


Aero/Propulsion (3) Principles of propulsion of aerospace science topics in science and engineering required for an understanding of the several areas of aerospace science. Prereq: Consent of instructor.

AERIAL ENGINEERING (418)

Introduction to aerospace engineering (1) Presentation and discussion of topics related to aerospace engineering. Prereq: 3620, Mach. Engr. 3320.


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AERIAL ENGINEERING (418)

Introduction to aerospace engineering (1) Presentation and discussion of topics related to aerospace engineering. Prereq: 3620, Mach. Engr. 3320.

1500 Introduction to Nuclear Reactor Theory (3, 3, 3)
- Nuclear structure, radioactive decay laws, neutron interaction, fission process, chain-reacting systems, diffusion theory, neutron moderation, reactivity coefficients, perturbation theory.
- Prereq: Physics 3730 or consent of instructor.

1510-20-30 Nuclear Engineering Laboratory (3, 3, 3)
- Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes.
- Gamma spectrometry, cross-section measurements, analog computation, diffusion properties of neutrons, critical loading experiments, control rod calibration.
- Prereq: Physics 3730; Math 4550.

1520-20-30 Nuclear Systems (3, 3, 3)
- Nuclear structure, decay laws, neutron diffusion, time behavior of reactors, heat removal, analysis of reactor power plants.
- Prereq: Physics 3730, Math 4550.

1530 Nuclear Systems Reliability (3, 3, 3)
- Nuclear systems, reliability, accident analysis, engineered safeguards.
- Prereq: 4120.

1540 Nuclear Fuel Management (3)
- Discussion of problems associated with processing of nuclear materials.
- Thermal-hydraulic systems, burn-up calculations.
- Prereq: 4120.

1550-20-30 Nuclear Reactor Theory (3, 3, 3)
- Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes.
- Gamma spectrometry, cross-section measurements, nuclear and macroscopic properties of neutrons, critical loading experiments, control rod calibration.
- Prereq: Physics 3730, Math 4550.

1560 Reactor Kinetics and Controls (3)
- Derivation of kinetic equations, basic kinetic parameters, transient response with feedback, control and protective systems.
- Prereq: 4110.

1570 Nuclear Reactor Safety (3)
- Presentation of reactor safety concepts and criteria, credible accident analysis, engineered safeguards.
- Prereq: 4120.

1580-50 Fast Breeder Reactors (3, 3)

5900 Nuclear Engineering Practice (3-12)

600 Doctoral Research and Dissertation (3-12)

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

6140 Radiation Shielding (3)

6150 Reactor Dynamics (3)

6710 Two-Phase Flow and Heat Transfer (3)

5800 Nuclear Engineering Practice (3-12)

5900 Nuclear Engineering Practice (3-12)

6000 Doctoral Research and Dissertation (3-12)

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

6140 Radiation Shielding (3)

6150 Reactor Dynamics (3)

6710 Two-Phase Flow and Heat Transfer (3)
The College of Home Economics is an integral part of The University of Tennessee's academic program in its three major functions of teaching, research, and extended services. The college ranks among the top three colleges of home economics in the nation in enrollment and first in the number of master's and doctoral degrees granted. All undergraduate programs of the college are accredited by the American Home Economics Association. Much of the qualitative and quantitative growth of the college is due to its highly qualified faculty and staff who, being aware of the current community problems and needs, have made its programs relevant to the goals and aspirations of today's students.

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

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

The college's mission is twofold: its undergraduate programs are geared toward research producing alternative solutions to technical and social problems which are and will be encountered by the people who are to be served; its undergraduate programs prepare students to work with people in a professional capacity so that they make use of what has been learned in serving as professional agents of change.
program offers coordination of theory and experience with industry during all four years and also provides a co-operative plan of study which combines supervised employment experience in the food, lodging, tourism, retail, and/or apparel industries with academic study. Over 200 companies participate in the co-operative plan of study. The program is designed to provide a broad base of knowledge with emphasis on management and design skills needed in the industry. Students interested in this program should contact their adviser and the administrative assistant in the Office of the Dean of the College of Home Economics for detailed information.

Undergraduate Study in Home Economics

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

Child and Family Studies (CFS)
- Option 1—Early Childhood Development
- Option 2—Human Development and Family Studies
- Option 3—Nursery School-Grade 3

Food Science, Nutrition, and Food Systems Administration (FSNPSA)
- Option 1—Food Science
- Option 2—Nutrition Science
- Option 4—Coordinated Undergraduate Program in Dietetics (ADA)
- Option 5—Tourism, Food, and Lodging

Consumer and Homemaking Education (HEEID)
- Option 1—General Professional
- Option 2—Professional Interior Design

Programs under revision.

Textiles and Clothing (T & C)
- Option 1—Merchandising

Vocational Home Economics Education (VHEEID)
- Consumer and Homemaking Education. Occupational endorsement in one or more of the following areas:
  1) Food Services
  2) Child Care and Guidance
  3) Clothing Management, Production, and Services

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

For the degree of Bachelor of Science in Home Economics, students generally plan to complete the last 45 quarter hours of work under the guidance of The University of Tennessee, Knoxville. Seventy-two hours are required in courses numbered above 2000 at The University of Tennessee, Knoxville. The prospective transfer student is advised to preplan the total college program.
before starting any college-level work. Careful planning prior to transferring to the college is essential to maintain a program of study with maximum utilization of credit and sequence of course work. All in-freshman and transfer students whose majors require course work in freshman chemistry must take the freshman chemistry course sequence until requirements are completed. It is recommended that transfer students complete the freshman chemistry requirements before transferring to the college.

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

During the first quarter each student generally takes courses basic to all curricula and sequences of course work. All new students are assigned a faculty adviser for program planning. A normal student load per quarter is 15-16 hours. The maximum load is 19 credit hours per quarter (18 hours maximum for the Coordinated Undergraduate Program in Dental) unless otherwise approved by the academic dean.

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

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

Education 3810 should be elected in the sophomore year and not later than the first quarter of the junior year.

The following four courses are fundamental to home economics and are required in all curricula:

Freshman

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Description</th>
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</thead>
<tbody>
<tr>
<td>1010</td>
<td>English 1010-20</td>
</tr>
<tr>
<td>1031</td>
<td>English 1031-20</td>
</tr>
<tr>
<td>2110</td>
<td>Philosophy 1510 or 2510</td>
</tr>
<tr>
<td>4090</td>
<td>Mathematics 1540</td>
</tr>
<tr>
<td>5100</td>
<td>Music 1210 or 1815 or 1825</td>
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Sophomore

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>2150</td>
<td>History of political science 4</td>
</tr>
<tr>
<td>2210</td>
<td>Literature elective 3</td>
</tr>
<tr>
<td>2310</td>
<td>Mathematics 1540</td>
</tr>
<tr>
<td>2410</td>
<td>Physical or biological science elective 4</td>
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<td>2510</td>
<td>Physical or biological science elective 4</td>
</tr>
<tr>
<td>2610</td>
<td>Philosophy or religious studies elective 4</td>
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Senior

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<tr>
<th>Course Number</th>
<th>Course Description</th>
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<tbody>
<tr>
<td>3150</td>
<td>Special Education 3323</td>
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<tr>
<td>3300</td>
<td>Physical Education 3960 or 3970 2-3</td>
</tr>
<tr>
<td>3400-3460</td>
<td>Total: 182 hours</td>
</tr>
</tbody>
</table>

OPTION 1. EARLY CHILDHOOD DEVELOPMENT

This option is appropriate for persons interested in early childhood development, family relationships, early childhood education, and social work.

For majors in the food science, nutrition, or textiles curricula, Nutrition 3310 should be taken preferably in the sophomore year and not later than the first quarter of the junior year.

The following four courses are fundamental to home economics and are required in all curricula:

The curriculum is appropriate for persons oriented toward teaching and to administrative positions in child care centers and nurseries in public schools, with family services, child welfare agencies, extension, banks, and consumer agencies. Other opportunities exist that require study beyond the bachelor's level (for example: administration, research, and clinical services). All options provide necessary background for graduate study in child development, family relationships, early childhood education, and social work.

OPTION 2. HUMAN DEVELOPMENT

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

College of Home Economics
**OPTION 3. NURSERY SCHOOL-EDUCATION**

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

**Sophomore**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>HED 2100</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECI 2310</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 6 hours</strong></td>
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<td>6</td>
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</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>HED 3200</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECI 3210</td>
<td>3</td>
<td>3</td>
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<tr>
<td><strong>Total: 6 hours</strong></td>
<td></td>
<td>6</td>
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</table>

**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>HED 4100</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECI 4210</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 6 hours</strong></td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**TOTAL: 192 hours**

This curriculum provides in-depth training in the basic biological sciences as well as aspects of food science to people and their environment. Emphasis is placed on the application of the social sciences to world feeding problems, consumer reaction to food acceptability and marketing problems. Application of the physical sciences is made in the study of food composition and properties and changes associated with processing, preparation and storage. This curriculum prepares students for positions in food product development and evaluation in industry and government, work in communications media, or for direct entrance into a master's degree program related to nursery teaching for children in need. Information concerning modifications necessary to meet the academic requirements of the American Dietetic Association is available from the department.

**Minor**

<table>
<thead>
<tr>
<th>Course</th>
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<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total: 36 hours</strong></td>
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<td>36</td>
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This curriculum is designed for students who are interested in graduate study and/or a career in clinical nutrition, who want to become college teachers and researchers, or who are interested in graduate study to become a clinical nutrition specialist.

**OPTION 2. NUTRITION SCIENCE**

This program provides in-depth training in the basic biological sciences as well as nutrition. This option is designed for students who are interested in graduate study to become college teachers and researchers, or who are interested in graduate study and/or a career in clinical nutrition specialist.
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Freshman  Hours Credit
Chemistry 1110-20 or 1120-30  6
English 1010-20  6
Home Economics 1120  3
Nutrition 1230  3
Psychology 2010  4
Sociology 1110  4
Application and selection by a faculty committee required to enter sophomore year.

Sophomore  Hours Credit
Economics 2110-20 or 30  3
English 2100 or 2200 or 2300 or 2540  4
Home Economics 2510  4
Journalism 2210  3
Nutrition 3120-30-39  3
Physical education activity elective  2
Speech 2120  2
Zoology 2930-30  3
Electives  3

Junior  Hours Credit
Anthropology 2500  3
Biological Psychology 3110  3
Food Science 3110  3
Food Systems Administration 3200  2
Home Economics 3510  4
Microbiology 2510  3
Nutrition 2110  3
Nutrition 2120  3
Plant and Soil Science 3610  4
Zoology 3050-60, 3920  2
Electives  6

Senior  Hours Credit
Food Science 3020  3
Food Science 3030  3
Nutrition 4300  3
Nutrition 4320  3
Nutrition 4330  3
Electives  23

TOTAL: 188 hours

OPTION 3. COMMUNITY NUTRITION

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

Program  Hours Credit
Chemistry 1110-20 or 1120-30  12
English 1010-20  6
English 1200  3
Home Economics 1510  4
Home Economics 1610  2
Mathematics 1410  4
Nutrition 1220  3
Psychology 2510  3
Sociology 1110  3
Application and selection by a faculty committee required to enter sophomore year.

Sophomore  Hours Credit
English 2100 or 2200 or 2300 or 2540  4
Home Economics 2510  4
Journalism 2210  3
Nutrition 3120-30-39  3
Physical education activity elective  2
Zoology 2930-30  3
Electives  3

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OPTION 4. COORDINATED UNDERGRADUATE PROGRAM IN DIETETICS (ADA)

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

Admission and Progression Policies
A student may be admitted to the program provided all requirements or equivalents of the program up to that time, as well as University of Tennessee and College of Home Economics standards, have been satisfactorily met. Pre-professional courses may be taken at The University of Tennessee, Knoxville, or any accredited junior or senior college or community college. The program has been planned to permit transfer students to apply prior to the beginning of the junior year. Applications should be made to the program director by April 1.

Criteria for selection include (1) evidence that the student will satisfactorily complete the two-year pre-professional phase, (2) an overall GPA of 3.2 or higher, (3) personal interview, and (4) recommendations from faculty of selected pre-professional courses. The number of qualified students accepted into the Coordinated Undergraduate Program in Dietetics is contingent on the number of clinical sites available. Criteria for admission must be maintained throughout the pre-professional phase. Exception to criteria may be made by petition to the program director. Criteria for progression in the professional phase junior and senior years will include (1) satisfactory completion of each required professional course with a minimum grade of C, (2) periodic evaluation of competency level by academic and clinical faculty, (3) periodic evaluation of competency by peers, and (4) participation in voluntary professional activities. The maximum credit hours carried per quarter should not exceed 18 hours without special permission from the program director. Exceptions to the above may be made by petition to the program director.

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

A student unable to enter or to complete the Coordinated Undergraduate Program in Dietetics (Option 4) may select Food Science (Option 1), Nutrition Science (Option 2), or Community Nutrition (Option 3) to fulfill the academic requirements for a dietetic internships or traineeship. Upon completion of the academic requirements and the dietetic internship or traineeship, students would be eligible for membership in the American Dietetic Association and to apply for the registration examination to qualify as a Registered Dietitian (R.D.).

Freshman  Hours Credit
Chemistry 1110-20-30  12
English 1010-20  6
English 2100-12  3
Home Economics 1120  3
Mathematics 1410  4
Nutrition 1230  3
Psychology 2010  4
Sociology 1110  4
Application and selection by a faculty committee required to enter sophomore year.

Sophomore  Hours Credit
English 2100 or 2200 or 2300 or 2540  4
Home Economics 2510  4
Journalism 2210  3
Nutrition 3120-30-39  3
Physical education activity elective  2
Zoology 2930-30  3
Electives  3

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for students who are primarily interested in becoming professional interior designers.

Admission and Progression Policies

Applications to "Option 2: Professional Interior Design" must be received by the Director of Admissions no later than March 1 for admission to the summer and fall quarters. Selection will be made by April 1. November 1 is the deadline for applications for the spring quarter; enrollment is closed for the winter quarter. An applicant who is not accepted may be reconsidered if an application is made for a future class.

Admission to junior level interior design studio requires (1) satisfactory completion of the sophomore level interior design series (2115-16) with a cumulative grade point average of at least 2.3, exceptions by petition only, (2) application to the Department of Interior Design and Housing no later than the eighth week of the quarter in which the student is enrolled in IDH 2116, and (3) a personal interview and evaluation of the applicant's portfolio by designated members of the interior design faculty.

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

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

Professional Curriculum in Textiles and Clothing

OPTION 1: MERCHANDISING

This curriculum is appropriate for students wishing to prepare for positions in merchandising of apparel and fabrics, fashion writing, and in public relations with fashion writing, and in public relations with pattern companies and manufacturers of textile products. Application for field work (Textiles and Clothing 4626-46) must be submitted to the Department Coordinator by December 15 of the year preceding field work.

Freshman Hours Credit
Chemistry 1510-20, or 115-20-30 4
English 1510-12 4
Home Economics 1510 4
Psychology 1210 4
Total: 16

Sophomore
English 2510 4
IDH 2115-16 4
Art 2115-25-35 12
Art 2125 3
Natural science electives 12
English 1215-20 4
English 1035 3

Junior
English 2510 4
IDH 2115-16 4
IDH 3125 5
IDH 3150 5
Text. & Clo. 3420 3
Building Science 2210 4
Economics 2110-20 6
Home Economics 1520 4
Electives 8

Senior
Psychology 2250 and 2350 or 2540 4
English 2510-20 8
Art 2150 3
Text. & Clo. 3420 3
IDH 3125 4
Home Economics 2510 4
Electives 8

Junior
Psychology 2250 and 2350 or 2540 4
Electives 8

Senior
Psychology 2250 and 2350 or 2540 4
Electives 8

Electives 8

Senior
Psychology 2250 and 2350 or 2540 4
Electives 8

Senior
Psychology 2250 and 2350 or 2540 4
Electives 8

Senior
Psychology 2250 and 2350 or 2540 4
Electives 8

Junior
Economics 2110, 2130 4
Sociology 2150 4
Text. & Clo. 3420, 3429 4
Electives 8

Senior
Economics 2110, 2130 4
Psychology 2250 4
Sociology 2150 4
Text. & Clo. 3420, 3429 4
Electives 8

