CAUTION: The course offerings and requirements of the University are continually under examination and revision. This catalog presents the offerings and requirements in effect at the time of publication but is no guarantee that they will not be changed or revoked. Current information may be obtained from the following sources:

- Admission Requirements —Director of Admissions
- Course Offerings —Department offering course
- Degree Requirements —Office of the Registrar, faculty advisor, head of major department, College Advising Center, or dean of college/school
- Fees and Tuition —Office of the Treasurer

EEO/TITLE IX/SECTION 504 STATEMENT
The University of Tennessee, Knoxville does not discriminate on the basis of race, sex, color, religion, national origin, age, handicap, or veteran status in provision of educational opportunities or employment opportunities and benefits. UTK does not discriminate on the basis of sex or handicap in the education programs and activities which it operates, pursuant to the requirements of Title IX of the Education Amendments of 1972, Pub. L. 92-318; and Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112, respectively. This policy extends to both employment by and admission to the University.
Inquiries concerning Title IX and Section 504 should be directed to the Office of the Director for Affirmative Action, 403B Andy Holt Tower, 974-2498. Charges of violation of the above policy should be directed to the Office of the Director for Affirmative Action.
CONTENTS

Calendar for 1988-89 5
Knoxville Administration 4
Board of Trustees 4
University Administration 8
Map of the Campus 6-7

The University
Historical Background 9

Student Affairs and Services
Academic Common Market 10
Annual Phi Kappa Phi Lectures 10
Athletics 10
Black Cultural Center 10
Career Planning and Placement Service 10
Center for Extended Learning 11
Center for International Education 11
Computing Center 11
Cultural Opportunities 11
Educational Assistance Program 12
Food Service Facilities 12
Handicapped Student Services 12
Hearing and Speech Services 12
Housing 13
Learning Research Center 13
Minority Student Affairs 13
Ombudsman Office 13
Religious Resources 13
Student Conduct Office 13
Student Counseling Services Center 13
Student Government Association 13
Student Health Services 13
Student Organizations 14
Student Orientation Office 14
Student Publications 14
Student Rights and Responsibilities 14
Vehicle Operation and Parking 14
Women's Center 14
Writing Laboratory 14
Fees and Expenses 14
Financial Aid 16
Scholarships 18
Honors and Awards 22
Honorary and Professional Societies 24

Academic Policies and Regulations
Admission to the University 26
College Association 29
Credit Hours, Grades, and Grade Point Average 30
General Regulations 31
Registration 33
Undergraduate Retention Standards 34
Requirements for a Bachelor's Degree 35
Degrees Offered 35

Colleges, Schools, and Other Academic Units
College of Agriculture 43
School of Architecture 52
College of Business Administration 55
College of Communications 60
College of Education 63
College of Engineering 72
College of Human Ecology 82
College of Liberal Arts 89
College of Nursing 116
College of Social Work 118
University Honors 120
University Studies 121
Reserve Officers Training 122
Graduate Studies 125
College of Law 125
College of Veterinary Medicine 125
The Graduate School 125
Graduate School of Biomedical Sciences 125
Comparative and Experimental Medicine 126
Energy, Environment and Resources Center 126
Graduate School of Library and Information Science 126
Life Sciences 126
Graduate School of Planning 126
Space Institute 126
Transportation Center 127
Water Resources Center 127

Courses of Instruction 129

Index 183
THE UNIVERSITY OF TENNESSEE BOARD OF TRUSTEES

Legal Title: The University of Tennessee
His Excellency, THE GOVERNOR OF TENNESSEE
The Commissioner of Education
The Commissioner of Agriculture
The President of The University
The Executive Director of Tennessee Higher Education Commission

<table>
<thead>
<tr>
<th>From Congressional Districts</th>
<th>District</th>
<th>Service Begins</th>
<th>Term Expires</th>
</tr>
</thead>
<tbody>
<tr>
<td>R.B. Hailey, Sevierville</td>
<td>First</td>
<td>1984</td>
<td>June 1, 1993</td>
</tr>
<tr>
<td>William B. Sansom, Knoxville</td>
<td>Second</td>
<td>1986</td>
<td>June 1, 1995</td>
</tr>
<tr>
<td>Scott L. Prebasco, Jr., Lookout Mountain</td>
<td>Third</td>
<td>1979</td>
<td>June 1, 1996</td>
</tr>
<tr>
<td>William M. Johnson, Sparta</td>
<td>Fourth</td>
<td>1975</td>
<td>June 1, 1991</td>
</tr>
<tr>
<td>Marcia Austin Echols, Nashville</td>
<td>Fifth</td>
<td>1979</td>
<td>June 1, 1991</td>
</tr>
<tr>
<td>Ben S. Kimbrough, Clarksville</td>
<td>Sixth</td>
<td>1980</td>
<td>June 1, 1990</td>
</tr>
<tr>
<td>Amon Carter Evans, Columbia</td>
<td>Sixth</td>
<td>1964</td>
<td>June 1, 1993</td>
</tr>
<tr>
<td>Turner O. Lashlee, Humboldt</td>
<td>Seventh</td>
<td>1979</td>
<td>June 1, 1988</td>
</tr>
<tr>
<td>Tom Elam, Union City</td>
<td>Eighth</td>
<td>1956</td>
<td>June 1, 1990</td>
</tr>
<tr>
<td>Ronald Terry, Memphis</td>
<td>Ninth</td>
<td>1986</td>
<td>June 1, 1995</td>
</tr>
</tbody>
</table>

