equivalent. (Same as Latin American Studies 3010-20-30.)

4618 Honors: Readings in Literature (3) Prerequisite: 3130, 3330, or equivalent and at least 3.0 on all university work. No credit for grade less than B.

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

4810-20-30 Topical Survey of Spanish American Literature (3,3,3) 48101-481092—481080—Prose fiction: major examples of the short story and novel. 48201-Poetry: landmark figures of past and present. 48301-Drama: plays and essay: the modern period. (Same as Latin American Studies 4810-20-30.)

GRADUATE: The Master's Program
See Catalogue for requirements and course descriptions.
THE RESEARCH ANALYST program is prepared for data analysis in public and private research organizations and in business and industry. Courses include: Stratification 3350, Social Research 3910, Elementary Social Statistics 3920, Population Problems 4110, Theory of Attitudes and Values 4160, and selected courses outside of the department. Students should consult with the Undergraduate Coordinator. The Human Management program is prepared for those who manage people as part of their work. Courses include: Social Psychology 3130, Gender in Society 3150, Communicative Processes 3320, Prejudice and Racism 3330, Occupations 3610, Occupations as Organizations 3620, Social Research 3910, and Formal Organizations 4560.

The Criminal Justice program is preparation for careers in corrections, law enforcement, parole and probation, and criminology. Courses include: Collective Behavior 3010, Deviance 3140, Prejudice and Racism 3330, Juvenile Delinquency 3510, Social Research 3910, Sociology of Law 4030, Punishment and Corrections 4130, and Criminal Justice 4310.

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

1518 Honors: General Sociology (4) Enriched introduction to sociological principles and research. Permission of department required. B average or better. Selected freshmen.

1520 Sociology of Social Problems (4)

1528 Honors: Social Problems (4) Permission of department required. B average or better. Selected freshmen.

1530 Contemporary Social Change (4) Introduction to basic concepts and principles used in analyzing social change. Emphasis on contemporary society.

3010 Collective Behavior (4) Analysis of collective phenomena emphasizing crowd behavior, responses to disaster, urban riots, mass movements, and social protests.

3015 Resource Scarcity and Social Change (4) The relationship between scarcity of natural resources and changes in social behavior, social welfare, and social structure. Topics include social and physical limits to growth and collective action problems.

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) Socio-psychological analysis of social behavior emphasizing its acquisition, its enactment and its dynamic nature.

3140 Deviance and the Social Order (4) Examination of relations between deviance and social order. Various types of social deviance considered, with focus on their structural, social factors related to process of becoming deviant, and consequences of deviant conduct.

3150 Gender in Society (4) Exploration of gender in society utilizing various sociological perspectives with special focus on the relationships between social structures, social roles and gender identities. (Same as Women's Studies 3150.)

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

3220 The Family (4) Examines theoretical frameworks and methodological approaches and their application in the sociological study of past and present family forms.

3320 Sociology of Communicative Processes (4) Sociological dimensions of communication and of communicative processes at the organizational and interpersonal levels.

3320 Prejudice and Racism in the United States (4) (Same as Afro-American Studies 3330.)

3340 Comparative Poverty and Inequality (4) Comparative description and sociological analysis of poverty and inequality in the modern world. (Same as Afro-American Studies 3340.)

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

3410 Urban Environment (4) Introduction to urban environment, 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 science, urban problems and interventions; housing, urban renewal, and neighborhood conservation; the urban poor, the disoriented, and alienated; planning for urban youth; the urban elderly; the social and physical planning process; new towns.

3910 Juvenile Delinquency (4) Critical assessment of nature of the delinquency problem, major sociological causes and their implications for control, and administration of juvenile justice.

3910 Sociology of Occupations (4) Introduction to occupations and their relationship to the individual and society; technology and occupations; unequal rewards and occupations; social organization and occupations.

3920 Occupations as Organizations (4) Occupations as interest groupings; their impact on work settings and the wider community.

3972 Religion and Society in Japan (4) (Same as Religious Studies 3672.)

3978 American Society (4) An analysis of the institutional organization of contemporary American society, with attention to institutional interrelations (e.g., between the economy and the polity), characteristics of important social groups (e.g., educators, political parties, and workers), and major forces of change.