TOTAL: 191 hours

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Freshman Hours Credit
Chemistry 1101-20 or 1119-20 ........ 5
English 1010-20-30 ................. 9
Math 1540-50-60 ................. 15
Home Economics 1510 ............... 4
Text & Cl. 1165 ...................... 3
Text & Cl. 2110 ...................... 3
Elective ................................. 3
Sophomore Economics 2110-20-30 .... 9
Biology 1210 or 1220 or 1290 ....... 4
(choose 2) Humanities elective ....... 2
Humanities elective .................. 4
Literature elective .................... 4
Semester 1 3110 or Sociology 3120 .... 3
Sociology 1514 ...................... 4
Home Economics 1510 ............... 4
Text & Cl. 3405-29 ................... 4
Junior Speech 2911 .................... 4
Speech 2921 .......................... 4
Anthropology 2300 .................. 4
Psychology 3120 or Sociology 3130 .... 3
Nutrition 3310 or Chemistry 3211 and 3218 ... 3
Home Economics 2910 ............... 4
CFS 4850 ............................. 3
Text & Cl. 3410 ...................... 3
Text & Cl. 3440 ...................... 3
Text & Cl. 3450 ...................... 3
Text & Cl. 3490 ...................... 3
Electives ............................... 8
Electives ............................... 3
Freshman
Home Economics 3510 ............... 4
Text & Cl. 3420 or 4240 ............ 4
Text & Cl. 4050 ...................... 3
Text & Cl. 4140 ...................... 3
Text & Cl. 4290 ...................... 3
Choose 6 hours from Interior Design and Home Economics .............. 6
Studies ................................. 6
Electives ............................... 5
Senior
Home Economics 3510 ............... 4
Text & Cl. 3420 or 4240 ............ 4
Text & Cl. 4050 ...................... 3
Text & Cl. 4140 ...................... 3
Text & Cl. 4290 ...................... 3
Choose 6 hours from Interior Design and Home Economics .............. 6
Studies ................................. 6
Electives ............................... 5
Junior CFS 3025-30 or 
Elect. C 3100-30* .............. 6
Special education courses .......... 6
Ed. Psych. 3810 ...................... 3
*Recommended course.
Food Science 3025 ................. 4
H. Ed. Educ. 2420 .................. 4
CFS 3420 or 4210 or 4920 .......... 3
Math 3030 ......................... 3
Text & Cl. 3160 ...................... 2
Text & Cl. 3420 ...................... 3
Senior
Elective ............................... 9
Text & Cl. 3420 or 4240 .......... 4
H. Ed. Educ. 4160, 4170, 4180 .... 15
CFS 4430* or 3515 .................. 3
CFS 4500-10-20 .................... 8
Nutrition 4500 ...................... 4
CFS 4830 ............................. 3
Text & Cl. 3420 ...................... 3
TOTAL: 190 hours
8Fourhour sequence from foreign language or philosophy or history or art history or music.
Professional Curriculum in Vocational Home Economics
Education
THE teacher education program in home economics planned in cooperation with the College of Education prepares prospective teachers for vocational certification at the secondary level. Preparation is for both the consumer and homemaking program and the occupational program. The four-year course of study involves general education and professional courses including home economics subject matter. State certification requirements are met plus provision for capitalizing on one's area of interest.
Total requirements for admission to teacher education, to student teaching, and for recommendation for certification are listed on page 101. The State Board for Vocational Education and the United States Office of Education approve programs for vocational certification. Only students who have a major in the vocational home economics education curriculum meet certification requirements; students who have a major in general curriculum in the College of Home Economics do not meet certification requirements. All freshmen, sophomore, and junior required courses must be completed before a student engages in student teaching. Home Economics Education 4240 should be scheduled within one of the two quarters immediately preceding the quarter in which student teaching is scheduled.
In the undergraduate curriculum, endorsement in one or more of the occupational areas is optional and in addition to the basic consumer and homemaking education requirements. This curriculum will prepare students for graduate study in home economics education; however, it is not a requirement for graduate study in home economics education.
Freshman Hours Credit
Chemistry 1101-20-30 ............... 12
English 1010-20-30 ............... 9
English 1021 or 1022 or 1030 .... 9
Food Science 1910 ............... 4
Home Economics 1510 ............... 4
CFS 1130 ............................. 3
Mathematics elective ............... 3
P.E. or health elective ............. 3
Text & Cl. 1165 ...................... 2
Text & Cl. 1180 ...................... 2
Sophomore
Home Economics 1320 ............... 4
Economics elective ................. 3
Economics elective ................. 3
H. Ed. Educ. 2240 .................. 4
Humanities elective ................ 4
Literature elective .................. 4
Psychology 2050 ................. 6
Zoology 2080-30 ................. 6
Junior CFS 3025-30 or 
Elect. C 3100-30* .............. 6
Special education courses .......... 6
Ed. Psych. 3810 ...................... 3
*Recommended course.
Food Science 3025 ................. 4
H. Ed. Educ. 2420 .................. 4
CFS 3420 or 4210 or 4920 .......... 3
Math 3030 ......................... 3
Text & Cl. 3160 ...................... 2
Text & Cl. 3420 ...................... 3
Senior
Elective ............................... 9
Text & Cl. 3420 or 4240 .......... 4
H. Ed. Educ. 4160, 4170, 4180 .... 15
CFS 4430* or 3515 ................. 3
CFS 4500-10-20 .................... 8
Nutrition 4500 ...................... 4
CFS 4830 ............................. 3
Text & Cl. 3420 ...................... 3
TOTAL: 190 hours
13-17 hours of electives may be used for additional endorsement in one or more of the following occupational areas: food services; child care and guidance; clothing management, production, and services. If occupational electives selected are to be counted in addition to selected in other required courses, the number of courses must be two or more. If three or more courses are to be selected in any one occupational area, the number of courses must be three or more.

Graduate Study Programs in the College of Home Economics
Graduate study programs lead to the degree of Master of Science in a major in child and family studies; consumer studies and housing; public policy; interior design and housing; food science; food systems administration; home economics education; nutrition; and textiles and clothing. Graduate study programs lead to the degree of Doctor of Philosophy in Home Economics with three options: interdisciplinary, food science, and nutrition. Food systems administration may be taken as a concentration in the food science doctoral option. Graduate programs provide advanced specialized training as needed in each area for college and university teaching, for leadership positions in governmental and professional agencies and in various professions in business, for secondary school and adult teaching, for research, and for extended services. Information regarding graduate assistantships, fellowships, and general requirement of admission to graduate study may be obtained from the department head in the area of the student's major interest or from the dean of the College of Home Economics for the interdisciplinary doctoral option.
An application and two official transcripts should be submitted directly to the Graduate School. In addition, application is made to the dean of the College of Home Economics. Those students desiring to major in child and family studies, the interdisciplinary doctoral option, or home economics education are required to take the Graduate Record Examinations.

For a complete description of the Graduate Programs in the various areas of home economics, see the Graduate Catalog, including the list of available major and minor areas.

Departments of Instruction
Child and Family Studies (245)
Professors: R. M. Swagler (Acting Head), Ph.D., Ohio State; Benjamin (Bill) E. Olen, Ph.D., Iowa State; Dean; E. L. Spear, M.A.; and L. R. Swagler, Ph.D.; M. A. Columbia.

Occupational Endorsement Areas
1. FOOD SERVICES ENDORSEMENT ........ 14 hours
Food Science 2510 .................. 3
H. Ed. Educ. 3410 .................. 4
TOTAL: 190 hours

*Recommended course.

References:

1. See pages 101 for transfer requirements.
2. These codes are partially included in the list of transfer courses.
3. The requirements of the Iowa State University, the University of Minnesota, and the University of Illinois are somewhat different from the requirements of the Department of Home Economics at the University of Iowa.
4. Students desiring to major in the secondary level may obtain the endorsement from the Department of Education in the College of Education.
5. Students desiring to major in child and family studies, the interdisciplinary doctoral option, or home economics education are required to take the Graduate Record Examinations.
2120 Male-Female Relations (3) Examination of interpersonal interactions in group settings. For non-home economics majors with emphasis on socialization process from infancy to this course. 3 hrs. 1 hr observation per week.

1500 Introduction to Early Education (3) Introduces the field of early childhood education; overview of early childhood education, major bodies of thought, and role of research in curriculum development. Prerequisite: 3110 or 3210 or 4 hrs psychology. 3 hrs. 1 hr observation per week.

2550 Development in Infancy (3) Development during prenatal period and first 15 months of life. Involves the study of systems of the body and the development of physical, motor, social, and cognitive skills during development. Prerequisite: 2110 or Zoology 2920 or equivalent.

2110 Development in Early Childhood (3) Comprehensive study of the early childhood years. At age 3, the child begins to understand the role of self in the environment and learns to take prior to this course. 3 hrs. 1 hr observation per week.

3250 Development in Middle Childhood (3) Growth and development during the elementary school years. Special attention to different social and cultural settings, and application to the current situation. Prerequisite: 1500 or 3300. 3 hrs. 1 hr observation per week.

3360 Observation and Teaching Methods in Children's Programs (3) Analysis of program and teaching materials used in child care environments. Prerequisite: 3200 or 3910 or consent of instructor.

3500 Program Planning (3) Philosophies of preschool education. Analysis of program and teaching materials used in child care environments. Prerequisite: 3200 or 3910 or consent of instructor.

3420 Aesthetic Experiences (3) Examination of the major art media—quantity and logic, art, music, literature, science. 3 hrs. 3530 recommended.

2400 Family Economics (3) Management of family income and resources. Private and public measures to improve income position and reduce income insecurity. Prerequisite or corequisite: Economics 2120.

3510 Intimacy, Marriage and Alternatives (3) Examination of marriage patterns and family processes from the perspectives of both individual development and relationship development. Emphasis is on dating, marriage, and variant family forms. Prerequisite: 3210 or 3320.

3230 Family and the Adolescent (3) Problems of growth and development during teenage years; role of parents and other adults in fostering adolescent development. Upper-division students only. Prerequisite: 2110 or 3210 or 4 hrs psychology.

4610 Child in the Community (3) Needs of children, families, and teachers through experiences in a variety of settings. Special attention to special education and programs for deprived preschool children. Prerequisite: 2110 or Home Economics 1510 or equivalent. 3 hrs. 1 hr observation per week.

4260 Administration of Programs for Young Children (3) Theories of management and organization of centers in prekindergarten programs. Prerequisite: 4 hrs of psychology and 6 hrs of selected theories relevant to child development with consent of instructor.

4710 Contemporary Developments (1-3) Student or faculty initiated courses on any area of study of the college major. May be repeated. Maximum credit 15 hrs.

4830 Consumers and the Market (3) Analysis of consumer behavior, application of consumer behavior theories to family decision making, need for information and consumer education. Prerequisite: 2110 or Economics 2910 or 4 hrs psychology. 3 hrs. 1 hr observation per week.

4840 Management in Family Systems (6) Theory and application of management behaviors to family decision making; use of behavioral theories and principles. Prerequisite: 2110 or consent of instructor.

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

4850 Consumers and the Environment (3) Analysis of consumer behavior, application of consumer behavior theories to family decision making, need for information and consumer education. Prerequisite: 2110 or Economics 2910 or 4 hrs psychology. 3 hrs. 1 hr observation per week.

4350 Advanced Child Development (3) Survey of selected topics related to child development with consent of instructor. 4 hrs of psychology 6 hrs of selected topics relevant to child development or equivalent.

4430 Learning Experiences with Parents (3) Dynamics of parent-teacher interaction. Emphasis on a variety of techniques for developing communication and working relationships between parents and teachers through experiences in a variety of settings. Prerequisite: 3300, 3200 or 3350 or 3360 recommended. 3 hrs. 1 hr observation per week.

4320 Advanced Family Development (3) Intergenerational family relationships; emphasis on social and cultural factors affecting family life cycle. 3 hrs. 1 hr observation per week.

4150 Planning for Child Development and Family Management (3) Application of management principles to home-making activities; evaluation of equipment, work centers, and work procedures in terms of time and energy demands. Adaptations for the handicapped. Prerequisite: 2110 or 3210 or 4 hrs psychology.

4110 Student Teaching of Preschool Children (3) Survey of methods and techniques for teaching children in a variety of settings. Prerequisite: 1500, 3210, 3300, 3350 recommended; corequisite: 3210. 3 hrs. 1 hr observation per week.

4120 Family Finance (3) Analysis of alternative ways of solving financial problems encountered during life cycle of family.

4220 Consuming Time and Energy in the Home (3) Application of management principles to home-making activities; evaluation of equipment, work centers, and work procedures in terms of time and energy demands. Adaptations for the handicapped. Prerequisite: 2110 or Home Economics 1510 or equivalent background in adult development or consent of instructor.

4330 Family Relationships (3) Interpersonal relations among family members and societal roles. Prerequisite: 3910 or 3151.

4440 Management in Family Systems (6) Theory and application of management behaviors to family decision making; use of behavioral theories and principles. Prerequisite: 2110 or consent of instructor.

4610 Child in the Community (3) Needs of children, family agencies and community planning. Prerequisite: 2110 or Home Economics 1510 or equivalent. 3 hrs. 1 hr observation per week.

4520 Family, Community and Social Issues (3) Analysis of family, community and social issues as they affect family life in contemporary society. Adjustment to internal and environmental change. 3 hrs. 1 hr observation per week.

4600 Teaching Child and Family Studies (3) Current issues in child and family studies. 3 hrs. 1 hr observation per week.

4660 Community Programs and Trends in Child and Family Studies (3) 2 hrs in social sciences and upper-division standing. Prerequisite: 4 hrs of psychology and 6 hrs of selected theories relevant to child development with consent of instructor.

4610 Child in the Community (3) Needs of children, family agencies and community planning. Prerequisite: 2110 or Home Economics 1510 or equivalent. 3 hrs. 1 hr observation per week.

4600 Teaching Child and Family Studies (3) Current issues in child and family studies. 3 hrs. 1 hr observation per week.

4660 Community Programs and Trends in Child and Family Studies (3) 2 hrs in social sciences and upper-division standing. Prerequisite: 4 hrs of psychology and 6 hrs of selected theories relevant to child development with consent of instructor.

4610 Child in the Community (3) Needs of children, family agencies and community planning. Prerequisite: 2110 or Home Economics 1510 or equivalent. 3 hrs. 1 hr observation per week.

4600 Teaching Child and Family Studies (3) Current issues in child and family studies. 3 hrs. 1 hr observation per week.

4660 Community Programs and Trends in Child and Family Studies (3) 2 hrs in social sciences and upper-division standing. Prerequisite: 4 hrs of psychology and 6 hrs of selected theories relevant to child development with consent of instructor.

4610 Child in the Community (3) Needs of children, family agencies and community planning. Prerequisite: 2110 or Home Economics 1510 or equivalent. 3 hrs. 1 hr observation per week.

4600 Teaching Child and Family Studies (3) Current issues in child and family studies. 3 hrs. 1 hr observation per week.

4660 Community Programs and Trends in Child and Family Studies (3) 2 hrs in social sciences and upper-division standing. Prerequisite: 4 hrs of psychology and 6 hrs of selected theories relevant to child development with consent of instructor.

4610 Child in the Community (3) Needs of children, family agencies and community planning. Prerequisite: 2110 or Home Economics 1510 or equivalent. 3 hrs. 1 hr observation per week.

4600 Teaching Child and Family Studies (3) Current issues in child and family studies. 3 hrs. 1 hr observation per week.
Food Science (386)

1810 Food Principles (3) Principles of food selection, preparation, and service. 2 hrs and 1 lab.

2000 Cultural and Scientific Aspects of Foods and Nutrition (2) Cultural and scientific aspects of foods and nutrition as applied to the individual and community. Must be taken concurrently with Nutrition 2020. Prereq: 12 hr of natural science.

2010 Nature of Food (3) Classification on basis of composition, type of systems, structure, and consistencies. Course, food components, and their interrelationships. Prereq: 1010. Chemistry 1530 or equivalent. 2 hrs and 1 lab.

2020 Food and the Consumer (3) Economic considerations in food management, including food legislation, quality, consumer acceptability, and consumer behavior. Prereq: 3 hrs of economics. 2 hrs and 1 lab.

2031 Clinical Experience in Dietetics (1) Planned experience for application of economic principles to selection of food in diet plans for selected community facilities. Coreq: 9820. Open only to students in the Coordinated Undergraduate Program in Dietetics.

3100 Nature of Food (4) Food composition in relation to response of foods to heat, microwave, en- zymatic, and other physical and chemical treat- ments. Prereq: 2010. Nutrition 3310 or Nutrition 3330 recommended. 2 hrs and 2 labs.

4000 Origin of Food and Foodways (3) Food origin and development of individual and group food habits. Prereq: 9 hrs of social science or humanities.

4010 Expository Professional Food Science (3) Physical and sensory evaluation in experimentation with fats, high protein foods, and season and dough systems. Prereq: 3100. 2 hrs and 1 lab.

4030 Experimental Food Science (3) Individual experiences for application to research literature. Prereq: 3330-39 or equivalent. Coreq: 1010 Nutrition 3020 recommended. 1 hr and 2 hrs.

4040 Food in Contemporary Society (3) Consumer's obligations, responsibility, and potential influence with respect to food supply.

4100 Food Preservation (5) Application of basic principles and research findings to food preserva- tion in the home. Prereq: 1010, arts of microbiology and Nutrition 3310 or equivalent recommended. 2 hrs and 2 labs.

4300 Field Experience (1-3) Planned educational experience in selected food industry laboratories. Prereq: Consent of instructor. Hex and credit arranged. Prereq: 9 hrs and credit arranged. Prereq: 9 hrs and credit arranged.

4900 Seminar (1-3) Individual review, organization, and discussion of literature on selected topics. May be repeated for credit. Prereq: 4010 or consent of instructor. Hex and credit arranged.

4978 Honors: Food Science (1-3) Special problems for students showing special ability and interest in food science. May be repeated for credit. Hex and credit arranged.

GRADUATE

5000 Thesis (3) Non-Thesis Graduation Completion (3-15) and Nutrition: Food Science and Technology (1-3)

5310 Advanced Experimental Food Science (3) Prereq: Consent of instructor. May be repeated for credit. 3 hrs and 1 lab.

5500 Food Behavior of the Individual (3) Prereq: Food and the Consumer. 3 hrs and 1 lab.

5500 Food Behavior of the Individual (3) Prereq: Food and the Consumer. 3 hrs and 1 lab.

5610-20 Advanced Food Science (3, 3) Prereq: Consent of instructor. May be repeated for credit. 3 hrs and 1 lab.

5630 Carbohydrates and Fats in Relation to Food Science (3) Prereq: 3300-39. 2 hrs and 1 lab.

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

5800 Problems In Food Science (1-3)

5900 Seminar (1-3)

6040 Clinical Experience in Dietetics (1) Planned clinical experiences applying principles of nutrition to dietetics. Prereq: 3330-39 or equivalent. Consent of instructor. May be repeated for credit. Coreq: 3410. 2 hrs and 1 lab.

6090 Seminar (1-3) Clinical Experience in Dietetics (1) Planned clinical experiences applying principles of nutrition to dietetics. Prereq: 3330-39 or equivalent. Consent of instructor. May be repeated for credit. Coreq: 3410. 2 hrs and 1 lab.

6090 Seminar (1-3) Clinical Experience in Dietetics (1) Planned clinical experiences applying principles of nutrition to dietetics. Prereq: 3330-39 or equivalent. Consent of instructor. May be repeated for credit. Coreq: 3410. 2 hrs and 1 lab.

FSA 3920.
4050 Field Experience in Nutrition (1-4) Planned educational experiences based on individual needs and interests of students. Another: Any topic that is of interest to the student and instructor with departmental approval. (1-3)

4410 Contemporary Developments (1-3) Student-initiated course for study of special topics pertinent to the field. Topics to be determined by students and instructor with departmental approval. Elective credit only. Prereq: Consent of instructor. May be repeated with departmental approval for credit up to 9 hrs.


GRADUATE

5000 Thesis

5210 Advanced Nutrition (3)

5230 Experimental Methods in Nutrition (3)

5240-50 Research Techniques (3, 3)

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

5420 Field Study in Community Nutrition (1-12)

5520 Mental Retardation or Other Developmental Disabilities of Childhood (3)

5410-20 Advances in Nutrition (3, 3)

5430 Physical Bases for Diet in Disease (3)

5440 Maternal and Child Nutrition (3)

5450 Survey Methods in Human Nutrition (3)

5470 Nutrition and Aging (3)

5510 Contemporary Developments in Nutrition (3, 3, 3)

5700 Current Problems in Nutrition (1-3)

5800 Problems in Nutrition (1-3)

5900 Seminar (1-3)

6000 Doctoral Research and Dissertation

6110-20 Quantitative Methods to Control Resource Utilization (3-15)

6200 Advanced Topics in Nutrition (1-3)

6000 Seminar (1-3)

Food Systems Administration (369)

2010 Seminar in Tourism, Food, and Lodging Administration (2) Overview of tourism including food and lodging systems. Development of technical, human, and conceptual skills through practical experiences at various departments and concepts applied to various departments in tourism and lodging facilities. Current problems in hospitality organization and operation. Prereq: FSA 4130, 4250, Computer Sciences (3) Qualitative and quantitative analysis of information systems for decision making in food and lodging systems. Examination of management principles, processes, and systems. Prereq: 3110, 4150 or consent of instructor. 3 hrs and 1 lab.

2011 Tourism, Food, and Lodging Information Systems (3) Qualitative and quantitative analysis of information systems for decision making in food and lodging systems. Examination of management principles, processes, and systems. Prereq: 3110, 4150 or consent of instructor. 3 hrs and 1 lab.