| From Anderson, Bedford, Coffee, Franklin, Lincoln, Moore, and Warren Counties |
|-----------------------------|-----------------|----------------|
| Charlotte Parish            | 1979            | June 1, 1988   |

| From Davidson County        |
|-----------------------------|-----------------|----------------|
| Michael Graves              | 1984            | June 1, 1993   |

| From Hamilton County        |
|-----------------------------|-----------------|----------------|
| Paul J. Kinser              | 1969            | June 1, 1998   |

| From Knox County            |
|-----------------------------|-----------------|----------------|
| Ann Baker Furrow            | 1971            | June 1, 1989   |
| James A. Haslam, II         | 1980            | June 1, 1989   |

| From Shelby County          |
|-----------------------------|-----------------|----------------|
| Sam Cooper                  | 1981            | June 1, 1990   |
| Jack J. Craddock            | 1981            | June 1, 1990   |

| From Weakley County         |
|-----------------------------|-----------------|----------------|
| James F. Harrison           | 1981            | June 1, 1990   |

| Student Member              |
|-----------------------------|-----------------|----------------|
| Tina L. Lobetti             | 1987            | July 1, 1988   |

Officers of the Board
Ned McWherter, Chairman
William M. Johnson, Vice Chairman
Edward J. Boling, President
A. David Martin, Treasurer
Beauchamp E. Brogan, Secretary
Linda Logan, Assistant Secretary

THE UNIVERSITY OF TENNESSEE
Administration and Service

President, Edward J. Boling, B.S., M.S., LL.D., Ed.D.
Executive Vice President and Vice President for Development, Joseph E. Johnson, A.B., A.M., Ed.D.
Vice President for Academic Affairs and Research, John W. Prados, B.S., M.S., Ph.D.
Vice President for Agriculture, W.W. Armstead, D.V.M., M.S., Ph.D.
Vice President for Business and Finance, Emerson H. Fly, B.S., C.P.A.
Vice President for Health Affairs and Chancellor of the Center for Health Sciences, James C. Hunt, A.B., M.S., M.D.
Vice President for Public Service and Continuing Education, Robert S. Hutchison, B.S., M.B.A.

General Counsel, Beauchamp E. Brogan, B.S., J.D.
Treasurer, A. David Martin, B.S., M.B.A., C.P.A.

Emeriti Administrators:
Emeritus Vice President for Business and Finance, W. Harold Read, B.S., M.B.A., C.P.A.
Emeritus Vice President for Academic Affairs, Kenneth L. Knickerbocker, A.B., A.M., Ph.D.
Emeritus Treasurer, Brodie Baynes, B.S., C.P.A.
ACADEMIC CALENDAR FOR 1988-89

SUMMER QUARTER, 1988

June 8 Registration, First Term
June 9 Classes Begin
July 4 Independence Day Holiday
July 11 Classes End, First Term
July 6-8 Registration, Second Term
July 12 Classes Begin, Second Term
August 10 Classes End
August 12 Commencement

FALL SEMESTER, 1988

August 22-23 Registration
August 24 Classes Begin
September 5 Labor Day Holiday
November 24-25 Thanksgiving Holiday
December 6 Classes End
December 7-8 Study Period
December 9-14 Final Exams
December 16 Commencement

SPRING SEMESTER, 1989

January 9-10 Registration
January 11 Classes Begin
January 16 Martin Luther King Day Holiday
March 20-24 Spring Break
May 1 Classes End
May 2-3 Study Period
May 4-9 Final Exams
May 12 Commencement

SUMMER TERM, 1989

May 16 Registration
May 17 Classes Begin
June 27 First Session Ends
June 28 Second Session Begins
July 4 Independence Day Holiday
August 9 Second Session Ends
August 11 Commencement
THE UNIVERSITY OF TENNESSEE, KNOXVILLE

Administrative Officers

Chancellor, Jack E. Reese, A.B., A.M., Ph.D.
Executive Assistant to the Chancellor, Donald R. Eastman III, A.B., Ph.D.
Provost, George W. Wheeler, B.S., M.S., Ph.D.
Vice Provost, Hardy Liston, Jr., B.S., M.E.A.
Vice Provost, Ralph V. Norman, Jr., A.B., B.D., M.A., Ph.D.
Vice Provost and Dean of Graduate School, C.W. Minkel, B.A., M.A., Ph.D.
Vice Provost for Research, Thomas C. Collins, B.S., M.S., Ph.D.
Associate Provost, Anne Hopkins, A.B., A.M., Ph.D.
Executive Vice Chancellor for Business, Planning and Finance, Homer S. Fisher, B.S., M.B.A.
Associate Executive Vice Chancellor for Business, Planning and Finance, Betsey B. Creekmore, A.B., M.A., M.A.L.S.
Associate Executive Vice Chancellor for Business, Planning and Finance and Director of Personnel, Edward K. Bennett, B.S.
Vice Chancellor for Student Affairs, Philip A. Scheurer, B.A., M.S.
Assistant Vice Chancellor for Student Affairs, Bert E. Sams, B.S., M.S.
Vice Chancellor for Development and Alumni Affairs, Jack E. Williams, B.S.
Assistant Vice Chancellor for Development, Linda Davidson, B.A.
Assistant Vice Chancellor for Alumni Affairs, Martha Kirk, B.S.