3910 Sociological Theory (4) Survey and analysis of sociological theory from time of Comte to present.

3910 Introduction to Social Research (4) Scientific method applied to social phenomena; formulating testing hypotheses; techniques for collecting data; measuring social variables; interpreting research findings. Lectures and laboratory.

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. Prereq: Determined by department.

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

4050 Sociology of Sport (4) Social organization and meaning of sport. The difference between sport and play and their implications for socialization and sport, sport as an occupation, place of sport in mass culture, sport subcultures, and reciprocal influences of sport and cultural milieu.

4102 Off-Campus Study (1-16) See page 159.

4103 Independent Study (1-16) See page 159.

4110 Population Problems (4) Demographic factors and social structure; trends in fertility, mortality, popula-
Theatre offers a single undergraduate degree, and the Bachelor of Arts in Speech and Theatre. Majors must declare a concentration in either (a) Speech or (b) Theatre.

(a) Major in Speech and Theatre (Speech Concentration)

i. Prerequisites: 2 of the following 3 Speech courses: 1211, 1221, 1441.

ii. Requirements: (a) 2 of the following 4 Speech courses: 2021, 2311 (or 3551 by permission), 2331, 2351; (b) 30 additional hours of Speech courses numbered 2000 and above; (c) at least 24 of the hours listed above must be numbered 3000 and above.

(b) Major in Speech and Theatre (Theatre Concentration)

i. Prerequisites: Theatre 1320-30-40.

ii. Requirements: (a) Theatre 2111, 2211-21, 2221, 3252-53-54; (b) 19 additional hours of Theatre courses numbered 2000 and above; (c) at least one half of the hours in the concentration must be earned at the 3000 level and above.

Minors: Two minors are offered: (a) Speech and (b) Theatre.

a. Minor in Speech:

i. Prerequisites: Speech 1211, 1221.

ii. Requirements: 24 hours in Speech courses numbered above 3000.

b. Minor in Theatre:

i. Prerequisites: Theatre 1320-30-40.

ii. Requirements: 24 hours in Theatre courses numbered above 3000, of which must be in history and criticism.

Consult the Graduate Catalog for listing of advanced courses for which credit may be given.

Speech (943)

1211 Communication and Society (4) Study of communication media (posters, speeches, songs, plays, demonstrations, film) and social change.

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 (4) Voice production; attention to individual speech problems.

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

2321 Argumentation and Debate (4) Recommended: 2311.

2351 Interpersonal Communication (4) Communication theory in its application to self-talk, casual communication, structured communication, and intimate communication.

2361 Business and Professional Speaking (4) Basic principles of oral communication within organizations. Listening skills, interviewing, formal presentation (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) Superintended work in tournament debate and individual events. Prereq: Consent of instructor.

3011 Persuasion (4) Persuasive theory: psychological, sociological, and cultural dimensions.

3021 Group Communication (4) Communication theory in its application to small groups, especially discussion groups, committees, non-verbal communication, business communication.

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

3041 Communication Projects (1-4) Intensive application of communication theory covered in previous Speech Communication courses. Includes the areas of persuasion and interpersonal communication. May be repeated. Maximum 4 credit hours.

3361 Fundamentals of Organizational Communication (4) A study of communication behavior, theory and skills in organizational settings; upward, downward and lateral communications in dyads and groups.

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

3651 Persuasive Speaking (4) Speech forms; principles and practice of speech composition.

4221 Advanced Argumentation and Debate (4) Prereq: 2331 or consent of instructor.

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

4541 Rhetorical Theory and Criticism (4) Survey of Western rhetorical tradition; contemporary approaches to criticism of public address.

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

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

4591 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.

4930 Studies in American Public Address (4) May be repeated. Maximum credit 12 hours.

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

Consult the Graduate Catalog for listing of graduate level courses.

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—Arts of performance (acting and directing), 1340—Physical production (set and design, costume).

2111-21 Acting (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. Production participation required.