4120-30-40 Clinical Experience in Nutrition (3, 3, 3) Development of technical, human, and conceptual skills through practical experiences at various departments and concepts applied to various departments in food and lodging facilities. Must be taken in sequence. Prereq: 3110, 4150, or consent of instructor. 3 hrs and 1 lab.

4200 and 4210 Food Systems Administration (1-3) Planning and managing food systems. Types of building materials and maintenance. Electrical, mechanical, heating, plumbing, air conditioning and ventilation, and illumination systems. Types of building materials and construction. Prereq: 3110, 4150 or consent of instructor. 3 hrs and 1 lab.

4210 Seminar in Tourism, Food, and Lodging Administration (2) Recent developments in tourism, food systems and lodging facilities. Current problems in hospitality organization and operation. Prereq: FSA 4130, 4250, Computer Sciences (3) Qualitative and quantitative analysis of information systems for decision making in food and lodging systems. Examination of management principles, processes, and systems. Prereq: 3110, 4150 or consent of instructor. 3 hrs and 1 lab.

4221 Contemporary Developments in Dietetics (3) Recent developments in food systems administration. Examination of near and far environment from an industry perspective. Open only to students in graduate level in Food Systems Administration. Prereq: Consent of instructor. 3 hrs and 1 lab.

5000 Thesis

5010 Seminar in Tourism, Food, and Lodging Administration (2) Recent developments in tourism, food systems and lodging facilities. Current problems in hospitality organization and operation. Prereq: Consent of instructor. 3 hrs and 1 lab.

5200 Field Experience (3-9)

5300 Field Experience in Nutrition (1-6) Planned educational managerial experience based on individual needs and interests of students. Another: Any topic that is of interest to the student and instructor with departmental approval. Elective credit only. Prereq: Consent of instructor. May be repeated with departmental approval for credit up to 9 hrs.

5410 Design and Layout of Food Service Systems (3) Design of technical facilities and selection and purchasing of equipment for food service systems. Prereq: 3110 or consent of instructor.

5420 and 5430 Field Experience (1-3, 1-3) Course for study of special topics or projects in food systems administration. Student-initiated course for study of special topic(s) pertinent to the field. Topics to be determined by students and instructor with departmental approval. (1-3)

5440 Maternal and Child Nutrition (3)

5450 Survey Methods in Human Nutrition (3)

5460 World Food Supply and Human Nutrition (3)

5470 Nutrition and Aging (3)

5510 Contemporary Developments in Nutrition (3, 3, 3)

5700 Current Problems in Nutrition (1-3)

5800 Problems in Nutrition (1-3)

5900 Seminar (1-3)

6000 Doctoral Research and Dissertation

6110-20 Quantitative Methods to Control Resource Utilization (3-15)

6200 Advanced Topics in Nutrition (1-3)

6000 Seminar (1-3)

Graduate Education (481)

1010 Home Economics as a Profession (3) Scope of the field, historical development and future, preparation for family life, career opportunities, professional preparation; personal qualities required and satisfaction to be gained from various aspects of the field. Prereq: 2 hrs of economics, junior standing.

1010 Health and Clothing as a Profession (3) Scope of the field, historical development and future, preparation for family life, career opportunities, professional preparation; personal qualities required and satisfaction to be gained from various aspects of the field. Prereq: 2 hrs of economics, junior standing.

1010 Home Economics as a Profession (3) Scope of the field, historical development and future, preparation for family life, career opportunities, professional preparation; personal qualities required and satisfaction to be gained from various aspects of the field. Prereq: 2 hrs of economics, junior standing.

1010 Health and Clothing as a Profession (3) Scope of the field, historical development and future, preparation for family life, career opportunities, professional preparation; personal qualities required and satisfaction to be gained from various aspects of the field. Prereq: 2 hrs of economics, junior standing.

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1010 Health and Clothing as a Profession (3) Scope of the field, historical development and future, preparation for family life, career opportunities, professional preparation; personal qualities required and satisfaction to be gained from various aspects of the field. Prereq: 2 hrs of economics, junior standing.

1010 Home Economics as a Profession (3) Scope of the field, historical development and future, preparation for family life, career opportunities, professional preparation; personal qualities required and satisfaction to be gained from various aspects of the field. Prereq: 2 hrs of economics, junior standing.

1010 Health and Clothing as a Profession (3) Scope of the field, historical development and future, preparation for family life, career opportunities, professional preparation; personal qualities required and satisfaction to be gained from various aspects of the field. Prereq: 2 hrs of economics, junior standing.
The curriculum is listed on requirements for certification in vocational secondary school teaching programs. The Home Economics for those preparing for Education is included as an instructional unit.

Associate Professors:
- N.P. Logan (Head), Ed.D. Tennessee
- I.B. Brown (Emerita), Ph.D. Ohio State

Assistant Professors:
- A.K. Furbush, Ph.D. Minnesota
- K.L. Tepel, M.S. Massachusetts

Interior Design and Housing (269)

4151 Interior Design and Housing Studio (3) Introduction to the general concepts of design in studio situation with the use of computer software. Prereq: Consent of instructor. 3 hrs.

4155 Interior Space Planning I (6) Analysis, planning, and design of office environments. Topics include: office environment and design for various types of businesses such as restaurants, transportation facilities, stores, institutions, etc. Prereq: 4151 or consent of instructor.

4260 Professional Practice (15) Supervised field experience in the design and construction of an interior design project following the steps of design, construction, implementation, and evaluation. Prereq: Certification in interior design, 3256, and consent of instructor.

4310 Field Experience (3-15) Supervised field experience involving a design project in interior design. Prereq: Certification in interior design, 3256, and consent of instructor.

4320 Care and Repair of Household Equipment (3) Housing requirements of materials. Fixing and patching hickory plans, effective use of space, maintenance problems, housing regulations and restrictions; site selection and neighborhood development; finishing procedures. Prereq: 6 hrs from Economics 2125-20 or 30.

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

4710 Contemporary Developments (1-4) Course for studio and field personnel in studio, office, and research settings. Topics include architecture, building codes, furniture and interior design. Prereq or coreq: Home Economics 1520. Required of students specializing in interior design and housing. 1 hr and 2 labs.

Mechanical and Architectural Services

4230 Equipment (1-3) Problems for juniors and seniors with special interest in equipment. May be repeated to a maximum of 9 hrs. Prereq: Consent of instructor.

4260 Professional Practice (15) Supervised field experience in the design and construction of an interior design project following the steps of design, construction, implementation, and evaluation. Prereq: Certification in interior design, 3256, and consent of instructor.

4320 Care and Repair of Household Equipment (3) Housing requirements of materials. Fixing and patching hickory plans, effective use of space, maintenance problems, housing regulations and restrictions; site selection and neighborhood development; finishing procedures. Prereq: 6 hrs from Economics 2125-20 or 30.

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

4710 Contemporary Developments (1-4) Course for studio and field personnel in studio, office, and research settings. Topics include architecture, building codes, furniture and interior design. Prereq or coreq: Home Economics 1520. Required of students specializing in interior design and housing. 1 hr and 2 labs.

Interior Design and Housing

4151 Interior Design and Housing Studio (3) Introduction to the general concepts of design in studio situation with the use of computer software. Prereq: Consent of instructor. 3 hrs.

4155 Interior Space Planning I (6) Analysis, planning, and design of office environments. Topics include: office environment and design for various types of businesses such as restaurants, transportation facilities, stores, institutions, etc. Prereq: 4151 or consent of instructor.

4260 Professional Practice (15) Supervised field experience in the design and construction of an interior design project following the steps of design, construction, implementation, and evaluation. Prereq: Certification in interior design, 3256, and consent of instructor.

4310 Field Experience (3-15) Supervised field experience involving a design project in interior design. Prereq: Certification in interior design, 3256, and consent of instructor.

4320 Care and Repair of Household Equipment (3) Housing requirements of materials. Fixing and patching hickory plans, effective use of space, maintenance problems, housing regulations and restrictions; site selection and neighborhood development; finishing procedures. Prereq: 6 hrs from Economics 2125-20 or 30.

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

4710 Contemporary Developments (1-4) Course for studio and field personnel in studio, office, and research settings. Topics include architecture, building codes, furniture and interior design. Prereq or coreq: Home Economics 1520. Required of students specializing in interior design and housing. 1 hr and 2 labs.
5830 Problems in Housing (1-3)
5910-20 Seminar (1-4, 1-4, 1-4)
6100 Contemporary Housing Issues and Problems (3)
6120 Advanced Topics in Housing Research (3)
6210 Environmental Design Analysis (3)
6240 Perspectives in Interior Design (3)

Textiles and Clothing (971)

Professor: A. J. Trice (Emeritus); Ph.D. Ohio State; C. J. Noth, Ph.D. Notre Dame.

1100 Costume Analysis I (2) Analysis and application of design principles related to different figure types and activities. 1 hr and 1 lab.
1105 Clothing I (3) Fundamentals of pattern alteration, fitting, and construction with emphasis on design, structure, and construction compatibility. Prereq: 1160, 1 hr and 2 labs.
2110 Fashion I (3) How fashion world works, from designers to consumer; fashion trends and cycles.
3350 Textiles I Textile products—study of consumer selection, preference, and satisfaction with emphasis on performance. For non-majors only.
3410 Cultural and Functional Aspects of Textiles and Clothing (3) Cultural, socio-psychological, and functional, and technological developments in textiles and clothing. Prereq: 3 hrs of each of the following: mathematics, science, and foreign language.
3420 Textiles II Consumer-oriented study of textiles, emphasizing fibers, fabric construction, and finishes in relation to use, serviceability, and care of apparel and household fabrics. Prereq: 12 hrs of chemistry or physics or biology or botany.
3420 Textile Laboratory (1) Laboratory examination of fibers, yarns, fabrics, and finishes. Coreq: 3420. Required for majors, optional for non-majors.
3440 Clothing II—Advanced Construction (3) Comparative study and investigation of fabric designs and processes utilizing basic principles including structure and construction methods, and cutting techniques for design ending in finished garments. Prereq: 3420 or 3440. 1 hr and 2 labs.
3450 Consumer Issues: Clothing for Contemporary Families (3) Problems of clothing consumption environment for consumers. Prereq: 3440 or 3450. 1 hr and 2 labs.
3460 Design Analysis I (3) Interpretation of dress design terminating in finished garments developed through media of flatpattern. Prereq: 3420 or consent of instructor.
3470 Tailoring (4) Evaluation and use of tailoring methods in relation to design, selection, fitting, and completion of tailored garments. Prereq: 3440 or 3460. 1 hr and 2 labs.
3480 Historic Costumes (2) Development of costumes from ancient to modern times with consideration of historical and cultural influences. Prereq: 3460, 1 hr and 2 labs.
4100 Fashion Buying (3) Analysis of buying practices, procedures, activities, techniques and underlying concepts fundamental to fashion merchandising. Prereq: 3410.
4130 Research Experiences (1-5) Individual juniors and seniors showing special abilities may be assigned to ongoing research within department or work in research and development laboratory or quality control department of fiber, chemical, or textile company. Prereq: Recommendation of department head and research advisor. 410, 140, and 3 hrs of statistics. May be repeated. Maximum credit 15 hrs.
4140 Introduction to Textile Testing Methods (3) Methods and equipment used in physical testing as recognized by textile groups. Prereq: 3410, 3420, 1 hr and 2 labs.
4160 Textile Fiber Chemistry (3) Chemistry of textile fibers with emphasis on structure, preparation, and properties of the fiber. Prereq: 3420 or 3460. 1 hr and 2 labs.
4210 Elementary Textile Microscopy (3) Microscopic techniques as applied to study of textile fibers and fabrics. Prereq: 4010. 1 hr and 2 labs.
4230 Textile Fiber Chemistry (6) Chemistry of textile fibers with emphasis on structure, preparation, and properties of the fiber. Prereq: 4400 or 4640. 1 hr and 2 labs.
4240 Design Analysis II (3) Interpretation of design terminating in finished garments developed through media of knitting and weaving. Prereq: 4140. 3 hrs and 1 lab.
4250 Theory and Interpretation of Fashion Design (3) Analysis and application of historical, sociological, cultural, and environmental sources of costume design terminating in finished garments developed through media of flat pattern and couture finishing techniques. Prereq: 4400. 1 hr and 2 labs.
4270 Contemporary Developments (3) Study of current developments in areas of textiles and clothing. Prereq: Consent of instructor. Elective credit only. Prereq: Consent of instructor.
4280 Field Experience in Merchandising (3) Observing and evaluating functional and special retailing techniques. Prereq: 4400 or 4640. 2 hrs of practical work plus 4 hrs. 1 hr and 2 labs.
4320 Problems in Historic Costume (3) Individual juniors and seniors showing special abilities may be assigned to ongoing research within department or work in research and development laboratory or quality control department of fiber, chemical, or textile company. Prereq: Recommendation of department head and research advisor. 410, 140, and 3 hrs of statistics. May be repeated. Maximum credit 15 hrs.
4510 Teaching Materials (3) Investigation, preparation, and evaluation of teaching materials. For students planning to teach or do home demonstration work. Prereq: 3410, 3440, 3460, 1 hr and 2 labs.
4620 Introduction to Field Experience in Merchandising (1) Techniques of investigation and planning for field experience. Prereq: Economics and Business 3410-35, junior standing, concentration in merchandising option, approval of program coordinator, and a minimum grade point average of 2.0. Open only to students who intend to enroll in 4630-40. May not be repeated.
4620 Field Experience in Merchandising (3) Observation, supervised experience in a cooperative program with business establishments which merchandises textiles and/or apparel. Prereq: 3510, 4110, 4620, 9 hrs of marketing, senior standing, major in merchandising, and a minimum grade point average of 2.2; coreq: 4640. Offered fall quarter only.
4630 Methods in Field Experience (3) Investigation of training systems and store organization, analysis of jobs, and evaluation of field experience. Prereq: 4620, senior standing, major in merchandising, and a minimum grade point average of 2.2; coreq: 4640. Offered fall quarter only.
4710 Contemporary Developments I (1-3) Student or staff initiated course for study of special topical problem in the field. Topics to be determined by students and instructor with departmental approval. Prereq: Consent of instructor. Coreq: 4140. May be repeated with departmental approval for credit up to 9 hrs.
4850-86-96 Honors: Textiles and Clothing (3, 3, 3) Individual problems for juniors and seniors showing special ability and interest in textiles and clothing. Admission only upon recommendation of head of department. Arranged.
4978-88-98 Honors: Textiles and Clothing (3, 3, 3) Individual problems for juniors and seniors showing special ability and interest in textiles and clothing. Admission only upon recommendation of head of department. Arranged.

GRADUATE
5000 Thesis
5902 Non-Thesis Graduation Completion (3-18)

165 College of Home Economics
The College of Law will change from the quarter system to the semester system in the fall of 1981. The final academic calendar has not yet been determined for the 1981-82 academic year. The calendar will be made available as soon as practicable. As a result of the change to the semester system there may be significant changes in course offerings, required courses, fee payment schedules, degree requirements, and academic policies. The information contained in this material should be read in the light of the foregoing.

The University of Tennessee College of Law commenced operation in 1930 and has continuously sought to provide high quality legal education in a university community. While the principal objective of the college is to prepare students for the private practice of law, its total mission is more broadly conceived. The college exposes students to the legal issues of our society enabling them to develop analytical skills in respect to decisional law and statutes, the ability to communicate effectively to others their decisional law and statutes, the ability to communicate effectively to others their knowledge of the law, and awareness of the historical growth of the law, an appreciable appreciation of the interrelationship of law and society, and the ability to use law as an implement of societal control and development.

Today's legal profession. These involve decisional law, statutory interpretation, administrative regulation, techniques of trial and appellate advocacy, and the roles and responsibilities of the lawyer in advising and representing clients. While proper consideration is given to the problems of Tennessean law, the college, of course, is conducted with a view toward providing an awareness and understanding of the regional and national perspective to prepare our students for service in any state.

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

The Public Law Research and Service Program and the Continuing Legal Education Program are primary examples of this function.

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

The College of Law Building

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

Legal Clinic

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

The Law Library

The Law Library contains the official state reports of all states, the complete National Reporter system which covers all states and the federal courts, the Annotated Reports, standard sets of miscellaneous reports, the reports of the Canadian cases and English cases from the yearbooks to date. In addition to these, there are adequate encyclopedias, digests and dictionaries, standard textbooks, law reviews, and current law revisional services totaling together more than 100,000 cataloged volumes. The library is under the supervision of a law librarian who is trained in all aspects of legal literature and can direct the student to the proper material. The students who seek information are provided with advice and consultation and assistance in their research, and other work in the Law Library.

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

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Degree of Doctor of Jurisprudence

All academic policies are currently under review by the faculty in anticipation of the change to the semester system in the fall of 1987. Students must ascertain current academic policies and degree requirements upon matriculating at the college.

The degree of Doctor of Jurisprudence will be conferred upon candidates who complete, with the required average, nine quarters of resident law study and who have 126 quarter hours of credit, including all required courses. The required average is 2.0 and that average must be maintained on the work of all nine quarters and also in the last three quarters. Averages are computed on weighted grades. Grades are on a numerical basis from 0.0 to 4.0. A grade of 0.5 or below is a failure.

Eligible law students may receive credit toward the J.D. degree for acceptable performance in up to three (3) courses taken in other departments at The University of Tennessee. Course selection and registration are subject to guidelines approved by the law faculty which include the requirement that any such course be acceptable for credit towards a graduate degree in the department offering the course.

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

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

The College of Business Administration and the College of Law offer a coordinated dual degree program for students of both Doctor of Jurisprudence and the Master of Business Administration degrees. A student pursuing the dual program may save up to two academic quarters (24 quarter hours) of course work which would be required if the student were to pursue the degrees separately.

Admissions. Applicants for the J.D.-M.B.A. program must make separate application to, and be competitively and independently accepted by, the College of Law for the J.D. degree and the Graduate School and College of Business Administration for the M.B.A. degree, and by the Dual Degree Committee. Students who have been accepted by both colleges may commence studies in the dual program at the beginning of any quarter subsequent to matriculation in both colleges, provided they meet the following requirements. All dual program studies must be started prior to entry into the last 45 quarter hours required for the J.D. degree and the last 24 hours required for the M.B.A. degree.

Curriculum. A dual degree candidate must satisfy the graduation requirements of each college. Dual degree students withdrawing from the dual degree program before completion of requirements will receive credit toward graduation from either college for courses in the dual program, except as such courses qualify for credit without regard to the dual degree program. For students completing the dual degree program, the J.D. and M.B.A. degrees will be awarded upon completion of requirements of the dual degree program. The College of Law will award credit toward the J.D. degree for acceptable performance in a maximum of 12 quarter hours of approved graduate level courses offered by the College of Business Administration. Three of the 12 quarter hours must be earned in Accounting 8010 or a more advanced accounting course. If College of Law credit is given for such accounting course, the dual degree student may not receive College of Law credit for Legal Accounting (Law Course 8050).

The College of Business Administration will award credit toward the M.B.A. degree for acceptable performance in a maximum of 12 quarter hours of approved courses offered by the College of Law. Except while completing the first year courses in the College of Law, students are encouraged to maximize the integrative facets of the joint program by taking courses in both colleges each quarter.