General Administrative Officers

Athletics, Director, Doug Dickey
Finance, Director, Harold B. Whitehead, B.S., C.P.A.
Physical Plant, Director, John C. Parker, B.S.
University Communications, Director, John Clark, M.S.
Student Affairs:
Admissions and Records, Dean, Gerald Bowker, B.A., M.A.
Career Planning and Placement Service, Director, Robert Greenberg, B.A., M.S., Ed.D.
International Student Affairs, David C. Larsen, A.B., M.A., Ph.D.
Intercollegiate Athletics for Women, Director, Joan Cronan, B.S., M.S.
Student Conduct, Dean, Charles R. Burchett, B.S., M.A.
Student Counseling Center and Special Services, Director, Richard L. Nash, B.A., M.S., Ed.D.
Student Health Service, Administrator, Fred E. Young, Jr., A.B., M.C.

Colleges and Schools

AT KNOXVILLE
Institute of Agriculture
Dean, College of Agriculture, O. Glen Hall, B.S., M.S., Ph.D.
Dean, College of Veterinary Medicine, Hyram Kitchen, D.V.M., Ph.D.
School of Architecture
Dean, Roy F. Knight, A.B., M.Arch.
College of Business Administration
Dean, C. Warren Neel, B.S., M.B.A., Ph.D.
College of Communications
Dean, Kelly Leiter, B.A., M.A., Ph.D.
Division of Continuing Education
Dean, Joseph P. Goddard, B.S., M.S., Ed.D.
College of Education
Dean, Richard Wisniewski, B.S., M.E.D., Ed.D.
College of Engineering
Dean, William T. Snyder, B.S., M.S., Ph.D.
College of Human Ecology
Acting Dean, Jacquelyn DeJonge, B.S., M.A., Ph.D.
College of Law
Dean, Marilyn Yarbrough, B.A., J.D.
College of Liberal Arts
Dean, Lorman Ratner, A.B., M.A., Ph.D.
Graduate School of Library and Information Science
Director, Ann E. Prentice, A.B., M.L.S., D.L.S.
College of Nursing
Dean, Sylvia E. Hart, B.S.N., M.S.N., Ph.D.
School of Planning
Director, James A. Spencer, B.S., M.C.P.
College of Social Work
Dean, Ben P. Granger, B.A., M.P.A., M.S.S.W., Ph.D.
Independent Departments
Air Force Reserve Officers' Training Corps Professor of Air Science, Arthur Ahl, M.S., Colonel, USAF
Army Reserve Officers' Training Corps Professor of Military Science, Hugh E. Howard, B.S., M.A, LTC, USA

AT OAK RIDGE
Oak Ridge Graduate School of Biomedical Sciences
Acting Director, Raymond A. Popp, B.S., A.M., Ph.D.

AT TULLAHOMA
Space Institute
Dean, Kenneth E. Harwell, B.S., M.S., Ph.D.

Other Educational and Public Service Units

Libraries
Director, Donald R. Hunt, B.A., M.A., M.A.L.S.
The University

Continuing a tradition of service begun in 1794, The University of Tennessee's Knoxville campus carries out a unique mission in higher education in the Volunteer State. Leadership in graduate and professional studies, research and creative activity, and public service enriches selective undergraduate programs and defines UTK Knoxville's distinctive identity as the state's "campus of excellence". UTK Chancellor Jack Reese heads the campus, which offers a broad range of undergraduate, graduate, and professional degree programs. Among UT Knoxville's more than 25,000 students are men and women from every county in Tennessee, each of the 50 states, and more than 90 countries.

Faculty and staff are working constantly to enhance the quality of students' educational experiences. Because of its effectiveness in using information from student tests and surveys to improve teaching and service to students in 1984, UT Knoxville was the only university in the U.S. selected to receive an award by the National Council for Measurement in Education.

Development in graduate education has been accompanied by growth of major research programs, particularly in the field of energy, and expanded cooperation with Oak Ridge National Laboratory and the Tennessee Valley Authority.

The "Science Alliance" between UT Knoxville and ORNL is designed as the top priority in Tennessee's Centers of Excellence program for higher education. The most recent step taken to strengthen cooperative instructional and research activities is the Distinguished Scientist Program, designed to attract some of the nation's most eminent scientists to joint appointments at the two institutions.

Public service activities extend the utilization of the University's resources throughout the state. Continuing education programs respond to the needs of working adults who are seeking college degrees or preparing for career advancement by keeping up with the latest developments in their professional fields.

UTK students enjoy a wide variety of cultural activities. The Clarence Brown Theatre, named for the Hollywood director and UTK graduate and benefactor, is the home of one of the nation's most innovative theatre programs.

Libraries with more than 2 million volumes and volume-equivalents enhance an educational program dedicated to keeping pace with a changing society. A new 350,000-square-foot main library in the heart of the campus has just been completed. The new library meets critical research space needs for students and faculty and incorporates the latest advances in computer and automation technology.

Historical Background

The University of Tennessee traces its origins back to the days when George Washington was President of the United States - back to the days even before Tennessee became a state.

In 1794, two years before statehood was achieved, the Legislature of the Federal Territory which later became Tennessee granted a charter to Blount College, the earliest predecessor of the University of Tennessee. Blount College was named in honor of William Blount, Governor of the Territory, and was located near the center of Knoxville's present business district.

With its founding as Blount College, the University is listed as one of the older institutions of higher education in the nation. It was strictly non-sectarian in character, which was unusual for an institution of higher education in that day. The institution has remained non-denominational to the present time and is said to be the oldest such institution west of the Appalachian Divide.

Blount College for a few years admitted women as students, thus becoming the first coeducational college in the United States. It is probable, though, that these first coeds were engaged in preparatory rather than collegiate study. The institution later restricted enrollment to men, but reestablished its coeducational status on a permanent basis in 1892.