2211-21 Stagecraft (4) 2211—Techniques of scenery construction. 2221—Fundamental methods of stage lighting. Production participation required.

2231 Basic Stage Costuming (4) Costume design and construction: basic theory and technique. Production participation required.

3121-22 Advanced Acting (4,4) Historical styles of acting. 3121—Renaissance, 3122—17th and 18th centuries. Prereq: Consent of instructor. Production participation required.

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

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. May be repeated. Maximum credit 4 hours.

3153 Summer Repertory Productions (1-4) Supervised work on summer repertory productions. Available only to members of summer company by consent of instructor. May be repeated. Maximum 4 credit hours.

3214-15 Technical Theatre (4,4) Special techniques in scenery and property construction; stage management; problems in basic technical theatre practice. Prereq: 2221-21 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; rudiments 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, scenic design, and acting styles. 3252—Antiquity to the Renaissance. 3253—The European theatre, 1650-1850. 3254—Modern theatre.

3262-63 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: 2221-21 and consent of instructor.

4351-52 Play Directing (4,4) Must be taken in sequence. Prereq: 2211.

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: 2221 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. May be repeated. Maximum credit 4 hours.

4152 Theatre Practicum: Production (1-4) Continuation of 3152. Available for credit only to theatre majors. Prereq: consent of instructor. May be repeated. Maximum credit 4 hours.

4153 Summer Repertory Productions (1-4) Continuation of 3153. Available only to members of sum-
mer company by consent of instructor. May be repeated. Maximum 4 credit hours.

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

4214-42 Advanced Scene Design (4,4) Descriptive drawing as an approach to three-dimensional design; theatrical graphic standards and preparation of design drawings; drawing of set construction; construction of spatial illusion through color with reference to rendering, scene painting, and preparation of painter's elevations. Must be taken in sequence. Prereq: 2211-21; 3211-32; and consent of instructor.

4314-42 Advanced Lighting Design (4,4) Relationship of light to setting in creating stage environment. Must be taken in sequence. Prereq: 3321-22 or 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.

4514-42 Advanced Theatre Costume Design (4,4) Advanced problems in costume design and construction; pattern drafting; draping. Prereq: 2511-12.

4715-52 Dramatic Theory and Criticism (3,3) Review of major theoretical and critical approaches to the study of theatre; study of one or more major playwrights or playwrights. Prereq: Consent of instructor.

GRADUATE
Consult the Graduate Catalog for listing of graduate level courses.

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 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 159.

4102 Off-Campus Study (1-16) May be repeated for major credit to maximum of 12 hours. See page 159.

4103 Independent Study (1-16) May be repeated for major credit to maximum of 8 hours. See page 159.

4650 Group Performance of Literature (4) Oral interpretive techniques of choral reading, readers theatre, and chamber theatre.

GRADUATE
Consult the Graduate Catalog for listing of graduate level courses.

Statistics

See faculty list page 86.

Liberal arts students may major or minor in statistics under the supervision of the faculty of the statistics department in the College of Business Administration. The major is designed to prepare students for graduate studies in statistics or for professional work in various applications of statistical methods, including applications in the natural and social sciences, business, and industry. It is highly recommended that a student majoring in statistics have a minor in an area of application.

Major:

(a) Required courses: 27 hours to consist of Mathematics 2840-50-60; Statistics 3450-60; Computer Science 4310; Statistics 3550 or Mathematics 4650 or 4750.

(b) Statistics electives: 15 hours from upper-division statistics courses not listed in part (a) above.

(c) Electives: 12 hours to be selected from no more than two of the following groups: Computer Science 3150, 3520, 4590; Industrial Engineering 3430, 3510, 3520, 3530, 4590; Industrial Management 4610, 4620; Mathematics 3780-90, 4060-70, 4510-20-30 (or 4518-28-38), 4860-70.

Minor:

Required: 21 courses to consist of Mathematics 2840-50-60; Statistics 3450-60; Computer Science 4310.

(b) Statistics electives: 9 hours from upper-division statistics courses not in part (a) of the minor.

University Studies (984)

University Studies deal with important contemporary topics which are sufficiently comprehensive to require study and attention of students and faculty from more than one college. They are open to all qualified members of the UTK community.