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

Satisfactory/No Credit Option

(1) Course eligibility

a. Required courses may be taken on a Satisfactory/No Credit Option (S/NC) basis except as specifically designated.

(2) Satisfactory/No Credit

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

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

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

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

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

f. A student electing Satisfactory/No Credit who makes 2.0 or above shall receive credit for the course, but the grade shall be recorded as 5 and will not be used in determining the grade average.

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

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

Maintenance of a Satisfactory Record

No student will be excluded from the College of Law for academic reasons prior to the completion of three quarters of academic study. A full-time student who fails to achieve an overall average of at least 2.0 upon completion (receipt of a grade of three quarters of academic study shall be excluded. A student who obtained permission to vary the first-year full course load shall be excluded if such student fails to achieve an overall average of at least 2.0 upon completion (receipt of grades) of all required first-year courses, or upon completion of 40 hours, whichever first occurs.

Maximum Course Load Per Quarter

Eighteen hours is the maximum for the college. If a student does not satisfactorily complete 12 hours in a quarter, then for the remainder of the study the student is restricted to 16 hours per quarter.

Clinical Courses

A student may take no more than a total of three clinical courses for law credit and no more than two clinical courses for law credit per quarter. Clinical courses are 8600, 8605, 6625, 6630, and 6632-34.

Policy for Graduate Students

Taking Law Courses

Law courses are not available for graduate credit; however, a graduate student may be allowed to take up to 9 quarter hours of law courses and receive credit toward a degree upon approval of the College of Law and the major chairman. The graduate student must register for the law course during regular registration at the College of Law requesting an S/NC grade only. If a 2.0 or above is obtained in a law course, an 'B' will be recorded on the transcript. If a student earns below a 2.0, an 'NC' will be recorded and the hours will not be used toward meeting degree requirements. Grades for law courses will not be reflected in the cumulative average.

Different rules apply to the student enrolled in the Dual J.D.-M.B.A. Program. Grades must be earned according to the grading system of the respective college, e.g., numerical grades.
for law courses, letter grades for graduate courses. Refer to page 167 for the grading scale acceptable toward meeting degree requirements. Cumulative GPA for law courses only will be carried until graduation, at which time both the graduate and the law courses will be shown on the permanent record.

Admission
Information regarding admission, financial aid, academic policies, extracurricular activities, and student services is available in the College of Law of the University of Tennessee, College of Law, 5005 West Cumberland Avenue, Knoxville, Tennessee 37916. Completed application should be received before March 1 of the year of expected admission.

Faculty
Professors:
K. L. Perring (Dean), LL.M., Yale; J. J. Gober, J.D., Duke; E. M. Gray (Emeritus), L.L.M., George Washington;
D. J. Jones, North Carolina; J. H. King;
J. D. Pennypacker; J. C. Kirby, L.L.M.
New York; F. W. Lowry, S.J., Michigan;
J. D. MacMurchy (Emeritus), New York;
J. D. Duke, D.W. Nowell (Emeritus), J.D., Harvard;
E. S. Cktor (Emeritus), L.D., Iowa;
J. J. Phillips, J.D., Yale; J. A. Sebest, J.D.;
Michigan; J. L. Spellman, J.D., Michigan;
J. W. Cleveland, J.D., Tennessee;
Legal Clinic: Instructors in Law and Staff Attorneys in the
M. J. Hoover, J.D., Brooklyn Law School.
Instructor:
M. J. Hooper, J.D., Brooklyn Law School.
Instructors in Law and Staff Attorneys in the
J. W. Clinton, J.D., Tennessee;
C. W. Earle, J.D., Cincinnati;
J. L. Franklin, J.D., Texas; J. W. Swain;
J. D. Louis; D. D. Houseman, J.D., Detroit;
J. P. Holmes, J.D., Tennessee; M. E. Johnson, J.D.;
J. C. Hodge, J.D., Pennsylvania; J. E. Scudder;
J. D. LeFevour, J.D., Pennsylvania; R. A. Levine;
J. D. K. Harris, J.D.; F. D. Palmer, J.D.;
C. S. Nolte, J.D.; Tennessee; W. J. Ruhl, J.D.;
G. M. Rice, J.D., Vanderbilt;
A. T. Trent, J.D., Tennessee.

Program of Instruction
The College of Law curriculum is currently under review by the faculty in anticipation of the change to the semester system in the fall of 1981. Students must

ascertain course offerings and required courses upon matriculating at the college.

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

REQUIRED COURSES
8010 Civil Procedure (4) Introductory course. Bindi-
ing effect of judgments. Selecting proper court - jurisdiction and venue. Ascertaining applicable law.
Federal and state practice.
8020 Contracts I (5) The basic agreement process and legal protection afforded contracts. Problems of offer and acceptance, interpretation, illegality, and the statute of limitations.
8030 Contracts II (4) Continuation of study begun in Contracts I. The interpretation and administration of contracts. The elements of contracts, impossibility and frustration, third party ben-efit, assignment, and alienation.
8110 Research and Writing I (2) The study and use of legal research tools and skills. Development of the law, legal institutions, legal principles, and the role of the lawyer as advocate.
8111 Research and Writing II (2, 3, 2, 2) The legal writing process: and analysis of the various rules and authorities. The elements of research, the preparation of a client letter, the drafting of pleadings, contracts, and other documents, and the preparation of an argumentative memorandum. The requirements of the lawyer as advocate.
8112 Research and Writing III (2) The legal writing process: and analysis of the various rules and authorities. The elements of research, the preparation of a client letter, the drafting of pleadings, contracts, and other documents, and the preparation of an argumentative memorandum. The requirements of the lawyer as advocate.
8600 Legal Profession (3) The study of the law of legal profession. The nature of legal profession, and the elements of legal profession.
8800 Legal Theory (3) The study of the law of legal theory. The nature of legal theory, and the elements of legal theory.
8900 Legal Writing (3) The study of the law of legal writing. The nature of legal writing, and the elements of legal writing.
9000 Legal Research (3) The study of the law of legal research. The nature of legal research, and the elements of legal research.
9100 Legal Analysis (3) The study of the law of legal analysis. The nature of legal analysis, and the elements of legal analysis.
9200 Legal Writing (3) The study of the law of legal writing. The nature of legal writing, and the elements of legal writing.
9300 Legal Research (3) The study of the law of legal research. The nature of legal research, and the elements of legal research.
9400 Legal Theory (3) The study of the law of legal theory. The nature of legal theory, and the elements of legal theory.
9700 Legal Ethics (3) The study of the law of legal ethics. The nature of legal ethics, and the elements of legal ethics.
9800 Legal Social Responsibility (3) The study of the law of legal social responsibility. The nature of legal social responsibility, and the elements of legal social responsibility.
9900 Legal Profession (3) The study of the law of legal profession. The nature of legal profession, and the elements of legal profession.
present. Historical relationship of legal system to society.

8600 Criminal Process I (3) Due process, equal protection, procedural due process, electronic eavesdropping, entrapment, right to counsel, self-incrimination, interrogation and confessions, exclusionary rules.

8601 Criminal Process II (3) Bail, procedural dis- creetion, Grand Jury process, review of trial courts, contempt procedure, speedy trial, notice and discovery, nature and cause of conflict, propensity court, confrontation, trial by jury, adverse publicity, double jeopardy, ap- peals, habeas corpus.

8160 Interviewing and Counseling (3) Lawyer's role as an interviewer and counselor. Designed to increase sensitivity and understanding of emotional and psycho- logical forces. Use of videotape techniques and role playing. Models developed from which students can analyze and evaluate classroom efforts.

8170 Trial Practice (3) Criminal and civil litigation, with primary emphasis on trial procedures and prepara- tion. Basic trial strategy, professional responsibilities, fact finding, witness preparation, dispute resolution, and preparation and instruction of juries, opening and closing argu- ments.


8204 Arbitration Seminar (3) Arbitration of labor agreements. Judicial and legislative developments, nature of process, relationships to collective bar- gaining, selected arbitration problems on various topics. The role of arbitrators, lawyers and arbitrators in the process.


8206 Conflict of Laws (3) Jurisdictional problems in the areas of laws affecting property, contracts, choice of law, international and federal laws, arbitration agreements, and the recognition and enforcement of judicial decisions. United Nations, the role of international law in the development of domestic law. The Uniform Conflicts Act.

8206 Constitutional Law Seminar (2) Study and discussion of selected areas of constitutional law. The First Amendment. Original paper required. Constitutional Law a pre- requisite. In addition, students are recom- mended to have had as many of following courses as possible: Wills, Private Corporations, Taxation (In- come), Partnership and Trusts.

8210 Evidence I & II (3, 3) Rules governing in- troduction and exclusion of oral, written, and demonstrative evidence, including relevancy, compara- bility, impeachment, hearsay, privilege, judicial notice, presumptions, and burden of proof.

8460 Federal Courts (4) Jurisdiction of federal courts and conflicts between federal and state judi- cial systems. Federal procedural law, federal judi- cial authority, diversity, removal, jurisdictional amount, choice of state or federal law, habeas cor- pus, abstention, joining state proceedings, appelli- ate jurisdiction, and joinder of parties and class ac- tion. Historical relationship of legal system to labor, historical relationship of legal system to family, and historical relationship of legal system to commerce. Courtroom experience limited to participation in distinguished circuit judging.

8490 Environmental Law (4) Survey course examin- ining basic federal and state statutory schemes for air and water quality, together with other genetic legis- lations such as the federal (plus related states) En- vironmental Quality Control Act. Selected introduc- tion to role and scope of federal, state, and local agencies in enforcement and proposing new laws and regulations.

8500 Future Interests (4) The law of future interests, interests of possession, reversion of property, and requirements. Adjudicative procedures, evi- dence, findings, stare decisis, and res judicata. Con- struction of limitations, and rule against per- verted and right of entry, executory interests, con- struction of restrictions, and rules against per- petuities.

8510 Government Contracts (3) Principles relating to government procurement, both federal and state, to include award, performance, and termination of contracts. Administrative appeal of disputes arising under government contracts. Prerequisite: 8520.

8520 Insurance (3) Types of insurance carriers and their role in the economy. The concept of the insur- ers, insurable interest. Warranties and repre- resentations, cause of loss, subrogation. Principles of indemnity and subrogation.

8525 International Business Transactions (3) Legal status of persons abroad, acquisition and use of immovable property within a foreign country, doing business abroad as a corporation, engaging in business with foreign parties, establishment of partnerships, and recognition of contracts of concessions. Prerequisite: 8520.


8531 Jurisprudence (3) A comparative examination of legal systems, including Roman law, Islamic law, hu- man rights, political values, utilitarianism, analytical jurisprudence, and moral realism. The law and society approach.

8535 Labor Relations Law I (3) Evolution of labor relations laws, rights of self-representation; em- powerment, traditional union representation. The legal and practical aspects of the collective bargaining process.

8536 Labor Relations Law Seminar (3) Study and discussion of selected labor relations law topics. May be repeated for credit. Law Review may count toward fulfillment of re- quirements. One hr credit may be given for prepara- tion of notes. Prerequisite: 8520.

8540-42 Labor RelationsLaw I, II (3, 3) Evolution of labor relations laws, rights of self-representation; em- powerment, traditional union representation. The legal and practical aspects of the collective bargaining process.

8545 Juvenile Law Seminar (3) Examines the court structure and procedures in civil and criminal matters. Constitutional and statutory law governing juvenile court jurisdiction, the unique problems of juveniles, and the unique nature and remediation of juvenile delinquency and truancy.

8550 Labor Relations Law Seminar (3) Study and discussion of selected labor relations law topics. May be repeated for credit. Law Review may count toward fulfillment of re- quirements. One hr credit may be given for prepara- tion of notes. Prerequisite: 8520.

8570 International Law Seminar (3) Study and discussion of current international law problems. Prerequisite: 8500 or 8510.

8580 Legal and Current Problems Seminar (3-5) Credits Freeze/Flexible at the option of instructor. May be repeated for credit.

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

8600 Civil Advocacy (4) Nature, function, dynamics, and processes of bargaining and learning, with appli- cation on development of models and analysis of legal system, in addition to class instruction. Two semesters of experience in mediation and arbitration and training in negotiation, conflict management and problem solving.

8615 Advanced Civil Advocacy (5) Students con- tinue and complete complex civil cases. Explain for opportunities for court brief, jury trial, appellate work, and participation in public interest. May be repeated for credit.

8616 Advanced Criminal Advocacy (5) Students con- tinue and complete complex criminal cases. Explanations for opportunities for trial brief, trial, appellate work, and participation in public interest. May be repeated for credit.

8630 Specialty Clinic (3) Each component headed by a faculty supervising. Intensive field experience in a specialized problem in conjunction with seminar work. Opportunities for circuit court, jury trial, appellate work, and participation in public interest. May be repeated for credit.

8632-34 Economic Development Clinic (3, 3) Two- quarter course in counseling small corporate busi- ness ventures. Emphasis is on the analysis of the problem, fact finding, document drafting, briefing, preparation of client presentations, and client supervision and representation before administrative agencies. Course is designed for students who seek the completion of both quarters is required for hours and graded credit. Credit will be assigned for the course in its entirety (two-for-section). Course to be graded numerically only upon completion of 8634 second section. 3hrs credit. Prerequisite: 8632 and 8634.

8640 Legal Draftsmanship (3) Independent drafting by students under direct supervision of instructor. Prerequisite: 8630.

8643 Intellectual Property (3) Protection for inten- tile property under federal and state law, patent- able secrets, cryptography, trade considerations, and international aspects.

8670 Legal Writing (4) Legal research and writing of papers on problems of law. Work on firm mi- nor cases leading to finished legal writing. One hr credit may be given for prepara- tion of notes. Prerequisite: 8610. May be repeated for credit. Prerequisite: Faculty consent.

8680 Legislation (3) An overview of the course method approach to such problems as interpretation, drafting, and
The arts and sciences encompass the entire range of human knowledge, from the earliest records to the latest laboratory results. All that human beings have observed about themselves, about their societies, and about the natural world around them is of concern to one or another of the arts and sciences.

The curriculum of the College of Liberal Arts reflects this wide-ranging concern with the life of the mind. It emphasizes the breadth of human knowledge, perceived not only in terms of the traditional categories of the humanities and the natural and social sciences, but also in broader perspectives which extend across academic fields and reach beyond the boundaries of a college of liberal arts. It also stresses depth of learning, thereby seeking to acquaint the student with the rigors of the intellectual process. Through a study of the liberal arts one comes to participate in an intellectual tradition which is independent of particular teachers and which guides one in the choice of subjects for investigation and in the interpretation of those subjects. With time the individual begins to apprehend the great outlines of knowledge, the principles upon which they rest, the scale of their parts, and their lights and shadows.

The central purposes of a liberal education include the encouragement of intellectual breadth, a dedication to the quest for knowledge as a worthwhile goal in and of itself, and the cultivation of a responsible, creative, individual mind. These qualities should enable one to develop through life an ability to reason and to express oneself clearly, an incentive to absorb emerging knowledge, and a competence to confront the uncertainties of human experience. For the student whose interests and talents lead into research, scholarship, and teaching, a liberal education provides an invaluable foundation. 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.

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

Programs of Study

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

Degrees Offered

(1) BACHELOR OF ARTS

The Bachelor of Arts is the basic liberal arts degree, representing the attainment of a broad knowledge of the arts and sciences as well as a comprehensive understanding of one or more areas of special interest. Four programs leading to this degree are open to all students for graduate study and professional positions in all areas.

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

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

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

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

(2) BACHELOR OF FINE ARTS

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

(3) BACHELOR OF MUSIC

The program leading to the Bachelor of Music degree prepares students for graduate study and for positions in music. The degree is offered with a major in music which has a professional emphasis in theory, composition, music history and literature, piano literature, and applied music (voice—organ—strings—woodwind, brass, and percussion).
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 mosaic 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 overemphasized. A few students enter the college with firm educational objectives and plan their work around the predetermined goals. Many, however, do not reach that stage of certainty until their academic careers are relatively far advanced. For these persons the exploration of possible directions and paths of study within the liberal arts is as vital to the educational process as it is to the personal development of the individual the most appropriate and effective way of attaining educational goals.

...
toward the natural environment and through an understanding of the empirical phenomena. These ends may be realized confidence in the ability to understand develops in the student an inquiring attitude of the following four ways:

1. Language, Literature, and the Arts

Specific Requirements in the Triad

(i) By completing nine credits in English writing courses in one of the following series: (1) English 1010, 1020, and three additional credits drawn from 1091, 1092, or 1093. Students who complete 1020 with the grade of A have the additional option to satisfy the remaining three credits in any 2000- or 3000-level writing course offered by the department. (2) English 1018, 1028, 1038. Students who obtain the grade of A or B in 1028 have the additional option, with permission, to satisfy the remaining three credits in any 2000- or 3000-level writing course offered by the department.

(ii) By earning a score of 4 or 5 on the College Board Advanced Placement Test in English Literature and Language, administered by the College Board.

(iii) By obtaining a minimum grade of A or B in 1028, 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.

(iv) By passing (normally after completing the freshman year) a proficiency examination in the language, administered by the Department of English or in the Liberal Arts Advising Center. A minimum of two years of high school study of the same language is required, and those who have had less than four years of study in the same language should be able to satisfy the portion of the requirement satisfied by the proficiency examination. Those who take the proficiency examination may earn up to 16 hours of credit toward graduation in a foreign language, in addition to the credit they earn for coursework taken in the same language.

Normal years of high school study is regarded as equivalent to one year of college study. Students who have had four years of high school study of the same language should be able to satisfy the requirement in this way, thus reducing the time required to complete this requirement. Full credit toward graduation is given for any language study undertaken successfully in the college regardless of the amount of credit toward graduation for previous study of the language. Students who have had less than four years of study of the same language in high school are admitted with an entrance deficiency. Satisfactory completion of the final quarter of the first year sequence of college-level foreign language study, normally in the freshman year, is necessary to remove this deficiency.

(2) History and Society

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

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

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

The remaining hours may be taken in either categories (a) or (b).

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

2. Science and Mathematics

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

(a) One of the following two options:

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

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

(b) 16 hours drawn from additional courses in the biological and/or physical sciences or from designated courses in the history, philosophy, or social sciences.

(c) Three hours in courses published by the Committee on Science and Mathematics and is available in the Liberal Arts Advising Center.

B. THE MAJOR

In many ways the most important part of each student's program is the major, for it 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 proposes individual programs to the committee for consideration.

Note: In options (a) and (ii), those who take the diagnostic examination will not receive credit toward the major requirement, but may be exempted from the portion of the requirement satisfied by the examination. Those not taking the diagnostic examination may earn up to 16 hours of credit toward graduation for previous study of the language, in addition to the credit they earn for coursework taken in the same language. Normally two years of high school study in a foreign language is regarded as equivalent to one year of college study. Students who have had four years of high school study of the same language should be able to satisfy the requirement for intermediate-level competence in the same language by examination and those who have less than four years of study in the same language should be able to satisfy the portion of the requirement in this way, thus reducing the time required to complete this requirement.