In 1807 the institution began to wide the scope of its service area. During that year the State Legislature changed the institution's name to "East Tennessee College" and made it the recipient of one-half of the proceeds of the sale of land set aside by Congress for the support of colleges. In 1826 the present site at Knoxville, the 40-acre tract known as "The Hill", was acquired by East Tennessee College.

In 1840, the State Legislature changed the institution's name to "East Tennessee University". The Civil War forced the institution to close for a period; its buildings were used as a hospital for Confederate troops and were later occupied by Union troops. East Tennessee University reopened after the war, and from that time to the present, the institution has enjoyed its most significant advances.

In 1869, East Tennessee University was selected by the State Legislature as Tennessee's Federal Land-Grant Institution, under terms of the Morrill Act passed by Congress in 1862. This designation enabled the University to broaden its offerings by establishing an Agricultural and Mechanical College. The new program was supported by an endowment resulting from the sale of land warrants received by Tennessee from the federal government.

Ten years later, in 1879, East Tennessee University was chosen by the State Legislature as Tennessee's State University, and its name was changed to "The University of Tennessee". By this act the University became pledged to the service and interest of the entire state. The state pledged to the University its own name and reputation, promising the institution a vital role in the progress of the state.

The University today is a statewide institution in terms of its physical locations as well as its services. The Center for the Health Sciences, founded in Nashville and taken over by the University in 1879, was moved to Memphis in 1911. The Martin campus was established in 1900 as a private
institution, Hall-Moody Junior College, and it became a part of The University of Tennessee in 1927. The School of Social Work at Nashville became part of the University in 1941. A fourth primary campus was established at Chattanooga in 1969 with the merger of the University with the University of Chattanooga. The University’s Nashville Center, established in 1947, was made the fifth primary campus in 1971. UTN’s academic programs were merged with those of Tennessee State University in 1979.

Agriculture Experiment Stations were established in Jackson, Spring Hill (Columbia), Springfield, Lewisburg, Crossville, Wartburg, Oak Ridge, Greeneville, and Grand Junction. The Division of Continuing Education, Knoxville, conducts evening classes, workshops and off-campus programs, conferences, and non-credit programs for the campus. The Agricultural Extension Service, with district offices at Jackson, Nashville, Cookeville, Chattanooga, and Knoxville, has agricultural extension leaders and agents in each of Tennessee’s 95 counties. In 1968, the Board of Trustees reorganized the institution into a University system, giving a central administrative staff responsibility for statewide functions of the University. Each primary campus came under the administrative direction of a chancellor.

State Legislatures and Governors of Tennessee, particularly those of the past half century, have shown an active interest in the development of The University of Tennessee. Such support has helped the University broaden and strengthen its efforts to meet the educational, research, and service needs of the people of Tennessee through programs which have earned national and international recognition.

Student Affairs and Services

Academic Common Market

The Academic Common Market is an interstate agreement among Southern states for sharing unique programs. Participating states are able to make arrangements for their residents who are fully admitted to specific programs at UTK on an in-state tuition basis, where these programs are not available in the state of residence.

Cooperating states in the Academic Common Market are Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, South Carolina, Tennessee, Texas, Virginia and West Virginia. Twenty doctoral, one Specialist in Education, and one Master’s programs at UTK are approved by the Academic Common Market for residents of these states to enroll at in-state tuition rates.

Residents of one of the member states who seek further information should contact the Residency Clerk in the Office of Graduate Admissions and Records or the Southern Regional Educational Board, 130 Sixth Street, N. W., Atlanta, GA 30313.

Annual Faculty Phi Kappa Phi Lectures


Athletics

The University of Tennessee, Knoxville, encourages athletics as a part of its educational program. Men’s intercollegiate sports are directed by the Department of Intercollegiate Athletics, George R. Woodruff, Director. Women’s intercollegiate sports are administered through the Student Affairs and are under the direction of the Department of Intercollegiate Athletics for Women, Joan Cronan, Director.

There are men’s teams in football, basketball, swimming, tennis, cross country, and outdoor track and field. Baseball, wrestling, and golf. Intercollegiate games are played according to the rules of the National Collegiate Athletic Association (NCAA) and the Southern Conference (SEC). Eligibility for participation is determined by the NCAA, SEC, and the University faculty. There are women’s teams in basketball, swimming, tennis, volleyball, cross country, and indoor and outdoor track and field. Intercollegiate swimming, and outdoor track and field. Collegiate games are played according to the rules of the NCAA and the SEC. Eligibility for participation is determined by the NCAA, SEC, and the University faculty. Any full-time female undergraduate student is eligible to try out. Additional information can be obtained by writing to the Director of Women’s Athletics, 115 Stokely Athletics Center.

A varied intramural and sports club program is provided for all students. These programs are directed by the Office of Recreation and are housed at the Student Aquatic Center.

NEYLAND STADIUM

 Neyland Stadium, the University’s football stadium, was named in memory of the late General Robert R. Neyland, longtime football coach and athletics director. Shields-Watkins Field, is named in honor of William S. Shields, former member of the University Board of Trustees, and his wife.

The stadium, built and developed by the Department of Athletics over a period of years, can now accommodate over 91,249 spectators.

OTHER FACILITIES

Tom Black Track is host to regional and national meets and is built to Olympic specifications. Hudson Field, baseball field and stadium seat 5,750 and are provided to invading dugouts and press box facilities. New tennis courts also afford an excellent vantage point for spectators.

Black Cultural Center

The Center represents one effort by the University to promote awareness of the nature of the Black experience and the contribution of Black America to the national past. The Center seeks to fulfill this role through a variety of programs and occasions. Typical of its cross-campus work is sponsorship of Black History Week and the Black Arts Festival. Within the Center itself exhibits related to the Afro-American past, small group lectures, group study sessions, and a tutorial program especially at minority students are a few of the ongoing activities.