The University Learning Community is a program designed to offer a group of sophomores an integrated pattern of courses built around a broad theme. For each of three quarters the group will take four courses, two drawn from offerings by UTK programs that contribute to the theme and the appropriate courses from the 2001-02-03 and 2110-20-30 sequences. The Community will be lead by a Master Learner, a member of the faculty who will participate in all courses taken by the group. Further information is available at the Learning Research Center, 1819 Andy Holt Avenue.

1000 The First Course (3) An introduction to university education as an adventure in personal growth and professional development. S/NC.

2001-02-03 University Learning Seminar (1,1,1) Laboratory course for facilitating integrative thinking and learning. Only for students enrolled in a University Learning Community.

2110-29-30 Topics in University Studies (3,3,3) Variable content course using case studies and problem-solving approaches to explore interdisciplinary issues. Only for students enrolled in a University Learning Community.

Zoology (995)

Professors: J. H. Altb (Head), Ph.D. Brown, R. M. Bagny, Ph.D. Illinois; L. D. Bunting, II, Ph.D. Oklahoma State; J. G. Carlson (Emeritus), Ph.D. Pennsylvania; A. G. Cole

(Emertus), Ph.D. Ohio State; J. C. Daniel, Jr., Ph.D. Colorado; D. A. Ewert, Ph.D. Minnesota; R. C. Fraser (Emertus), Ph.D. Minnesota; B. Hochman, Ph.D. California (Berkeley); J. Howell (Emeritus), Ph.D. Cornell; E. T. Howley, Ph.D. Wisconsin; L. W. Jeur, Ph.D. London (England); A. W. Jones (Emeritus); Ph.D. Virginia; J. R. Kennedy, Ph.D. Iowa; N. L. Lies, Ph.D. Ohio State; S. E. Riechert, Ph.D. Wisconsin; L. E. Roth (Visc Chancellor for Graduate Studies), Ph.D. Chicago; C. A. Shivers, Ph.D. Michigan State; J. T. Tanner (Emeritus), Ph.D. Cornell; H. G. Welch, Ph.D. Florida; M. C. Whiteside, Ph.D. Indiana; G. L. Whitson, Ph.D. Iowa.

Associate Professors: K. D. Burnham, Ph.D. Iowa; A. C. Echtmeath, Ph.D. Kansas; D. J. Fox, Ph.D. Johns Hopkins; M. A. Hatid, Ph.D. Kansas State; J. A. Macabey, Ph.D. California (Davis), M. L. Pan, Ph.D. Pennsylvania; S. L. Pimm, Ph.D. New Mexico State; G. L. Vaughn, Ph.D. Duke.

Assistant Professors: T. T. Chen, Ph.D. Florida; L. D. Etkin, Ph.D. Indiana; G. F. McCracken, Ph.D. Cornell; N. B. Greenberg, Ph.D. Rutgers.

UNDERGRADUATE

Prerequisites for upper-division courses:

Biology 1210-20-30 or Zoology 1118-28 are prerequisites for all upper-division courses, with the exception of 3090 and 4940. 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.

B.A. Major: Consists of Biology 3110, 3120, 3130; 18 hours of upper-division zoology courses and 3 quarters of chemistry or biochemistry at the 3000s level or above. Of the 18 hours of upper-division zoology courses, a minimum of 6 hours must be at the 4000 level, and must include at least one laboratory or field course. 1 to 3 hours of Zoology 3950 and hours of Zoology 4999 Perspectives in Zoology must also be included. 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: (1) a Mathematics and Statistics/Computer Science package consisting of Mathematics 1550-60, 1840-50 or 1841-51 (Mathematics 1841-51 is the recommended choice) plus one of the following: Mathematics 1860, 3050, 3060, 3861, Psychology 4150, Computer Science 1510, 1610, Plant and Soil Science 3610; (2) a year sequence in Physics (except 1410-20-30).