(2) History and Society

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

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

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

(c) The remaining hours may be taken in either categories (a) or (b).

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courses of study must have some clear
consultation with an adviser, and submit it for
The student may design a program, in
choice of courses of which it is composed.
there is no restriction in principle on the
Basic Program (i.e., a minimum of 36
concentration is the same as for the major in
quantitative aspect of the area of
concentration. Although the
point at which the greatest degree of
satisfy the broad requirements of the Triad,
individualization takes place, however, is in
programs.
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 providing a closer connection between student needs and academic programs.
Students in the Individualized Program satisfy the broad requirements of the Triad, just as do those in the Basic Program. The point at which the greatest degree of individualization begins, 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 a reasonable amount of choice on the course 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 courses of study must have some clear central purpose, usually implemented through intensive work in two or three
departments; an unindicated 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 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 kinds of course work and/or other learning experiences will best fulfill the student's objectives, while at the same time achieving the kind of liberal education the college believes is important for every student. In the final two years of the program the student will be heavily involved in independent study or research.
Further information and applications may be obtained from the Liberal Arts Advising Center.
IV. Preparation for the Health Professions
Pre-Dental Program
Pre-Dental hygiene
Pre-Medical
Pre-Medical Record Administration
Pre-Medical Technology
Pre-Nursing
Pre-Physical Therapy
Pre-Professional Programs
Pre-health professional programs are available for students preparing for one of the health professions. The pre-professional programs are designed to provide students with the guidance needed to complete the course work necessary for admission to the college of medicine, pharmacy, dentistry, and the pharmaceutical sciences. 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 kinds of course work and/or other learning experiences will best fulfill the student's objectives, while at the same time achieving the kind of liberal education the college believes is important for every student. In the final two years of the program the student will be heavily involved in independent study or research.
Further information and applications may be obtained from the Liberal Arts Advising Center.
NOTE: UTCHS is a state-supported institution and as such is required to admit all qualified Tennessee residents prior to considering out-of-state applicants. At the present time there are more qualified Tennessee applicants than there are places available; therefore, out-of-state applications are not being considered. The only exception to this policy is the non-resident applicant who is the son or daughter of an alumna or alumnus of UTCHS and who has completed all of the undergraduate work at a college in The University of Tennessee system and is otherwise qualified competitively.
Admission to any program at UTCHS or to the Medical Technology Program at the UT Memorial Research Center and Hospital is at the discretion of that program's admissions committee. Admission to The University of Tennessee and completion of a pre-health professional programs 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 in which they are qualified to attain an alternative position in the event admission to the desired program is not achieved. The preparatory courses necessary for professional study can be incorporated into the chosen major program.
Students in a pre-health professional program should consult with a health professional advisor in the Liberal Arts Division, or the Coordinator of the Health Professions Office, 218 Ayers Hall, for more information about the programs outlined below. Bulletins describing the various pre-health professions are included in the catalog of courses available. A detailed statement of requirements, may be obtained from the Health Professions Office, 218 Ayers 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 135 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of the first year of study at UTCHS. In the four-year program the degree is granted upon completion of the last 45 credit hours while enrolled in the college, including a major of 39 or more hours and the additional 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 college change majors to obtain the Bachelor of Arts degree before admission. Therefore, pre-health professional students are encouraged to complete all requirements for the B.A. degree before enrolling in the College of Dentistry.
**Pre-Dental Hygiene Program**

A Bachelor of Science in Dental Hygiene is granted on completion of a program which includes 66 hours of prescribed courses in the College of Liberal Arts and six quarters of study at UCHS. Students interested in the pre-dental hygiene 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-dental hygiene program and requirements in detail may be obtained from the Health Professions Office, 216 Ayres Hall.

**PRE-MEDICAL TECHNOLOGY**

The college offers three-year and four-year programs leading to the degree of Bachelor of Arts for students preparing for the study of medicine. Both programs are based upon the program outlined below. In the three-year program the student must complete at least 135 credit hours while enrolled in the college, and the B.A. degree is granted upon satisfactory completion of the first year of study at UCHS. In the four-year program the degree is granted upon completion of 160 or more credit hours while enrolled in the college, including a major of 36 or more hours in addition to the courses outlined below. The requirements for a major are not necesary for those taking their fourth year at UCHS. Students in either the three- or four-year program must complete the last 45 hours of credit in residence at UT before entering UCHS.

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

**Freshman**

<table>
<thead>
<tr>
<th>Hours</th>
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<tbody>
<tr>
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<tr>
<td>Chemistry 1110-30</td>
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<tr>
<td>Math 1340-50</td>
<td>8</td>
</tr>
<tr>
<td><em>Triad I (Language, Literature, &amp; the Arts)</em></td>
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<tr>
<td><em>Triad II (History and Society)</em></td>
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**Sophomore**

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<tbody>
<tr>
<td>Biology 1210-30-30 or Zoology 1118-28-38</td>
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<tr>
<td>Physics 2120-20-30</td>
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<tr>
<td><em>Sophomore English</em></td>
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<tr>
<td><em>Sophomore language and/or zoology</em></td>
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<tr>
<td><em>Electives</em></td>
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| Total (135) | 180 hours |

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The Bachelor of Fine Arts degree offers a rigorous and comprehensive program in the arts, designed to provide students with a strong foundation in their chosen field. Students are encouraged to explore various disciplines within the arts, including studio arts, music, dance, photography, and film. The program is designed to prepare students for careers in the arts, as well as for entry into graduate programs. Students are required to complete a minimum of 120 credit hours, including a combination of core courses and electives. The program emphasizes critical thinking, creativity, and technical skill, and students are encouraged to engage in collaborative and interdisciplinary projects. The Bachelor of Fine Arts degree is the equivalent of a Master of Fine Arts degree in many institutions, and graduates are well-prepared for a variety of careers in the arts or for further study in graduate programs.
A. Recommended courses of study in ceramics, juniors in course numbers which most closely parallel the areas of studio instruction, and student. Honors courses may be taken in any STUDIO HONORS COURSES an honors exhibition prior to graduation. A minimum grade-point average of overall grade-point average of at least of 90 hours. Admittance to the College Artists Program will be noted on the student's 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 necessarily be considered until at least 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. A minimum grade-point average of 3.25, at least 12 hours per quarter, and evidence of continuing motivation and interest must be maintained to remain in the program. Each College Artist will normally enroll in one or more general or departmental honors course each quarter, and must participate in an honors exhibit 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 The Department of Music offers the degree of Bachelor of Music with concentrations in music theory, composition, music history and literature, piano literature, and applied music (voice—piano—organ—organ and church music—strings—woodwind, brass, and percussion 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 listed below. Note: In addition to the concentrations offered in the Bachelor of Music curriculum, a major in music is in concentration in either music history and literature or applied music is available in the Bachelor of Arts curriculum.

MUSIC THEORY

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**NOTE:** The above table represents the course credits for different subjects, organized by their respective departments.
Freshman Hours Credit
Music 1010-20-30 or 32 or 33 9
Music 1111-21-31 9
Music 1113-21-33 9
Music 1130 6
Music 1131 9
Practical applied study 12
Music 1200 6
Senior recital 0
Junior recital 0
Sophomore Hours Credit
Music 2000 0
Senior Principal applied study 12
Music 2111-21-31 9
Music 2113-21-33 9
Music 2130-20-30 9
Music 2310-20-30 9
Music 2340 3
Music 2350 9
Music 2360 3
Music 2370 3
Music 2400 3
Music 2500 3
TOTAL :180 hours
STUDIO MUSIC AND JAZZ
Freshman Hours Credit
Music 1010-20-30 or 32 or 33 9
Music 1111-21-31 9
Music 1113-21-33 9
Music 1130 6
Music 1131 9
Practical applied study 12
Music 1200 6
Senior recital 0
Junior recital 0
Sophomore Hours Credit
Music 2000 0
Senior Principal applied study 12
Music 2111-21-31 9
Music 2113-21-33 9
Music 2130-20-30 9
Music 2310-20-30 9
Music 2340 3
Music 2350 9
Music 2360 3
Music 2370 3
Music 2400 3
Music 2500 3
TOTAL :180 hours
SUGAR STRING PEDAGOGY
Freshman Hours Credit
Music 1000-20-30 or 32 or 33 9
Music 1111-21-31 9
Music 1113-21-33 9
Music 1130 6
Music 1131 9
Practical applied study 3
Music 1200 6
Senior Principal applied study 9
Music 2113-21-33 9
Music 2130-20-30 9
Music 2310-20-30 9
Music 2340 3
Music 2350 9
Music 2370 3
Music 2400 3
Music 2500 3
TOTAL :185 hours

BACHELOR OF SCIENCE IN CHEMISTRY
Students who desire to major in chemistry may select either the curriculum leading to the degree of Bachelor of Arts or that leading to the degree of Bachelor of Science in Chemistry. This latter program is approved by the American Chemical Society and is designed to train students to go directly into positions in the chemical industry or to enter graduate study leading to positions in research or college teaching.

A minimum average of C must be made on all college courses applied toward the Bachelor of Science in Chemistry degree.

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.

CURRICULUM REQUIREMENTS
Freshman
Chemistry 1110-20-30 or 32 12
Math 1850-60-68 12
Foreign language, Art Triad (writing proficiency) 9
Language, Literature, Art Triad (foreign language Option I or II) . . .8 (9)
History and Society Triad 8
Sophomore
Chemistry 2111-21-31 9
Chemistry 2310-30-40 9
Math 2180-30-40 9
Physics 2800 3
Physics 2800 3
Ensemble 0
Liberal arts electives (not in music) 3
Music 2000 3
TOTAL :180 hours
Senior
Principal applied study 12
Senior recital 0
Senior Principal applied study 12
Senior recital 0
Liberal arts electives (not in music) 3
Liberal arts electives (not in music) 3
Music 2000 3
TOTAL :180 hours

NOTE: The curricula in strings, woodwinds, brass, and percussion; multiple woodwinds; and voice allow 12 hours of ensemble credit to apply toward electives. This is in addition to the hours in ensemble listed in the tabular resumes.
Students who plan to study law should consult the statement regarding admission to the College of Law (page 187) and discuss the programs of the advisers in the Legal Advising Center.

Students majoring in political science who wish to consider a career in political science, augmented by supportive work in related disciplines, will find a brief description of the program of the School of Social Work on page 52. Detailed information about courses and curricula, as well as requirements for admission, will be found in the catalog of the School of Social Work.

Teaching
Students in the College of Liberal Arts who wish to be certified for secondary school teaching must satisfy state certification requirements as well as all degree requirements of the College of Liberal Arts. For information regarding admission to the School of Education Building, see page 18.

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

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

General Information
Admission to the College
For information regarding admission to the College of Liberal Arts, see page 18.

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

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

Satisfactory/No Credit Courses
A few courses in the college are offered only on a Satisfactory/No Credit 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 graduation requirements or major and minor requirements unless specifically permitted by petition. This restriction applies also to major or minor, prerequisite 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 requested 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 a Triad requirement may count it for that purpose. In the case of a course which satisfies a major or minor requirement, the option of taking courses on a S/NC basis is provided to allow the student to venture beyond the limits of those courses in which S/NC is offered. Such study may be conducted abroad by other academic institutions to which UTK students with accepted 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 be applied toward a degree in the college. Departments may in any of the above instances, however, hold the hours as S/NC 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 Ayles Hall, as well as through the several major departments. The Advising Center is staffed on a regularly scheduled basis by members of the college, each student of which has been trained for this specialized work. Students in their first quarter, including those who are assigned to the Advising Center where they may relate therewith to a particular adviser of their choice or consult the person on duty at the time they need assistance. Most students continue in this relationship to the Advising Center until they have determined their major, normally by the beginning of the junior year, at which time they may be transferred for advising to a faculty member in the major department.

Student Academic Affairs Office

Academic assistance for students is also provided through the Student Academic Affairs Office, 218 Ayles 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 institution. 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 providing 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 tertiary treatment center to 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 legal agencies. Clinic services are available to anyone regardless of race, sex, national origin, or citizenship.

University Theatres

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

Instructional Facilities

The college carries out its varied teaching and research activities in more than two dozen principal buildings in two areas of the campus, as well as in a number of converted residences which provide office, studio, or clinical space. The older of the two clusters of buildings is on "The Hill," and includes Ayres Hall (psychology and mathematics), Austin Peay Science Hall (biology, science), and McClung Tower and the Humanities-Social Sciences clean-air building (classics, English, foreign languages, history, human services).
American Studies

Anthropology (122)


Associate Professors: J. Oettinger, Ph. D. (Sydney), R. L. Jentz, Ph. D. (Wash. D.C.)


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

*Visiting*

**Non-Distinguished Service Professor:**

**UNDERGRADUATE:** A major in anthropology shall consist of 39 hours, of which are to be in the introductory, 2000-level courses. Of the remaining 27 hours, 4480 and six hours of 3000 level or above courses are required in each of these subfields:

1. **Cultural:** (a) Physical; and (b) Archaeology
   - (a) Cultural: 3410, 3440, 3450, 3630, 3540, 3700, 3800, 4111, 4200, 4220, 4240, 4250, 4420, 4440, 4450, 4550, 4610, 4720.
   - (b) Physical: 3070, 3930, 3950, 3930, 4930, 4950, 4960, 4970.
   - (c) Archaeology: 3610, 3860, 3630, 3640, 3660, 3670, 4400, 4600, 4610, 4640, 4670.

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

2510 Human Origins (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. 2520 recommended. Aspects of language studied by anthropologists and sociologists.

25100 Genetics and Society (3) (Same as Botany 3070.)

2530 Visting Lecture Program (3) Developed around lectures by visiting scholars in physical anthropology, cultural anthropology, or archaeology. Offered fall quarter with subject matter repeated on a rotating basis. May be repeated. Maximum credit 9 hrs.

25300 Principles of Cultural Anthropology (3) Basic concepts and objectives in study of culture. Range of cultural phenomena and approaches to its study. 2530 recommended.

2540 Religion of Primitive Peoples (3) Religions of non-literate peoples. Role of religion in their social and cultural systems. 2530 recommended. (Same as Religious Studies 3440.)

25400 Community Studies in Complex Culture (3) Review of non-cultural comparisons urban and village communities and methodologies used in common community studies. 2530 recommended.

25400 African Religions (4) Some Religious Studies 3490 and Black Studies 3490.

2550 Peoples and Cultures of Mainland Asia (3) Ethnographic survey indigenous cultures of mainland Asia. Cultural diversity and human ecology in real perspective. 2530 recommended.

25500 Peoples and Cultures of Africa (3) Ethnographic survey of aboriginal cultures of sub-Saharan Africa. Cultural diversity and human ecology in a real perspective, 2530 recommended.

25540 American Indian Ethnology (3) Survey of cultures of Indian, Eskimo, and Negrito peoples. 2530 recommended.

25545 Indians of North-West America (3) Survey of American Indian cultures found in Northern Great Basin, Columbia Plateau, Northwest Plains, and Northwest Coast. 2540 recommended.

25545 Cherokee Ethnology History (3) Survey of societies and kinship systems of American Indians from earliest known contact to present day, on a chronological basis. 2530 recommended.

255400 American Anthropology (3) Anthropological approaches to Black, North, and South American peoples. 3640 recommended.

25550 Peoples and Cultures of Mesoamerica (3) Ethnographic survey of agricultural peoples and post-agricultural peoples of Middle America. Emphasis on modern and historic peoples living in and around modern Maya villages and on source material. Recommended 2530.

255500 Ethnohistory and Mesoamerican Studies (3) Ethnographic survey of agrarian peoples and pre-agricultural peoples of pre-Columbian Mesoamerica. Recommended 2530.

255500 American and Canadian Studies (3) Survey of political, economic, and social development in the Americas from earliest contact to present day. Recommended 2530.

255500 American and Canadian Studies (3) Survey of prehistoric American Indian cultures. 2530 recommended.

255500 Canadian Studies (3) Survey of prehistoric peoples of Canada. Recommended 2530.

255500 North American Indian Studies (3) Survey of prehistoric and contact Indian cultures. Recommended 2530.

255500 North American Indian Studies (3) Survey of prehistoric and contact Indian cultures. Recommended 2530.

255500 American History (3) Survey of American history from earliest contact to present day. Recommended 2530.

255500 American History (3) Survey of American history from earliest contact to present day. Recommended 2530.

255500 American History (3) Survey of American history from earliest contact to present day. Recommended 2530.

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255500 American History (3) Survey of American history from earliest contact to present day. Recommended 2530.
Current Trends in Anthropology (3) Analytical and urban problems and planning. Prereq: 3450 or counter researching cross-cultural urban set-

Urban Anthropology (3) Survey of theoretical tor. Prereq: 2530 or consent of instructor.

dynamics of psychological techniques incross-cultural

Personality and Culture (3) Analysis of relation tivation, diffusion, and acculturation; cultural con-

Dynamics of Culture (3) Culture change : innovation from selected case studies. Prereq: Anthropo-

cultures and theirenvironments . Topics include spects on folklore of geographical regions and

Cultural Ecology (3) Survey of concepts and enclave communities are major topics. Major focus and motivationsin Asian immigration to North, Cen-

Peoples of Southeast Asia (3) Survey of representative ethnic groups and indigenous cultures of malaysia, the philippines, Indonesia, and East Asia.

Indians of the Southeastern United States (3) Survey of Southeastern Indian cultures; emphasis on aboriginal adjustment to environment, lifeways, and beliefs, speech, art, song, dance, and oral traditions. Prereq: Consent of instructor. Recommended: An East Asian course.

5300 Asians in the Americas since 1800: An-

Method and Theory in American Archaeology (3) Historical development of New World archeology with emphasis on theory and field techniques. Prereq: 3500 or consent of instructor. Recommended: 2010 or an East Asian course.

Prehistoric of Northwestern Asia (3) Survey of repre-

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

Archaeology of Southwestern United States (3) Historical development of southwestern archaeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

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

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Southwestern United States (3) Historical development of southwestern archaeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Pre-History of the Southeastern United States (3) Historical development of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Pre-History of the Southeastern United States (3) Historical development of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Pre-History of the Southeastern United States (3) Historical development of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Pre-History of the Southeastern United States (3) Historical development of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Pre-History of the Southeastern United States (3) Historical development of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Pre-History of the Southeastern United States (3) Historical development of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.

Archaeology of Pre-History of the Southeastern United States (3) Historical development of prehistoric American Indian. Special emphasis on Tennessee prehistory. Prereq: 3610 or consent of instructor.