The Center is located at 812 Volunteer Boulevard. All members of the University community are invited to visit this location and utilize the opportunities provided by the Center for increased knowledge about the Black experience.

Career Planning and Placement Service

The Career Planning and Placement Service assists students in assessing career alternatives and in making a successful transition from The University to the world of work. The Service is staffed to provide individualized and group assistance to UTK students. The Service is especially well known for offering effective career placement help by means of campus recruitment, job referrals, and other sources of job contacts.

Included in the specific programs offered at Career Planning and Placement are, DISCOVER, a computer aided career guidance system; CAREER PLANNING, a 10-hour seminar on Career Decision-Making to assist in choosing a major area of study; CAREER LIBRARY, including books, magazines, articles, brochures, videotapes; CAREER CONNECTIONS, comprehensive career newspaper published each fall, with the latest news relating to the job market; CAREER FOCUS, panel discussions of recruiters discussing specific areas in the job market; COOPERATIVE EDUCATION, opportunities for alternating terms of school and full-time work experience; CAREER CARNIVAL, an annual career fair providing opportunity to speak informally with representatives from 80-100 different companies about their entry level jobs and hiring practices; SUMMER JOBS, a summer job fair. A biweekly summer job newsletter is sent to interested students; FOOTWORK, a program permitting students to interview a professional in career fields they are considering; EMPLOYER INFORMATION, on hundreds of
companies that recruit at UT. Learn about types of majors sought, departmental units, job descriptions, career profiles, annual reports, and other pertinent information; WORKSHOPS, instruction in the secrets to successful interviewing, resume preparation, and other topics; ON-CAMPUS INTER-VIEWS, attend an orientation workshop to receive feedback on interviews during your senior year. Over 12,000 interviews are scheduled each year with approximately 350 different companies; JOBS NEWSLETTER, published biweekly - one newsletter for positions in education, one newsletter for business, industry, and government; and ALUMNI CREDENTIAL SERVICE, for assistance in the job search after your degree work is finished.

For information regarding Career Planning and Placement Services call 974-5435.

Center for Extended Learning

The UT Center for Extended Learning is a department which supports the extension of existing courses and new learning opportunities beyond the primary campuses of The University of Tennessee. The Center utilizes various communication and teaching media - correspondence courses, videotape, broadcast and closed-circuit television, audiotape, radio, and printed materials - to provide learning opportunities to individuals and groups. CEL extends college credit courses, non-credit courses, and high school courses for qualified people in the most accessible locations, their homes, local schools, and job sites. Through the Center for Extended Learning, The University of Tennessee is able to overcome geographic limitations in performing its services as Tennessee's land-grant institution of higher education.

For information on enrollment, costs, books, and credit, write: Center for Extended Learning, 420 Communications and University Extension Building, The University of Tennessee, Knoxville, Tennessee 37996-0300. Telephone: (615) 974-5135.

Center for International Education

International students interested in applying to UTK should consult the requirements listed in the International Student Applicants section of this Catalog, or for graduate studies, the Graduate Catalog.

The Center for International Education, 201 Alumni Hall, assists students and faculty from other countries with matters of particular concern to them during their stay in the United States. It provides advice concerning visas and with the U.S. Immigration and Naturalization Service. The Center is The University's official representative to INS, to international organizations and to foreign governments. It maintains current records on all UTK-related U.S. visa holders.

The Center is a liaison with international students and scholars and the faculty and other University units. It assists with adjustment through orientation programs required of all new international students at the beginning of each academic term, and through individual advising and counseling on personal and academic matters.

The Center's International House provides a rich array of programs intended to bring together members of the international and the U.S. communities to share their cultural viewpoints and to learn of those of others. At I-House English language classes are available for spouses, seminars of international interest are taught, and area volunteers work for intercultural communication and mutual understanding. The Center also sponsors workshops and faculty interested in travel, work or study abroad. Staff are available to advise, to assist in the preparation of fellowship/scholarship applications, and to provide information on a broad range of international topics. A reference library of overseas study and travel materials, scholarship and other special programs intended to serve those with international interests is at the Center.

International exchange programs through which enrollment at more than 50 universities throughout the world becomes possible and affordable for UTK students are available.

Computing Center

The University of Tennessee Computing Center (UTCC) provides computing facilities and services for the University's teaching, research, public service and administrative activities. UTCC offices and principal computing facilities are located on the first two floors of Stokely Management Center and on the P2 level and first floor of Andy Holt Tower.

UTCC maintains remote job entry stations for batch work and sites for interactive computer work on the Knoxville campus, and supplies computing services to the other campuses in the UT System through remote job entry facilities.

UTCC periodically offers intensive training seminars on the utilization of the IBM and VAX computers for faculty, staff and graduate students. UTCC also offers non-credit short courses each quarter in topics such as programming languages and special purpose programs. These courses are announced in the UTCC Newsletter, the "Campus Capsule" section of the UT Daily Beacon, and Context, a publication announcing campus events.

Forms to request computing services are available from the receptionist, 200 Stokely Management Center. All users of UTCC facilities are assigned a consultant for assistance in the effective use of computing resources.