Note: Students majoring in zoology are advised to exercise care in fulfilling Science and Mathematics requirements. Mathematics 1840-50 or 1841-51 or 1540-50-60 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 3000-level biology courses may be used, e.g. Biology 3110, 3120, 3130.) Prerequisites to this minor are Biology 1210-20-30 or Zoology 1118-29-30 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...
3410 Bioethics (3) Relationship between biological discoveries and human values. Open discussion of selected dilemmas arising from new knowledge about medicine, behavior, resources, and technology.

3720 Ethology and Sociobiology (3) Basic concepts of the evolutionary approach to behavior with special reference to controversial issues in applications to psychology, the social sciences, and the arts. (Same as Psychology 3720.)

3920 Human Endocrinology (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. Three lectures and 1 discussion. Prereq: a course in physiology. (Does not carry credit in the Zoology major or minor.)

3990 Zoology Colloquium (1) Weekly discussions of contemporary interest. Open to sophomores, juniors, and seniors. Each Zoology major is required to take a minimum of one hour. Grading: S/NC. May be repeated. Maximum 3 hours.

4007-9-10-11-12-13-14-15-16-17 Minicourse in Zoology (2,2,2,2,2,2,2,2,2,2,2) Selected, advanced topics in zoology, concentrated in time and subject matter. Consult departmental listing for actual topics offered. Prereq: As posted. May be repeated for credit. Maximum 12 hours.

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 hours 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. Approximtely 5 hours of involvement per week. Prereq: Biology 3110, 3120, 3130, and senior standing.

4190 Mammalogy (4) Classification, evolution, distribution, reproduction, populations, and behavior. 2 hours and 2 lab or field periods.

4200 Ichthyology (5) Classification, collection and identification, distribution, life histories, and economic importance of fishes. Prereq: Biology 2130 or consent of instructor. 2 hours and 2 lab or field periods.

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 or any physiology, and organic chemistry. Biochemistry recommended. 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 hours and 2 labs.

4250 Environmental Physiology (4) Survey of physiological mechanisms in the animal kingdom and their relationships to animal ecology and to survival of animals in diverse environments. Prereq: Biology 3120-30, 2 years of chemistry.

4259 Comparative Animal Physiology Laboratory I (1) Coreq: 4250.


4269 Comparative Animal Physiology Laboratory II (1) Prereq: 3080 and consent of instructor; coreq: 4260.

4270 Immunology (3) (Same as Microbiology 4270.)

4280 Comparative Endocrinology (5) Comparative analyses of the physiology and morphology of endocrine glands in vertebrates and invertebrates. Their role and interaction in maintenance of the organism and species. Prereq: 3080 or equivalent. 3 hours and one 3-hour lab.

4290 Herpetology (4) Classification, distribution, life histories, collection, and identification of amphibians and reptiles, primarily of local species. 2 hours and 2 lab or field periods.

4300 Ornithology (4) Morphology, physiology, behavior, reproduction, populations, evolution, field identification, 2 hours and 2 labs or field periods.

4320 Microtechnique (4) 3320 recommended. 2 hrs. and 2 labs.

4330 General Ornithology (4) Study of cellular organelles at the light and electron microscope levels and the functioning of these organelles. Prereq: Biology 3120.

4390 General Genetic Laboratory (2) Mainly Drosophila experiments designed to illustrate basic principles of inheritance. Prereq: Biology 3110. 2 labs.

4380 Organic Evolution (3) Modern concepts of animal evolution. Prereq: Biology 3110.

4390 Human Genetics (3) Principles and problems of inheritance in man. Prereq: Biology 3110.

4410 General Parasitology (4) Morphology,taxonomy, and ecology of parasitic worms and protozoa, with emphasis on host-parasite relationships. 3 hrs. and 1 lab. Prereq: Biology 3130 or consent of instructor.

4560 Introduction to Aquatic Ecology (4) Introduction to the physicochemical nature of the inland waters. Biotic communities are described and their interrelationships explored. Prereq: Chemistry 1110-20-30 and Biology 3130. 2 hrs. and 2 labs.

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: 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.

4990 Perspectives in Zoology (3) Critical analysis of selected readings in biology. Prereq: Senior standing.

GRADUATE
Consult the Graduate Catalog for listing of graduate level courses.