Archaeology of North America (3) Historical development of North American archeology and the study of the culture of the American Southwest. Special emphasis on southwestern United States. Prereq: 3700 or consent of instructor.
The college offers a variety of art courses and programs. For more information, please consult the course catalog.
The image contains a page from a college catalog listing course offerings in various departments. Some of the key points include:

- **3014 Introduction to Metal Design (4)** Basic techniques of jewelmaking and metalworking. Prereq: 1115, 1125, 1150 for art majors, none for non-art majors.
- **3056 Special Topics in Metal Design (4)** Basic techniques and concepts applied to all types of packages and production. Prereq: 3015, 3525. May be repeated for a maximum of 24 credits.
- **3119 Design Resources (4)** Sources, development, and techniques applied to all types of design. Prereq: Determined by department. May be repeated for a maximum of 12 credits.
- **3125 Painting III (4)** Individual expression with varied media on canvas. May be repeated for a maximum of 24 credits.
- **3215 for art majors, consent of instructor for non-art majors.
- **3415 Sculpture III (4)** Individual projects through instructor, designed to widen previous experience. May be repeated. Maximum credit 12 hrs.
- **3458 Sculpture: Advanced Life Modeling (4)** Advanced pictorial perception; a broad range of concepts and techniques applied to all types of media. Prereq: 3415. May be repeated for a maximum of 12 credits.
- **3510 Typography (4)** Theories and techniques of typesetting and printing as fine art media. Creative problems are solved using type and printing press. May be repeated. Maximum credit 12 hrs.
- **3525 Visual Communication Concepts (4)** Advanced pictorial perception; a broad range of concepts, methods, and techniques for designers/illustrators. Prereq: 3510. May be repeated. Maximum credit 12 hrs.
- **3535 Package Design (4)** Studio of contemporary concepts and techniques applied to all types of packages and production. Prereq: 3515, 3525. May be repeated for a maximum of 12 credits.
- **3565 Metal Design III: Individual Class Projects (4)** Prereq: 3515, 3525 or consent of instructor. May be repeated for a maximum of 16 credits.
- **3615 Intaglio III (4)** Color intaglio printing from zinc or cardboard plates. Extra techniques—mezzotint, sapphire, etc. May be repeated. Maximum credit 12 hrs.
- **3635 Lithography III (4)** Color lithography from stone or steel. Extra techniques—lithography, cold stone printing, letterpress, etc. May be repeated for a maximum credit 12 hrs.
- **3665 Metal Design III: Individual Class Projects (4)** Prereq: 3515 or 3525 or consent of instructor. May be repeated for a maximum credit 12 hrs.
- **3670 Medieval Art (4)** Byzantine and western art of the Middle Ages; manuscript illumination, mosaic, Romanesque, Pippin's church, Gothic cathedrals. Prereq: 3615, 3625. May be repeated for a maximum of 8 hrs.
- **3706 History of Twentieth-Century American Art (4)** From cubist art of late 19th Century to abstract expressionism. Prereq: 3704. May be repeated for a maximum of 12 credits.
- **3716 The Art of Italy, 1475-1575 (4)** Concentrated study of Leonardo, Michelangelo, Titian, Rembrandt, Rubens. Prereq: 3705 or 3706. May be repeated for a maximum of 12 credits.
- **3725 Art of Northern Europe and New World, 1500-1650 (4)** Concentrated study of Rubens, Rembrandt, Hals. Prereq: 3724 or 3726. May be repeated for a maximum of 12 credits.
- **3735 Film Design (4)** Theory and practice of film techniques and concepts applied to all types of media. Prereq: 3734. May be repeated for a maximum of 12 credits.
Graduate standing and consent of instructor.

4971 Kiln Construction (4) Prereq: Senior or periodically ONLY at the Pi Beta Phi department. Prereq: Determined by department.

4970 Glaze Calculation (4) Prereq: Senior or instructor-initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4960 Ceramics IV: Advanced Projects (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4810 Ceramics IV (6)Prereq: Senior or instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 16 hrs.

4815 Ceramic Design (6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 16 hrs.

4800 Ceramic Surface Design (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 16 hrs.

4740 Visual Communications Seminar (2) Political, construction, display, and evaluation for two- and three-dimensional artists. Prereq: Determined by department. Consent of instructor initiated course to be offered at convenience of permanent designer. Sessions with outside guest faculty. Students should check specific course content as printed in the Arrowmont catalog. May be repeated. Maximum credit 18 hrs.

4545 Visual Communications Seminar (2) Political, construction, display, and evaluation for two- and three-dimensional artists. Prereq: Determined by department. Consent of instructor initiated course to be offered at convenience of permanent designer. Sessions with outside guest faculty. Students should check specific course content as printed in the Arrowmont catalog. May be repeated. Maximum credit 18 hrs.

4591 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4581 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4571 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4561 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4551 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4541 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4531 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4521 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4515 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4505 Graduate Communication Design I (2-6) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4475 Graphic Design IV: Advanced Projects (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4470 Graphic Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4460 Graphic Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4450 Graphic Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4440 Graphic Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4430 Graphic Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4420 Graphic Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4410 Graphic Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4300 Finance and Business Techniques (3) Application of laminations, carving, and jointing techniques in design and construction of contemporary furniture. Prereq: 2450 or consent of instructor. May be repeated. Maximum credit 12 hrs.

4275 Fiber Design IV: Advanced Projects (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 16 hrs.

4270 Wood Design: Advanced Practical Construction (4) Application of laminations, carving, and jointing techniques in design and construction of contemporary furniture. Prereq: 2450 or consent of instructor. May be repeated. Maximum credit 12 hrs.

4265 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4260 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4255 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4250 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4245 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4240 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4230 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4225 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4220 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4215 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4210 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4205 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4200 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4195 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4190 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4185 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4180 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4175 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4170 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4165 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4160 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4155 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4150 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4145 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4140 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4135 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4130 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4125 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4120 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4115 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.

4110 Fiber Design IV (4) Prereq: Determined by department. Consent of instructor initiated course offered at convenience of instructor. May be repeated. Maximum credit 12 hrs.
attention to variations considered abnormal or different. Many of the courses offered in the department cover information that should be valuable to students planning to enter any social service discipline. Suggested electives for non-departmental majors include 3010, 3040, 3050, 3100, 4070, 4190, 4610, 4620, 4930, 4940.

Majors. The two majors (audiology and speech pathology) within the department are pre-professional; that is, they are preparatory to graduate work and to professional certification in some aspect of communicative disorders. The master's degree is required for most professional certificates and employment positions. Within the broad coverage of audiology, it is possible for a student to specialize to a limited extent by choosing elective courses which emphasize traditional diagnostic audiology or aural rehabilitation-rehabilitation. Students in speech pathology may specialize to a limited extent by choosing elective courses which emphasize speech disorders, language disorders, or cultural language differences. Students desiring school certification in speech and hearing or education of the deaf should consult the Department of Special Education and Rehabilitation for specific requirements. A major in speech pathology consists of Audiology and Speech Pathology 3010, 3040, 3050, 3060, 3100, 3140, 4320, 4450, 4720, plus not less than 9 nor more than 15 credit hours from the following: 3065, 4320, 4390, 4401, 4480, 4720.

Additional recommended courses for audiology majors are Audiology and Speech Pathology 4560, 4610, 4750 and Psychology 2500, 2520, 2540, and 3150. A major in audiology consists of Audiology and Speech Pathology 3010, 3020, 3110, 3120, 3130, 3110, 4040, 4470, 4720, plus not less than 9 nor more than 15 credit hours from the following: 3065, 4320, 4390, 4401, 4480, 4720.

Additional recommended courses for speech pathology majors are Audiology and Speech Pathology 3010, 3020, 3110, 3120, 3130, 3110, 4040, 4470, 4720, plus not less than 9 nor more than 15 credit hours from the following: 3065, 4320, 4390, 4401, 4480, 4720.

1261 English Pronunciation for Foreign Students (4) (Same as English 1261.)

3010 Basic Acoustics in Speech and Hearing (3) Fundamental aspects of acoustics in speech and hearing, operating physics of ear, and the importance of the hearing mechanism. Prereq: 3010, 3020, 3040, 3050, 3150, Special Education 4040, 4050, 4140, 4150, 4160, and 4610, or consent of instructor. (Same as Speech Education 3200.)

3040 Introduction to Speech Pathology and Audiology (2) Nature, etiology, and incidence of speech, hearing, and language disorders. Prereq: 3010, 3020, or consent of instructor. (Same as Speech Education 3280.)

3060 Speech Science I: Phonetics (3) Basic phonetic principles and techniques used in the study of the sounds of English. Develops understanding of analysis, synthesis, and imitations of this process on diagnosis of speech and language development. Prereq: Psychology 2500 or Educational Psychology 2430 recommended.

3100 Articulation Disorders (4) Etiology, diagnosis, and treatment of the speech disorders of childhood. Prereq: 3010, 3020, or consent of instructor. (Same as Special Education 3310.)

3170 Audiology (I) (2) Fundamental aspects of auditory anatomy and physiology. Introduction to diagnostic and treatment of hearing loss and their remediation. (Same as Special Education 3170.)

4010 Appraisal of Speech and Language Disorders (4) Diagnostic techniques for children and adults with speech and language disorders. Emphasis on observation and practice with diagnostic tests. Prereq: 3040, 3050, or consent of instructor. (Same as Special Education 4010.)

4070 Free Association (4) Oral and written free associate diagnostic procedures for children and adults. Prereq: 3040, 3050, or consent of instructor. (Same as Special Education 4070.)

4101 Foreign Study (1-16) See page 181.

4103 Independent Study (1-16) See page 181.

4190 Speech Development of the Hearing Impaired (1) Prereq: 3040, 3050, or consent of instructor. (Same as Special Education 4190.)

4210 Language Development of the Hearing Impaired (1) (Same as Special Education 4210.)

4215 Blunting (2) Nature and treatment. Review and integration of various theories. Prereq: 3040 or consent of instructor. (Same as Special Education 4215.)

4220 Language Development of the Hearing Impaired (1) (Same as Special Education 4220.)

4250 Introduction to Clinical Practice in Speech Pathology (2) Prereq: 3040, 3050, 3065, 3200, and consent of instructor. S/N/C. (Same as Special Education 4250.)

4260 Clinical Practice in Speech Pathology (1-6) (Same as Special Education 4260.)

4270 Introduction to Clinical Practice in Speech Pathology (2) Prereq: 3040, 3050, 3065, 3200, and consent of instructor. S/N/C. (Same as Special Education 4270.)

4320 Clinical Practice in Audiology (1-6) Prereq: 3040. (Same as Special Education 4320.)

4330 Clinical Practice in Audiology (1-6) Prereq: 3040. (Same as Special Education 4330.)

4350 Clinical Practice in Speech Pathology (1-6) Prereq: 3040. (Same as Special Education 4350.)

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

4460 Clinical Practice in Audiology (1-6) Prereq: 4720 and 4950. (Same as Special Education 4460.)

4460 Clinical Practice in Audiology (1-6) Prereq: 4720 and 4950. (Same as Special Education 4460.)

4470 Clinical Practice in Audiology (1-6) Prereq: 4720 and 4950. (Same as Special Education 4470.)

4480 Off-Campus Experience (1-16) See page 181.

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

4730 Introduction to Hearing Conservation (4) The functions of noise, hazardous evaluation, medical monitoring, health education, hearing protective devices, and noise abatement. Focus is on development of a program to control noise in the hearing conservation. Prereq: Medical 3750.

4810 Aural Rehabilitation: Speech-reading and Auditory Training (4) Roles of noise-hazard evaluation, medical monitoring, health education, hearing protective devices, and noise abatement. Focus is on development of a program to control noise. Prereq: 4720. (Same as Special Education 4810.)

4940 Introduction to the Verbo-Toral System (1-16) Exercises in selected topics by representative workers. (Same as Special Education 4940.)

GRADUATE

5060 Anatomy and Physiology of Speech (2) (Same as Special Education 4940.)

5070 Anatomy and Physiology of Hearing (2) (Same as Special Education 4940.)

5100 Physiological Acoustics and Electroacoustics (4) (Same as Special Education 4940.)

5110 Introduction to Speech and Hearing (1-16) (Same as Special Education 4940.)

5117 Instrumentation in Audiology and Speech Pathology (3) (Same as Special Education 4940.)

5201 Aphasia (3) (Same as Special Education 4940.)

5290 Problems in Speech Pathology (3) Prereq: Consent of instructor.

5410 Introduction to Language Pathology in Child- ren (4) Nature, etiology, and treatment of language retardation. Prereq: 3040, 3050, or consent of instructor. (Same as Special Education 5410.)

5502 Birth Defects and Language Retar- dation (5) Examination of research literature relat- ed to birth defects and language retardation, including clinical, educational, and socio-emotional implications of such disorders. Prereq: 4610 or cons- ent of instructor.

5600 Practical Applications of Language Habilita- tion Techniques (3) Discussion and demonstration of various methods and procedures used in treating language-related children. Prereq: 4610 or consent of instructor.

5625 Parent Participation in Language Habitua- tion Program (2) Nature of counseling and educational relationships with parents of exceptional children including emotional support for families, behavior management strategies, home training methods. Prereq: 4610 or consent of instructor.

5650 Speech and Language of the Culturally Differ- ent Child (3) Discussion of speech and language differences of children of various minority groups, of different ethnic and class memberships, and from different geographic regions; their causes and their effects upon their educational programs.

5690 Topics in Language Retardation and Its Habilitation (3) Lecture on selected topics by rep- resentatives of such fields as special education, early childhood education, educational psychology, genetics, and psychology. Prereq: 4610 or consent of instructor.

7520 Audiology II (6) Basic principles of clinical audiology, pure-tone, speech, masking, and over-view of special auditory tests. Prereq: 3710. (Same as Special Education 4720.)

7690 Introduction to Hearing Conservation (4) The functions of noise, hazardous evaluation, medical monitoring, health education, hearing protective devices, and noise abatement. Focus is on development of a program to control noise in the hearing conservation. Prereq: Medical 3750.

8000 Aural Rehabilitation: Speech-reading and Auditory Training (4) Roles of noise-hazard evaluation, medical monitoring, health education, hearing protective devices, and noise abatement. Focus is on development of a program to control noise. Prereq: 4720. (Same as Special Education 4810.)
Biochemistry (188)

Biochemistry is the study of the molecules and processes that are involved in the life of organisms. It is a fundamental discipline that underlies all aspects of biology, from the molecular to the cellular level. In this course, students will learn about the structure and function of biomolecules, the principles of metabolic pathways, and the regulation of biological processes.

Prerequisite:
Chemistry 3110-20-30, 3118-28, and Biology 1210-20-30 or Botany 1110-20.

Graduate students will have the opportunity to pursue advanced research in this field, working closely with faculty members in their areas of expertise.

Bacteriology

See Microbiology.

Professors: in any sequence or combination with 3110 and 3120.

Class meeting. Prereq: Same as 3110. May be taken in any sequence or combination with 3110 and 3130.

3110 General Ecology (4) Relations between organisms and the environment. Prereq: Same as 3110. 3 hrs and 1 additional hr.

3120 Introductory Plant Physiology (4) Organismal functions, including energy metabolism, cell division, DNA structure, and development of organisms. Prereq: 3110-20-30 and either Biology 1210-20-30 or Biology 1210-20-30. Corequisites are 4 hrs of upper-division courses in a related biological science (zoology, microbiology, biochemistry, agriculture, forestry, plant, or soil science).

1110-30 Fundamentals of Botany (4, 4) Nature and development of plants, including cell processes, structure, life histories, inheritance, ecology, and importance to man. Enrollment in section is desirable. Prereq: 1118-28 Honors: Fundamentals of Botany (6, 6) More advanced course designed for students in the botany honors program. Prereq: 6 hrs in biological sciences. Not for botany graduate credit. (Same as Anthropology 3070.)

1118-28 Honors: Fundamentals of Botany (6, 6) More advanced course designed for students in the botany honors program. Prereq: 6 hrs in biological sciences. Not for botany graduate credit. (Same as Anthropology 3070.)

Note: Students majoring in biology are advised to exercise care in fulfilling the science and mathematics track requirements. Math 1341-51 or Math 1351-52 is recommended choice; 1 year sequence in physics (except 1410-20-30) or Geology 1410-20-30.

Note: Students majoring in biology are advised to consider completion of a physical science minor (page 218.).

Minor: Consists of Biology 3110-20-30 and 12 hours of upper-division courses chosen from the list below. Biochemistry 4101-20, 4119, 5210; Botany, any 3000- or 4000-level courses; Microbiology, any 3000- or 4000-level courses; Zoology, any 3000- or 4000-level courses; Chemistry 3010-20-30. (In meeting the upper-division minimum requirement, not more than 10 hrs may be credited from any one biological science department, and not more than 4 hrs 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 General Biology (4, 4) Biology of the chemical basis of life, cell structure and function, energy metabolism, cell division, DNA, RNA, and protein synthesis, hormones, prions, and prionlike proteins. Prereq: Math 1841-51 (or in some cases Math 1341-51) and satisfactory ACT scores; Chemistry 1110-20-30 or Botany 1110-20 or 1118-28. 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: Students are advised to consult the catalog description in each case.

3210 Introductory Plant Physiology (4) Organismal functions, including energy metabolism, cell division, DNA structure, and development of organisms. Prereq: 3110-20-30 or Botany 1110-20 or Geology 2710.

3219-20-30 or Botany 1110-20 or 1118-28 or Zoology 1118-28.

1110-20-30 or Botany 1110-20 or 1118-28 or Zoology 1118-28.

Note: Students with two years of high school biology and satisfactory ACT scores may, with the consent of the department, omit the freshman year sequence and enter beginning botany. Open to freshmen with a score of 27 or better on natural science section of American College Testing. Testing scores should be recent. Students may have a cumulative grade point average of 3.25 or 3.3 in the sciences or 3.0 in the sciences (as approved through an interview with a member of botany faculty. Students receiving C or D in 1118 must transfer to 1120. Three 2-hr lecture-discussion per week. Must be taken in sequence. Students may not receive credit for both Biology 1118-28 and Biology 1210-20-30.

1410-20-30 or Botany 1110-20 or Geology 2710.

4000 Tutorial in Botany (4) Individual, independent study under guidance of selected staff. By application only. May be repeated with departmental approval. Maximum credit 6 hrs.

4021 Field Bryology (3) Field experience on identification of mosses and liverworts. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq.: 6 hrs of botany. Recommended: Botany 1001-20-30.


4023 Field Botany (3) Field experience on identification of flowering plants. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq.: 6 hrs of botany. Recommended: Botany 1001-20-30.

4024 Field Mycology (3) Field experience on identification of mushrooms and fungi. Frequent field trips emphasizing field recognition of species and habitats. Laboratory sessions for discussion and practice with techniques and literature for accurate identification. Prereq.: 6 hrs of botany. Recommended: Botany 1001-20-30.


4075 Botanical Photography (3) Emphasis on photography of natural history subjects and achievement of small object photography, in color, using edge to produce illustrations for class, seminar, or public lecture. Landscape, habitat, close-up, and macro photography of natural history subjects and achievement of small object photography, in color, using edge to produce illustrations for class, seminar, or public lecture. Laboratory investigations (1, 1, 1). Prereq.: 6 hrs of botany. Recommended: Botany 1001-20-30.