Cultural Opportunities

THEATRE
The UT Theatres, under the aegis of the Department of Theatre, present several series of plays. Three adjoining, excellently equipped theatres: The Clarence Brown Theatre (600 seats), Laboratory Theatre (150 seats), and the Carousel Theatre (400 seats). Productions range from prosenium to full arena, and from the most lavish and prestigious to the most intimate and experimental. The Clarence Brown Company puts on four plays a year, the University Company normally presents five or six productions each year and the Theatre Students Association puts on eight and ten. Two plays for children are performed yearly for the area schools, and there are also semester class projects in directing, readers' theater, foreign language dramas, etc. The Clarence Brown Company, Tennessee's only fully professional company concentrates on the classical repertoire, and its productions have travelled to the Kennedy Center and Broadway.

All University students are welcome to take part in plays staged in these theatres and to participate in all other aspects of play production.

FRANK H. McCULLUM MUSEUM
Officially dedicated in 1963, the McClung Museum is actively involved in the collecting, preservation, and exhibition of objects in the fields of archaeology, anthropology, decorative arts, decorative arts and architecture, and natural history. Temporary and permanent exhibits are presented on those subjects. The Eleanor Deane Audigier Art Collection exhibition features a selection of originals and copies of art objects from various periods through the turn of the century. The collection was presented to the University by Louis Bailey Audigier in memory of his wife. Archaeological specimens, some as old as 12,000 years, that have been recovered during the University's extensive excavations in the Tennessee River Valley are included in a major exhibit in the Main Gallery. In the Green Memorial Room are exhibits depicting the history of Knoxville, the University and East Tennessee. Changing temporary Lobby exhibits and other exhibits in the Museum are installed throughout the year.

ART
Art exhibitions of international, national, regional, and local artists and craftsmen are sponsored on a regular basis by the UT and Department of Art in the galleries of the Art and Architecture Building. Arrowmont School of Arts and Crafts, Gatlinburg, Tennessee, displays works by faculty and students during the summer months.

Christmas Art Sale is an annual event sponsored by the Department of Art and held in the Art Gallery of the Museum in early December. Students, faculty, and regional artists display modestly priced works for purchase in time for Christmas. Numerous art exhibitions are scheduled in the Art Gallery throughout the year.

Ralph E. Dunford Art Collection and the Marian G. Heard Crafts Collection are housed and exhibited in the University Center. These collections are supplemented each year with purchases made possible through student programs. Acquisitions of works by area artists are emphasized by the selection committee.

MUSIC
UT Choral Groups consist of Concert Choir, University Chorus, Chamber Singers, and UT Singers. These choirs are open to all students by audition, except University Chorus which does not require auditions. UT Singers are known as the University's "Good Will Ambassadors." Among the many projects of this group are the annual state-wide tour each spring and tours abroad on alternate years.
The University

 UT Opera Theatre and Workshop presents three performances yearly. The varied program of operatic music ranges from one-act to complete three-act operas with symphonic accompaniment, and from television opera to selected scenes from the classic repertoire.

UT Symphony Orchestra plays concerts on campus yearly as well as serving as orchestra for opera and choral productions.

Requests for information on scholarships and memberships should be sent to the Director, Pride of the Southland Band.

Fine Arts Presentations, scheduled under the auspices of the Department of Music, consist of a series of Faculty Recitals which feature vocal and instrumental music, Student Recitals presented by upperclass and graduate members of the music department in partial fulfillment of degree requirements, and concerts by the Bands, Symphony Orchestra, Jazz Ensemble, Percussion Ensemble, and small ensembles.

The Scottish Rite Masonic Chair of Choral Arts of the University of Tennessee campus a distinguished conductor and/or composer in the field of choral music who serves as a guest lecturer for workshops sponsored by the Department of Music.

The Grace Moore Collection. After the death of opera star Grace Moore, a native of East Tennessee, her family donated to the University a large collection of memorabilia which is viewed by appointment at the Frank H. McClung Museum.

CONCERTS

There are two committees on campus charged with the responsibility of providing the University community with the finest names in popular and cultural programs.

Campus Entertainment Board. This student and staff committee has the exclusive responsibility to sponsor popular entertainment on campus through its major concert series and the presentation of other concerts at various locations across the campus.

Cultural Attractions Committee. A student, faculty and staff committee, this group is responsible for the presentation of programs in the arts to include dance, music, and theatrical production.

LECTURES

Each semester the Issues Committee presents programs around a current theme. The programs feature speakers who are considered experts and represent diverse points of view on a variety of topics.

BROADCASTING

WUOT, operating on 91.9 mhz. from Knoxville, and WUTC, operating on 88.1 mhz. from Chattanooga, serve the public radio needs and interests of people in East Tennessee with cultural, informational, and educational programs. WUOT broadcasts in stereo with 100,000 watts power and WUTC broadcasts with 50,000 watts power. The stations are on the air 24 hours each day with a classical, fine arts format designed to enrich the quality of life for those within reception range. Programming includes classical, folk, and jazz music; news and public affairs; drama, documentaries, discussion and exposition of current events; and other programs of social significance.

WUOT is a charter member of National Public Radio and the Southern Educational Communication Association radio division. WUTC is an associate member of both organizations. WUOT meets the Corporation for Public Broadcasting criteria for full service operation as a public radio station; WUTC is in process of meeting the criteria.

The Educational Assistance Program

The Educational Assistance Program (EAP) is a federally funded project (Special Services for Disadvantaged Students) designed to help freshman and sophomore students who may, because of previous academic weaknesses or disadvantages, have difficulty in achieving academic success during their initial University experience. The program offers specially designed courses in mathematics, biology, English, and educational psychology. The courses function in such a manner that each student receives individual help and is given every opportunity for success. The opportunities include small classes, the availability of the professor for individual help, special help sessions, individual and small-group tutors, self-paced courses, individual academic advising each term, and both academic and personal counseling services. In addition, the EAP staff attempts to serve as liaison for the student in any area of University experience in which the student needs help.