4102 Advanced Topics in Cryptogamic Botany (2-4)

4106 Advanced Topics in Cryptogram (2-4)

4108 Advanced Topics in Cytology and Cell Biology (2-3)

6200 Drosophila Research and Discussion

6201 Advanced Topics in Morphology of Vascular Plants (2-4)

6203 Advanced Topics in Ecological Botany (2-4)

6205 Advanced Topics in Systematic Botany (2-4)
appropriate for students intending to become professional chemists. The prerequisites consist of Chemistry 1110-20-30, Mathematics 1540-50-60 or 1845-50-60, and any one of the following: natural science options: (a) Physics 2210-20-30 or 2310-20, 1510-20; (b) Biology 1210-20-30; (c) Biology 3110-20 and Microbiology 3000, 3009; (d) Botany 1110-30. The concentration consists of Chemistry 2140, 2149, 3211-21-31; 3219-29-39, 4910-20-30 (12 hours) or Chemistry 3410-20-30 (9 hours). Placement in Freshman Sequences: The sequence which meets all requirements of a year of general chemistry and is a prerequisite for upper-division courses is 1110-20-30. The 1500 and 1600 series have more limited applications. The 1500 series emphasizes organic and biochemistry and may be used as a prerequisite only for 2230 and 3810. The 1600 series is for non-science majors and does not provide an adequate background for any additional courses in chemistry. The prerequisite for one sequence from another if permission for substitution is given is Chemistry 1110-20-30. Students who find a need to complete the 1110 series and have only taken Chemistry 1510 for 1110 with approval of the department may take 1120 followed by 1130. However, no single quarter of the 1500 or 1600 sequences may be substituted for one of the 1110 series. Chemistry 1510, 1520, 1540, 2230, 2240, 3211, 3219, 3259, 3410-20-30, 4910-20-30, 4929 may be used as a prerequisite with approval of the chemistry department. Chemistry 1118-20-38 is an honors course designed for the student who has already made considerable progress in science. Class size may be limited to promote teacher-student interaction. Selection is based on ACT scores, high school chemistry grade, and recommendation. Permission for a placement examination to be given during the first class meeting. A student receiving a passing grade B in 1118 will complete the year's work by taking 1120-30. A student receiving a grade of C or D in 1128 will not be eligible for 1130 and must take 1130 to get the full 12 hours of credit. Beginning students who have had some high school chemistry and or physics may have had additional experience (e.g. summer institute studies, apprenticeship in a laboratory) are invited to apply during the summer to the College of Arts and Sciences for permission to take a proficiency examination in the first two quarters of freshman chemistry. If a satisfactory grade is made on the examination, credit will be allowed for the quarter (or courses) for which the exam was taken.
Students majoring in chemistry for the M.S. degree are required to present a comprehensive report with appropriate deficiencies which must be removed without graduate credit. For students minorng in chemistry, the prerequisite is two years of chemistry including quantitative analysis. The master's and doctoral degree requirements are found in the Graduate Catalog. The department offers specialization in nine areas for the Ph.D.: analytical, energy, industrial, inorganic, organic, physical, theoretical, chemical physics, and polymer science.

Many of the Chemistry courses are cross-listed with the following departments: Biology, Mathematics, Physics, and Environment. The department offers courses to fulfill requirements for the B.S. in either Chemical Engineering or Environmental Engineering.

Students majoring in chemistry for the M.S. degree are required to present a comprehensive report with appropriate deficiencies which must be removed without graduate credit. For students minorng in chemistry, the prerequisite is two years of chemistry including quantitative analysis. The master's and doctoral degree requirements are found in the Graduate Catalog. The department offers specialization in nine areas for the Ph.D.: analytical, energy, industrial, inorganic, organic, physical, theoretical, chemical physics, and polymer science.

Many of the Chemistry courses are cross-listed with the following departments: Biology, Mathematics, Physics, and Environment. The department offers courses to fulfill requirements for the B.S. in either Chemical Engineering or Environmental Engineering.

Students majoring in chemistry for the M.S. degree are required to present a comprehensive report with appropriate deficiencies which must be removed without graduate credit. For students minorng in chemistry, the prerequisite is two years of chemistry including quantitative analysis. The master's and doctoral degree requirements are found in the Graduate Catalog. The department offers specialization in nine areas for the Ph.D.: analytical, energy, industrial, inorganic, organic, physical, theoretical, chemical physics, and polymer science.

Many of the Chemistry courses are cross-listed with the following departments: Biology, Mathematics, Physics, and Environment. The department offers courses to fulfill requirements for the B.S. in either Chemical Engineering or Environmental Engineering.
2710 Scientific and General Vocabulary from LATIN
(3) Study of word roots and words in English language derived from Latin. Designed to build general vocabulary with special emphasis on scientific and technical terminology.

2810 Greek Life (4) Manvers and customs, social and economic aspects of classical civilization, family, politics, laws, finance, commerce.

2820 Roman Life (4) Description same as for Greek Life 2420.

3210 Early Greek Mythology (3) Comprehensive study of Greek myths through readings, lectures, and discussion with emphasis on development of human thought and feeling, values and customs, and major themes of Greek civilization. Illustrated lectures.

3310 Art and Archaeology of Archaic and Classical Greece (3) Survey of development of Greece, 1500-500 B.C., with emphasis on Greek civilization. Illustrated lectures.

3320 Art and Archaeology of Archaic and Classical Greece (3) Survey of development of Greece, 1500-500 B.C., with emphasis on Greek civilization. Illustrated lectures.

3330 Art and Archaeology of Hellenistic Greece (3) Study of art and archaeology of Hellenistic Greece, with reference to Roman attitude toward life, politics, art, and science. Emphasis on change and continuity in Greek culture.

3340 Art and Archaeology of the Aegean Bronze Age from its brilliant rise to its tragic decline in 1200 B.C., with emphasis on the development of city planning and its effect on quality of life. Selections made from Greek art and architecture of this period.

3350 Shrines and Sanctuaries of the Greek and Roman World (3) Survey of major shrines and sanctuaries of Greece and Rome. Emphasis on selection of shrines and sanctuaries representative of key periods in Greek and Roman life.

3530 Roman Literature in English Translation (3) Survey of major Latin authors, with attention to the development of Latin literature from its birth in 509 B.C. to the end of the Empire.

4010 Comprehensive English Translation (3) Survey of major Latin authors, with attention to their background. Selections made from early Latin literature up to the time of the Empire.

4220 Seminar in Classical Studies (3) Special problems in literature and art of ancient Greece and Rome. For graduate students and advanced undergraduates. May be repeated for credit with consent of department.

4230 Classical Mythology and Its Uses (3) Intensive review and survey of Greek and Roman mythology for graduate students and advanced undergraduates. Emphasis on uses of classical mythology in literature, music, and plastic arts, especially of modern times.

4240 Selected Readings in Latin Literature in Translation (2) Content varies; may be repeated for credit with consent of department.

4250 Problems in Old World Archaeology (3) Comparative Literature

See Cultural Studies.

Computer Science (266)

Professors: R. T. Gregory, Ph.D. (Indiana); F. W. Donath, Ph.D. (Yale); C. E. Hughes, Ph.D. (Pennsylvania State); H. J. Przemieniecki, Ph.D. (Bucknell); G. D. Brian, Ph.D. (Purdue). Associate Professors: N. L. Allen, Ph.D. (Northwestern); T. F. W. Green, Ph.D. (Yale); E. A. Ludin, Ph.D. (Bucknell); K. C. Olson, Ph.D. (Pennsylvania State); E. M. Smith, Ph.D. (Pennsylvania State); M. G. Thompson, Ph.D. (Duquesne); G. L. Davis, Ph.D. (Pennsylvania State)

Assistant Professors: C. D. Beller, Ph.D. (Iowa); R. J. Moore, Ph.D. (Ohio); D. W. Bright, Ph.D. (Texas);

Lecturers: C. W. Thompson, M.A. (Texas).

Space Institute

UNDERGRADUATE

Computer science offers an undergraduate major and minor as well as a Master of Science degree (for details, see Graduate Catalog). Information about computer science programs may be obtained from the departmental office, 220 Ayres Hall, or from the Liberal Arts Advising Center, 220 Ayres Hall.

Major: Computer Science 1610 is prerequisite to a major in computer science which consists of 2610, 2710, 3150, 3520, 3715, 4510, and an additional 15 hours selected from computer science intermediate and advanced courses. Also required are Math 2860-50 and Statistics 3450.

Minor: A minor in computer science consists of 2610, 3010, 3210, 4520, and an additional 12 hours of computer science upper division courses.

Intermediate and Service Courses

1410 Introduction to Business Oriented Programming (3) Graphical user interface; object oriented programming. Not for computer science majors. Students may not receive credit for both 1410 and 2510.

1415 Introduction to Programming-FORTRAN (4) Introduction to computer programming, using computer language FORTRAN. Not for computer science majors. Students may not receive credit for both 1415 and 2510.

4310 Introductory Computer Science I (3-5) Special project in area of student's primary interest. To be elected by computer science faculty, perhaps in consultation with student's academic advisor. May be repeated for credit. May be taken for graduate credit with consent of instructor.

4340 Interactive Statistical Data Processing (3) Statistical data processing using interactive computer systems. May be repeated for credit. Not for computer science majors. Students may not receive credit for both 4340 and 4540.

4341 Computer Programming-COBOL (3) Computer programming in language COBOL. Prereq: 1410 or 1510 or consent of instructor.

4350 Computer Concepts and Control (3) Organization, operation, and control of computers as part of a business environment. Topics include input, storage, manipulation, output, operating system, and computer programming. Not for computer science majors. Prereq: 1410 or 1510 and consent of instructor.

3150 Comprehensive English Translation (3) Survey of major Latin authors, with attention to their background. Selections made from early Latin literature up to the time of the Empire.

3150 and 3155 may not both be taken for credit. Students with a knowledge of FORTAN should take 3150. Prereq or coreq: Math 2860. (Same as Math 3150.)

4100 Data Processing (3) Computation and computer systems; capabilities of computers as tools in the business environment with emphasis on applications in science, engineering, and business. Emphasis on automatic data processing. Not for credit for computer science majors. Prereq: Statistics 3101 or consent of instructor.

4300 Independent Study in Computer Science I (3) Special project in area of student's primary interest. To be elected by computer science faculty, perhaps in consultation with student's academic advisor. May be repeated for credit. May be taken for graduate credit with consent of instructor. Maximum credit 9 hrs.

4340 Interactive Statistical Data Processing (3) Statistical data processing using interactive computer systems. May be repeated for credit. Not for computer science majors. Students may not receive credit for both 4340 and 4341.

4341 Computer Programming-COBOL (3) Computer programming in language COBOL. Prereq: 1410 or 1510 and consent of instructor.

4341 Introduction to Programming-FORTRAN (4) Computer a tool as used in various fields of modern world. Emphasis on programming in FORTAN. Prereq: 1410 or 1510 and consent of instructor. Survey of applications of FORTAN in various disciplines. Students may not receive credit for both 1410 and 1415.

1510 Introduction to Structured Programming (4) Introduction to computer programming, using structured techniques. Problem solving and algorithm development. Organization and characteristics of modern digital computers. Students may not receive credit for both 1510 and 1515.


4310 Programming Techniques in FORTAN (3) Problem formulation and solution. External devices and direct input and output. For students who have programming background in higher level language. Prereq: 1510 or 1610 or consent of instructor.

3710 Machine Organization (3) Elementary computer architecture. Introduction to machine and assembly language programming, representation of data, microprogramming. Prereq: 1510 or 1610 or 3150.

3710 Computer and Society (3) History of computing and computer systems; capabilities of computer; applications in artificial intelligence, humanities, social sciences, sciences, and engineering; computing in foreign countries; computer assisted instruction; future advances in computing; careers in computing. Prereq: Consent of instructor.

3710 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. Use of computer facilities for solution of problems. Students may not receive credit for both 1510 and 1515. Prereq: 1610 or 1615 or consent of instructor.

3710 Introduction to Numerical Algorithms (3) Roots of equations, systems of linear equations, least squares data fitting, numerical integration, numerical methods for ordinary differential equations. Introduction to programming in FORTRAN. Students may not both taken for credit; students with a knowledge of FORTAN should take 3150. Prereq: 1410 or 1610 or consent of instructor.

3710 Introduction to Programming Techniques in FORTAN (3) Problem formulation and solution. External devices and direct input and output. For students who have programming background in higher level language. Prereq: 1510 or 1610 or 3150 or consent of instructor.

3710 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. Use of computer facilities for solution of problems. Students may not receive credit for both 1510 and 1515. Prereq: 1610 or 1615 or consent of instructor.

3710 Introduction to Programming Techniques in FORTAN (3) Problem formulation and solution. External devices and direct input and output. For students who have programming background in higher level language. Prereq: 1510 or 1610 or 3150 or consent of instructor.
4660 Compiler Construction (3) Practical exercise or consent of instructor. Examples from different operating systems analyzed as appropriate. Prereq: 4610 or equivalent.

4710 Formal Languages and Automata (3) Grammars of Chomsky hierarchy and their recognizers. Properties of languages and machines. Emphasis on regular and context-free languages. Introduction to computability and undecidability. Prereq: 3715 or 4750.


4735 Interactive Computer Graphics (3) Point plotting, vector generation, interactive graphical techniques, two- and three-dimensional transformation, depth hidden elimination, shading, software and hardware system design. Discussion of use of these techniques in design, problem solving, and computer graphics. Prereq: 3715. Senior standing in computer science, electronic engineering, or computer science and computer engineering, or consent of instructor. Prereq: 4710. (Same as Engr. 4760 and Geography 4760.)

4820 Introduction to Pattern Recognition (3) (Same as Engr. 4850.)

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

4910 Analysis and Management of Computer Interference (3) Analysis and design of computer systems and their environments. Special emphasis on software. Prereq: 3710 or equivalent.

4930 Systems and Computer Languages (3) Programming languages and compilers. Machine language and assembly language design. Architecture of computer systems, storage management and operating systems, error detection and correction. Term project will include a complete compiler for small block-structured language. Prereq: 4910.


4935 Algebraic Intelligence (3) Intelligence process and its performance by a computer. Computer representation of knowledge, problem solving and search, game playing, automatic deduction systems, natural language understanding, computer vision and learning. Computer implementation of AI problems. Prereq: 4510. (Same as Electrical Engineering 4910.)

4938 Additional Upper Division Hours in Acceptable Elective (3) Additional upper-division hours in acceptable elective courses. Students who prefer to use Asian Studies 2510-20 for religious studies, and sociology. Students should constitute a coherent program, approved departmental courses. The latter 36 quarterhours: Asian Studies 2510-20 plus 3 hours from each of the following three areas:

- (a) art, Asian culture, literature, and music
- (b) economics, geography, history, and political science
- (c) anthropology, archaeology, the Mediterranean civilizations, Asian studies, Black studies, comparative literature, Latin American studies, linguistics, Medieval studies, Latin American studies, and urban studies. Minors are provided in Asian studies, Black studies, comparative literature, Latin American studies, and urban studies.

American Studies (099) History 2510-20 (or equivalent honors courses) are prerequisite to a concentration in American studies which consists of 36 quarter hours. Enroll 3000-30-32, American Studies 2510-32, 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 Department.

For further information consult the chairman of the American Studies Department.

4930 Introduction to American Culture (3) Explores development and nature of contemporary American culture. (Same as 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 Department.

Asian Studies (145) The Asian studies concentration consists of 36 quarter hours. Asian Studies 2510-32 plus 28 additional credits from Asian studies or approved departmental courses. The latter should constitute a coherent program, including a minimum of one course (3 or 4 hours) from each of the following three areas:

- a) art, Asian culture, literature, and music
- b) economics, geography, history, and political science
- c) anthropology, philosophy, religion, and sociology

Students who prefer to use Asian Studies 2510-20 for Trust or elective credit may, with permission of the program chairperson, substitute 8 additional concentration credits for 8 additional concentration electives. The ideal curriculum encourages not only proficiency in a given field of knowledge but also the comparison of similarity and complementarity between areas of intellectual endeavor. One answer to the need for fusion and integration of knowledge is the interdisciplinary program. The college has joined the resources of several departments to offer a culture studies major with concentrations in American studies, Ancient Mediterranean Civilizations, Asian studies, Black studies, comparative literature, Latin American studies, linguistics, Medieval studies, Russian and East European studies, and urban studies. Minor is provided in Asian studies. Black studies, comparative literature, Latin American studies, linguistics, Medieval studies, urban studies, and women's studies.
quarter hours: Asian Studies 2510-20 plus 16 additional credits from Asian studies or approved departmental courses. The latter should include a minimum of one course (3 or 4 hours) from each of the following areas: (a) art, Asian culture, literature, and music; (b) economics, geography, history, and political science; (c) anthropology, religious studies, and sociology. Students who prefer to use Asian Studies 2510-20 for Tried or elective credit may, with permission of program chairperson, substitute 8 additional upper-division hours in acceptable courses for that required sequence in the minor.

It is strongly recommended that students planning to attend graduate school take an appropriate Asian language through the intermediate level.

Further information may be obtained from the chairperson of the Asian Studies Committee, Dr. Eric Gangloff.

Asian Studies 3510-32 Intermediate Modern Hebrew (4, 4) Taped language program. Prereq: 2510-32 or equivalent or consent of instructor. Must be taken in sequence.

Asian Studies 3631-32 Intermediate Modern Japanese (4, 4) Taped language program. Prereq: 2510-32 or equivalent or consent of instructor. Must be taken in sequence.

JAPANESE
Asian Studies 3621-32 Elementary Japanese (4, 4) Must be taken in sequence.

Asian Studies 3621-32 Intermediate Japanese (4, 4) Prereq: 2510-32 or equivalent or consent of instructor. Must be taken in sequence.


Asian Studies 4601-32 Advanced Japanese I & II (4, 4) Reading in Japanese in graded primer with attention paid to finer points of grammar. Class will include intensive drills in vocabulary and grammar practice with native speaker. Must be taken in sequence. See Asian Studies 3620 or equivalent.

PERSSIAN
Asian Studies 2731-22 Elementary Persian (4, 4) Taped language program. Must be taken in sequence.

Asian Studies 3751-32 Intermediate Persian I & II (4, 4) Taped language program. Prereq: 2731-32 or equivalent or consent of instructor. Must be taken in sequence.

Approved Course Areas
(a) Art, Asian Culture, Literature, and Music
Art 3775 Art of Indian Asia (4)
Art 3776 Chinese Art (4)
Art 3777 Japanese Art (4)

Asian Studies 3315 Indian Indian (4)

Asian Studies 3630-32 Intermediate Japanese (4, 4) Taped language program. Prereq: 2510-32 or equiv-

Asian Studies 3630-32 Intermediate Modern Hebrew (4, 4) Taped language program. Prereq: 2510-32 or equivalent or consent of instructor. Must be taken in sequence.