The offices of the program are located on the ground floor of the Student Counseling Center at 900 Volunteer Boulevard. Phone number: 974-6087.

Food Service Facilities

Excellent University-operated food service facilities are air-conditioned, conveniently located in relation to residence halls, and serve nourishing food at reasonable prices. The University recognizes the educational role that its food service facilities play in student life and group living. The Food Services Department employs a skilled dietetic and management staff to insure that the student gets the highest quality meal at the lowest possible cost.

Room and board meal arrangements offer the best combination of balanced, nutritious meals, carefully planned and served at a reasonable charge to the student. For students not under the Board Plan, meals can also be obtained from cafeterias operated on a cash basis.

In addition, the Food Services Department offers a charge plan whereby students may charge meals and have the bill rendered to their parents monthly. A prepay charge plan, "Dining Plus," is available to certain students, faculty and staff. With a modest prepayment of at least $100.00 students may charge meals and receive a bonus credit of 5% of the prepaid amount. With a prepayment of $200.00 or more students receive a bonus credit of 10% on the prepaid amount.

For the late evening snack or morning coffee break, popular spots on campus are the delicatessens and grill operations. Students are invited to try one of the special "theme" meals offered in the University dining facilities throughout the year.

Handicapped Student Services

Handicapped Student Services provides counseling and academic support services to insure that handicapped students have access to educational opportunities provided at The University of Tennessee. Any student having a disability which restricts his/her participation in academic life is eligible for services. Services provided include personal and career counseling, interpreters, reader referral, and other services designed to meet the student's individual needs. Assistance is available for making arrangements for special in-class assistance. Information regarding transportation and housing is provided. The office serves as a liaison capacity with the Tennessee Division of Vocational Rehabilitation. Registration and other forms of administrative assistance and academic support are provided through the Office of the Dean of Admissions and Records.

Participation in the services program is on a voluntary basis; confidentiality is maintained. Students desiring any services are encouraged to contact the Office of Handicapped Student Services so that any necessary arrangements can be made.

The office is located at 900 Volunteer Boulevard. Phone number: 974-6087.

Services relating to academic programs for students with physical disabilities, whether permanent or temporary (due to sickness or accident), are coordinated by the Office of the Dean of Admissions and Records, 305 Student Services Building.

The services mentioned during registration (preregistration, collection of class schedules, payment of fees, drop and add); the adjustment of schedules to assure classroom accessibility; the securing of special parking permits, elevator keys, tickets for special events; and similar efforts to relieve the special mobility problems of the students. The Physical Plant Office coordinates efforts to eliminate physical barriers to the degree possible, with priority being given to access and facilities for academic buildings.

Hearing and Speech Services

The Hearing and Speech Center, located at the corner of Yale Avenue and Stadium Drive, offers complete diagnostic and therapeutic services to all University students with hearing and/or speech problems. There is no charge for services to University students.

The Center serves as clinical observation and training facility for students majoring in speech and hearing disorders. It also serves as a community Hearing and Speech Center, providing diagnostic and therapy services for speech, language and hearing disorders for persons of all ages.
Housing

The University strives to maintain convenient and comfortable residence hall facilities which are available to all single students at a reasonable cost. Many residence halls provide excellent study facilities, including computer rooms, and are all within easy walking distance of classrooms and other university facilities. On-campus housing provides an atmosphere which is conducive to academic achievement and personal development and it is therefore recommended that all students reside in University housing. All first year students who are not living with a parent or guardian are required to live in University housing.

Housing contracts are a commitment for the academic year, or for shorter periods if the student enters the University during spring. A Housing Application will be mailed as a part of the Application for Admission. Residence Hall assignments for the academic year are made in the late spring and summer. The student must be admitted to the University prior to occupancy. If a student withdraws from the University, the housing contract is cancelled in accordance with policies stated in the contract. Students assigned to residence halls desiring a board plan will be issued contracts written to handle both room and board. A contract for housing signed by a student is binding for the term of contract and is rigidly enforced by the University.

Additional information pertaining to single student housing may be obtained from the Office of Residence Halls, 405 Student Services Building, The University of Tennessee, Knoxville, Tennessee 37996-0241.

Off-Campus Housing: Students living in off-campus housing are expected to observe the same rules of conduct and standards that are applicable to all students. The student is responsible for obtaining off-campus housing. The University does not inspect or approve these facilities. Terms and conditions for the rental of off-campus housing are between the student and the landlord. Information and assistance in locating off-campus housing is available in the Off-Campus Housing Office located in 336 University Center.

Graduate Students: Single graduate students may be assigned to the residence halls or the single student apartments. For information concerning University residence facilities, please refer to the appropriate paragraphs above describing Undergraduate Students and Off-Campus Housing.

Married Students: The University has provided modern apartment facilities in several locations for married students with families. In addition, single graduate students are accommodated on a space available basis. Information and application for these facilities may be obtained from the Office of Rental Properties, The University of Tennessee, Knoxville, Tennessee 37996-0730.

Learning Research Center

Recognizing that the learning process is exceptionally complex; the University established the Learning Research Center in 1964. Its primary purpose is to encourage faculty members to utilize the results of research in creating arrangements and conditions for learning. The Learning Research Center publishes the Teaching-Learning Issues quarterly which circulates throughout the University system and on other campuses across the nation.

Minority Student Affairs

The Office of Minority Student Affairs is designed to enhance the quality of life for Minority Students. Working in conjunction with other campus and community groups, the office helps identify, encourage, and assist students who have academic potential and motivation to develop their talents at UT.