Asian Studies 4590 Peoples of Japan (3)

Anthropology 4592 Peoples of Southeast Asia (3)

Anthropology 4590 Peoples of Japan (3)

Philosophy 3650 Philosophy and Religion in India (4)

Religion 3650 Buddhism and Philosophy in India (4)

Religion 3650 Religion and Philosophy in India (4)

Religious Studies 3650 Philosophy and Religion in India (4)

Religious Studies 3680 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 3700 Eastern Religions and Western Thought (3)

Religious Studies 3770 Zen Buddhism (3)

Religious Studies 4670 Topics in Eastern Religions (4)

Religious Studies 4672 Civilization and Modernity in Asia (4)

Sociology 3872 Religion and Society in Japan (4)

Sociology 4690 Traditions, Change and Modernity in Asia (4)

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

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

Black Studies (195)

1910-20 Elementary Swahili (4, 4) Taped language program. Must be taken in sequence.

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

3140-60 Directed Readings in Black Studies (1, 3, 4) Designed for students who are interested in doing independent study. A maximum of 12 hours of Black studies which is defined by the student and the instructor. Prereq: 2010 or 2020 and consent of instructor.

3530 Pragmatism and Racism in the United States (4) (Same as Sociology 3530)

3540 Sociology of Poverty and Inequality (Same as Sociology 3540)

3490 African Religions (4) (Same as Religious Studies 3490)

3550 Religion and Racism in America (4) (Same as Religious Studies 3550)
4103 Independent Study (1-16) See page 181.
4102 Off-Campus Study (1-16) See page 181.
4101 Foreign Study (1-16) See page 181.

Sociology 4820 American Minority Ethnic Groups
Sociology 3340 Sociology of Poverty and Inequality
Sociology 3330 Race, Class, and Power (4)
Political Science 3555 Minority Group Politics in American Society as They Relate to the Black Woman. Recent proposed remedies and solutions as they relate to the Black woman. Recent proposed remedies and solutions as they relate to the Black woman.
Sociology 4880 Afro-American Psychology (3) (Same as Psychology 4880).

Approved Area Courses
Anthropology 3360 People and Cultures of Africa (3)
Anthropology 3380 Biology of the Races of Man (2)
Art 2725 Black Art (4)

4012-22-32 Special Topics in Comparative Literature (1-16) See page 181.
4108 Off-Campus Study (1-16) See page 181.
4101-21 Foreign Study (1-16) See page 181.
4100 Research in Black Studies (4) Deals with Black experience and research process.
4290 Current Issues and Topics in Black Studies (3-4) Probes, topics, and issues in area of Black Studies. Content and credit determined by instructor. May be repeated. Credit 12 hrs.
4810 Afro-American Families (3) (Same as Child and Family Studies 4810.)
4820 Black Women in American Society (3) (Historian and contemporary socio-political factors in the life of Black women. Recent proposed remedies and solutions as they relate to the Black woman. Recent proposed remedies and solutions as they relate to the Black woman. Recent proposed remedies and solutions as they relate to the Black woman. Recent proposed remedies and solutions as they relate to the Black woman.
4830 Black Women in American Society (4) (Historian and contemporary socio-political factors in the life of Black women. Recent proposed remedies and solutions as they relate to the Black woman. Recent proposed remedies and solutions as they relate to the Black woman. Recent proposed remedies and solutions as they relate to the Black woman.
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Comparative Literature (260)
A concentration in comparative literature consists of 36 credits 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 410, 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 (certain courses in Philosophy and Speech and Theatre may be substituted with the approval of the chairperson of the Comparative Literature Program). Students concentrate in comparative literature are strongly encouraged to acquire a working knowledge of a second language, especially if they hope to pursue comparative study at the graduate level.

A minor in comparative literature consists of 18 hours including Comparative Literature 4010, two courses from Comparative Literature 4012, 4019-22-32, 9 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, History, Philosophy, Political Science, and Romance Languages (certain courses in Philosophy and Speech and Theatre may be substituted with the approval of the Comparative Literature Program). Students in comparative literature should be strongly encouraged to continue their study of a foreign language beyond the minimum requirement.

For further information, consult the chairperson of the Comparative Literature Program, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chairman of the Comparative Literature Committee, Dr. Harry C. Rutledge, chair
American studies

Concentration consists of 36 hours including Spanish 2510-20 or Portuguese 3510-20, History 3760-80, Political Science 3510-20, History 3510-20, History 3870-80, Political Science 3811-L, Linguistics 4020-30, and the participating departments or in the Latin American studies sequence 2510-20, (4) 4, or Independent Research 4010.

Minor: Consists of 24 quarter hours selected from Geography 3625-26, and Spanish 3110-20 or Portuguese 3510-20, and the Latin American studies sequence 2510-20 or Independent Research 4010. For further information, consult the chairman of the Latin American Studies Committee, Dr. H. E. Hewitt.

2010-10 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. 2010-10 Pre-Colonial and Colonial periods through Independence era 2020-Late 18th century and the Modern period.

4010 Independent Research in Latin American Studies (3-4) Directed research in any topic fully related to Latin American studies to be undertaken by a student of campus, normally in a Latin American country. The research must be approved and evaluated by the Latin American Studies Committee and be 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.

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 anthropology, sociolinguistics, speech pathology, and the like. It provides a general survey of linguistics and its applications to fields such as graduate work in linguistics or related areas, or as an introduction to the study of a foreign language. 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:

Conquisites
(a) A 3000-level sequence or its equivalent of a foreign language. (This can be accomplished by electing Option I of the Language, Literature, and Arts section of the Triad requirements. The following languages or sequences which fulfill Option I: French, German, Greek, Italian, Latin, Russian, Portuguese. The special permission of the Linguistics Committee, certain language classes and courses may be substituted for a 3000-level sequence of the foreign language.)
(b) Two quarters of a non-Indo-European language course may be substituted for the 2000-level sequence of the foreign language.

Concentration
The concentration shall consist of 38 hours distributed as follows:
(a) 32 hours composed of: Audiology and Speech Pathology 3500; French, German, Russian, or Spanish 4250-60; English 3330, 4330, 4440; Speech 4811-L, Linguistics 4020-30.
(b) 6 hours of the following, selected in consultation with the Linguistics Committee: Anthropology 3500; Audiology and Speech Pathology 3200, 4650, 5661, 5790; Educational Curriculum and Instruction 3062-63; Special Education and Rehabilitation 3210, 5210-20, 5110-20; Spanish 4210-20, 4110-20; English 4310-20, 4110-20; Linguistics 4500; Russian 4310-20; Spanish 4210-30, 5110-30; Spanish 4210-20, 5110-20.
(c) Other hours may be substituted in (b) by approval of the Linguistics Committee.

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

4330 Introduction to Study of English Language (3) (Same as English 3330.)
4331 Cultural History of the English Language (3) (Same as English 3331.)
4332 Modern English Grammar (3) (Same as English 3332.)
4400 Topics in Linguistics (3) (Same as English 4400-) may be repeated. Maximum credit 9 hrs.
4530-50 Historical Linguistics, Neogrammarian School, and Growth of Structuralism (3, 3) 4530-50 Comparative and Historical Linguistics from Jakob Grimm and Franz Boas through the 20th century. 4530-50 Traces change in language in Latin America brought about by Frassier's Class and growing impact of anthropology and semantics in linguistic studies.
4460 Sociolinguistics (3) (Same as English 4460.)
4460 Sociolinguistics (3) (Same as English 4460.)
4461 Special Topics in English Linguistics (3) (Same as English 4461-L) L 4461-41 English as a Second or Foreign Language (3, 3) (Same as English 4471-41.)

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 world—its history, institutions 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 10 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. Paul Barrette.

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

2010 Medieval Civilization (4) Introduction to basic themes in medieval experience, approached from interdisciplinary points of view and including philosophy, art and literature, science and social history. 4010 Medieval Civilization (4) A concentration in Medieval studies may be chosen from the list of courses below. Category # 1

History, Philosophy, Political Science, and Religious Studies

History 3061 History of Western Religious Thought and Institutions (4)
History 3411 Renaissance (3)
History 3710 Germany (3)
History 3780 History of Middle East (3) History 4431 European History: Cathedrals (3) (when subject is part of medieval culture and society).

History 4510 History of Medieval England (3) History 4710-20 Medieval History (3, 3, 3) History 4430 Medieval Philosophy (4) Political Science 3380 State in Political Thought (3) Religious Studies 3411 History of Western Religious Thought and Institutions (4)

Religious Studies 3411 Renaissance and Reforma

Religious Studies 2713 Religion in the Middle Ages

Religious Studies 4412 Topics in Western Religious Thought and Institutions (4) (when subject is part of medieval culture and society).

Category # 2 Language and Literature

Clasica 4320 Selected Reading from Latin Literature (3) (readings in Latin)
specifically oriented toward trade with the
interest is in a career in the world of
3510-20 and 3 hours from 3610-20-30; and
from History 3470-80-90, 4470, 4480, and
2510-20 and 2640-50. The track consists of
Prerequisites to this track are Russian
interest is in an academic world or
studies:
concentration in Russian and East European
Theatre 3252 History of the Theatre (4)
Music 4290 Gregorian Chant (3)
and Literature (1-3) (when subject is part of
Music 4200 Independent Study in Music History
Category #3 The Arts
Architecture 4130 Seminar in Architectural
Architecture (4)
Art 3704 History of Medieval Art (4)
Art 3705 Northern European Painting, 1300-1600 (4)
Art 3715 Early Italian Renaissance, 1300-1500 (4)
Music 4300 Independent Study in Music History and
Music (3, 3, 3) (in English translation)
Sociology:
3610 Principles of Real Estate and Urban De-
Development : 3620 Urban Planning and Women's Studies (4, 4)
The Urban Studies Committee, Dr. Samuel
2500 Interdisciplinary Urban Studies (4) Funda-
mental perspectives of various disciplinestoward
comparative and other directed field research in selected
sights and organizations. May be done in a concen-
trated manner, such as a summer, or over the course
of an academic year. Minimum of four creditsre-
peated. Maximum credit 16 hrs.
4000 Directed Field Work (1-16) Participant obser-
vation and other directed field research in selected
sites and organizations. May be done ina concen-
trated field of study.
3930 Behavioral Approaches to Environmental De-
eration and other directed field research in selected
sites and organizations. May be done ina concen-
trated field of study.
3000 Selected Topics in Urban Studies (4) May be
repeated with consent of the committee.

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

Anthropology:
3420 Community Studies in Complex Culture (3)
4440 Urban Anthropology (3)

Cultural Studies:
2000 Man-Environment Systems I (4)
2010 Utilization of Social and Environmental In-
formation and Behavior (4)
3430 Urban Geography (4)

History:
4670 Cities and Urbanization in American History
4700 The City in Europe (3)

Planning:
5220 Introduction to Planning (3)

Political Science:
3720 The Urban Policy (4)
3780 Urban Policy Process (4)

Sociology:
3930 Problem of Urban Development (3)

Ecology:
4320 Urban Problems (4)

Women's Studies (944)
Minor: Consists of Women's Studies 2010-20 and 16 hours of appropriate courses

numbered 3000 or above. Supporting courses
are drawn from several departments and
colleges on the UTK campus. A list of
available courses will be published annually
by the Women's Studies Committee. For
further information consult the chairperson
of Women's Studies, Dr. Susan Becker.
2010-20 Women's Studies (4, 4) Explores basic
knowledge and sources necessary to understand
contemporary past societal experiences of women.
Women's Studies this year offers several seminars, 2000
employs that of social sciences.
2010 utilizes perspective of humanities; 2020
current and past societalexperiences of women.
2010-20 Women's Studies (4, 4) Explores basic
knowledge and sources necessary to understand
contemporary past societal experiences of women.
Women's Studies this year offers several seminars, 2000
employs that of social sciences.
2010 utilizes perspective of humanities; 2020
current and past societalexperiences of women.
2010-20 Women's Studies (4, 4) Explores basic
knowledge and sources necessary to understand
contemporary past societal experiences of women.
Women's Studies this year offers several seminars, 2000
employs that of social sciences.
2010 utilizes perspective of humanities; 2020
current and past societalexperiences of women.
The graduate program in ecology offers Master of Science and the Doctor of Philosophy degrees. This interdepartmental program provides advanced courses in contemporary ecology for students from undergraduate programs in basic and applied biology, agricultural, social sciences, mathematics, and engineering. Research opportunities in both fundamental and applied ecology are intended to prepare students for academic careers as well as professional positions in industry or government. The Environmental Sciences Division of the Oak Ridge National Laboratory, the Tennessee Valley Authority, and the National Park Service provide advisors and research facilities. The Great Smoky Mountains, Cumberland Plateau, valley and ridge topography, TVA lakes, and wide river provides locally a spectrum of natural habitats and consequent biological diversity which is truly unique. In addition, faculty research programs provide opportunities for student research elsewhere on this continent and abroad with an emphasis upon tropical environments.

ADMISSION

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

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

COURSES ACCEPTABLE IN PROGRAM

Agricultural Biology

4101 Biology of Soil Microorganisms (3)
4390 Land Economics (3)
5420 Advanced Land Economics (3)
Anthropology

4360 Field Work in Physical Anthropology (3-4)
4640 Zooarchaeology (3)
4980 Primate Paleontology (3)
4970 Human Paleontology (4)
5620 Emergence and Early Evolution of Man (3)
Botany

4310 Plant Ecology (4)
5340 Plant Geography (4)
5300 Analysis of Plant Communities (4)
5110-30 Systems Ecology (3, 3, 3)
5380 Field Methods in Plant Ecology (4)
6230 Ecosystems of the World (3)
Ecology

5000 Thesis
5100 Special Problems in Ecology (1-3)
5210-30-90 Principles of Ecology (3, 3, 3)
5130 Ecology for Planners and Engineers (3)
5220 Implementation of Environmental Policy (3)
5810 Environmental Toxicology (5)
5860 Techniques in Environmental Toxicology (5)
6000 Doctoral Research and Dissertation
6100 Special Topics in Ecology (5)
6110 Seminar in Animal Behavior (2)
6120 Seminar in Aquatic Ecology (2)
6130 Seminar in Physiological Ecology (2)
6140 Seminar in Community Ecology (2)
6150 Seminar in Radiation Ecology (2)
6160 Seminar in Systems Ecology (2)
6311 Current Topics in Environmental Toxicology (1)
Economics

4260 Economics of Resources and Environmental Policy
4530 Sanitary Engineering Laboratory (3)
4530 Solid Waste Management (4)
4700 Air Pollution-Resource Management (3)
5983 Advanced Sanitary Engineering Laboratory (3)
5700 Planning and Air Pollution Control (3)
5710 Air Pollution Control Engineering (3)
5220 Seminar in Forest Tree Biology (2)
5240 Seminar in Forest Genetics (3)
Geography

4720 Data Mapping (4)
4740 Remote Sensing: Types and Applications (4)
6500 Topics in Geography of Land-Surface System (3)
5610 Topics in Climatology (4)
5740 Advanced Topics in Remote Sensing (3)
5430 Paleoclimatology (4)
5420 Paleoecology (4)
5410 Principles of Geomorphology (4)
5230 Quaternary Problems (4)
5915 Regional Geomorphology (4)
Microbiology

5260 Experimental Microbial Ecology (5)
5210 Marine Microorganism (4)
5210 Marine Dynamics (3)
Philosophy

4710 Special Topics in Natural Science (4)
5530-50 Philosophy of Science, 4 (4, 4)
6550 Seminar in Philosophy of Science (4)
Plant and Soil Science

4320 Soil Formation, Morphology, and Classification (4)
5340 Soil Productivity and Management (3)
5260 Pedology (4)
5410 Crop Climatology (4)
5820 Advanced Crop Physiology and Ecology (4)
Psychology

4980 Aesthetics of Urban Environment (4)
5750 Ethological Psychology (3)
Sociology

4110 Population Problems (2)
4330 Urban Ecology (4)
6180 Theory and Method of Human Ecology (3)
Wildlife and Fisheries Science

4460 Game Mammals (4)
4460 Game Birds (4)
5210 Seminar in Wildlife Conservation (2)
Zoology

4290 Ichthyology (5)
4240 Animal Ecology (4)
4690-70 Limnology (4, 4)
4790 Arachnology (4)
5700 Animal Populations (3)
5980 Geographic Distributions of Animals (4)

Economics (283)

See faculty list, page 89.

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 68 for description of the courses available.

Requirements for a major in economics consist of: (1) Economics 2110, 2120, and 2130 in equivalent honors courses, and (2) a minimum of 33 additional hours in upper-division economics courses. Economics 3110 or the sequins 3111 and 3112 plus 3120 are required as part of the upper-division work and should be taken as early in the upper-division program as possible. A minor consists of (1) Economics 2110, 2120, 2130, 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 Clerk, Room 212, Claxton Education Building as early in their program as possible to determine the appropriate requirements.

GRADUATE

See pages 86-89 in the College of Business Administration. The department offers the following degrees: M.A., M.A.C.T., M.S., and Ph.D. Also, the MBA degree with a concentration in economics is offered.

English (339)

Professors:
J. H. Taylor (Chair), Ph.D. Princeton;
P. G. Ainslie, Ph.D. Texas; W. B. Bratton, Ph.D. Illinois; B. E. Davis (Emeritus), Ph.D. Virginia; H. O. Draper, Jr., Ph.D. Penn.; R. W. Kinn (Emeritus), Ph.D. Penn.; J. M. White, Ph.D. Cambridge; J. B. Trueman, Ph.D. Princeton;
Associate Professors:
L. S. Burghard, Ph.D. Illinois; D. A. Carroll, Ph.D.
English concentrations:

- The Bachelor of Arts in English may have any of the three concentrations below.
- The English major requires English courses in detail and listing the English courses in the concentrations.

Concentration in Literature:

- Majors: A minimum of 36 quarter hours is required for this concentration.
- At least three courses in major figures are required, and no more than one may be taken for credit.
- Twelve English courses at the 3000-4000 level include English composition and reading for students whose native language is not English, available in advance of University timetables.
- Open only to students elected on the basis of placement scores and high school record.
- For students whose native language is not English, the major requires a minimum of 24 English courses.
- Required concurrently with any 2000- or 3000-level writing course.
- As literary forms or modes, theories of literature, and critical methods are studied in the senior year culminating in a senior thesis and a comprehensive examination. If the thesis examination both receive grades of B or better, the student will be graduated with Honors in English.

Concentration in Creative Writing:

- Majors: 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 Clinic, Room 212, Claxton Education Building.

Sectional Course Information:

- English 1010-English Composition (3) Expository writing based on study of great literature. Students receiving a grade other than C, C, I, NC, W for English 1010 may elect to complete a year's work in English composition with any 2000- or 3000-level writing course.
- English 1441 English Composition for Foreign Students (3) English and relationship of sound to meaning. Designed for undergraduate foreign students. May be repeated for credit. credit not allowed for the full 36-credit hour sequence.
- Individualized Program: The Director of Undergraduate Studies is empowered to approve individualized programs developed by students in consultation with their English advisors. These programs must needs not fulfill all 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. 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.

General Prerequisites and Corequisites:

- Prerequisites: For foreign students. English courses in the three concentrations are prerequisite to any of the three English concentrations.
- The equivalent of any of the three English concentrations.
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       1Source: Distinguished Service Professor John D. C. Hodges, Professor.