Housed within the Black Cultural Center, the office furnishes information about educational, employment and financial assistance opportunities, offers tutorial services and career development programs.

The office is located at 812 Volunteer Boulevard.

Ombudsman Office

Personnel of the Ombudsman Office in the University Center assist students in the resolution of problems encountered with any aspect of the University. The office is open during the regular working day and students are welcome to drop in at their convenience. Problems are treated confidentially and are dealt with expeditiously. This office supplements existing appeals channels and actively seeks better ways for the University to serve student needs.

Religious Resources

The University, established by a government that recognizes no distinction among religious beliefs, seeks to promote no creed nor to exclude any. However, it will always be diligent in promoting the religious spirit and life of its students.

Student Conduct Office

The Student Conduct Office is concerned with the individual rights and responsibilities of students. The personnel of this office serve as advisors to the student judicial system and, when necessary, initiate appropriate discipline proceedings.

Student Counseling Services Center

The Student Counseling Services Center provides services designed to help students with educational, vocational, personal, and social problems. Professional counselors work with the student in a setting that allows confidential discussion of the student's concerns. In addition, various groups are employed to meet the developmental needs of the student. These group settings provide the opportunity to share and learn from others and/or improve specific skills. Psychological tests may be used for self-evaluation. Also an information library is maintained.

The Center also works with the faculty and student personnel staff to develop educational programs and projects to meet the needs of various groups at the University.

The Student Withdrawal Office, located in the Center, handles the withdrawals of all students from the University.

All students, student spouses, and to a limited extent, parents of students are eligible for counseling and services of the Center. Appointments for counseling may be made by phone or in person at the Student Counseling Services Center at 900 Volunteer Boulevard.

Student Government Association

Composed of the Student Senate, the Academic Counsel, and the Graduate Student Association, the Student Government Association is the governing body of the students at UTK. Some objectives of the S. G. A. are to provide a vehicle for responsible and effective student participation in the organization and cooperation of student life and to promote the recognition of student rights and responsibilities.

The president of the student body serves as chairperson of the Student Senate while the vice president administers the student services staff (including the Legislative Interest Groups, communications staff program, and voter registration). Student Senate members are elected in the spring term to represent geographical areas of the campus as well as various student organizations. The Academic Council and Graduate Student Association representatives are elected from the academic colleges and graduate student programs, respectively. Offices of the S. G. A. are located in room 341 of the University Center.

Student Health Service

Health services provided by the University are available to any student who has paid the health fee (either through paying the full University Programs and Services Fee or, if taking fewer than 9 hours, paying the optional health fee). These out-patient services are available continuously throughout every term.

The Health Service has a regular staff of primary physicians, nurses, laboratory and x-ray technicians of Tennessee licensure. Out-patient services in the fields of general practice, internal medicine and psychiatry are available on a full-time basis while specialty consultants in dermatology, surgery, and gynecology are available on campus through referral by a staff physician. Care beyond that provided by the regular staff can be arranged. Those students requiring allergy injections may arrange to receive them at the Clinic.

Virtually all medical services at the campus clinic are provided to eligible students at no additional charge. While charges are made for some services such as x-rays, lab tests, and injections received through the evening/weekend clinic at The University of Tennessee Memorial Hospital.

The primary clinic at 1818 Andy Holt Avenue maintains scheduled daytime hours Monday through Friday. Emergency care
during evenings and weekends is available through the emergency room student health clinic at The University of Tennessee Memo
dial hospitalist service during the breaks after
summer and fall terms. Ambulance and
transportation service for the campus is pro-
vided by the Campus Police.

Students requiring hospitalization are
generally admitted by an appropriate special-
ist to The University of Tennessee Memorial
Hospital unless other arrangements are
desired. Since inpatient care is sometimes
necessary, it is important for the student to
have hospitalization insurance. Student

health insurance is available and may
be purchased during a designated period at
the beginning of each term.

Health Service personnel will cooperate
with students and family physicians in ensur-
ing the continuity of quality health care
during the university career.

Student Organizations

On the campus there are a large number
of student chapters of professional organiza-
tions, special interest clubs, and other
extracurricular organizations. These organi-
zations and clubs provide broad
opportunities for student participation.

A full listing of all student organizations is
found in Hilltopics. All of these clubs and
organizations are under the general supervi-
sion of the Student Activities Office.

Student Orientation Office

This office is dedicated to helping the
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
concerning itself with general, personal, and
new student adjust to the university setting,
**Graduate Students:**

- In-State: $110 per semester hour or fraction thereof; minimum charge $330
- Out-of-State: $239 per semester hour or fraction thereof; minimum charge $717

**Law Students:**

- In-State: $123 per semester hour or fraction thereof; minimum charge $369
- Out-of-State: $281 per semester hour or fraction thereof; minimum charge $753

---

### UNIVERSITY PROGRAMS AND SERVICES FEE Per Semester $98

- **All undergraduates, graduates, and law students taking in excess of eight hours per term** will be assessed a University Programs and Services Fee of $98 per semester for the academic year and $52 for the summer term. Part-time students taking eight semester hours or less will be assessed at the rate of $6 per semester hour (minimum $18) but are not entitled to admission to general activities programs. Such students may elect to pay the $17 student health fee.

- **Knoxville campus students** taking a course load of six, seven, or eight hours may elect to pay the full University Programs and Services Fee. Graduate and teaching assistants as well as fellowship students who may have waiver of fees (tuition and/or maintenance) must pay the appropriate University Programs and Services Fee. Activity cards are non-transferable and may not be duplicated. The activity fee is non-refundable.

### MUSIC FEE

One half-hour lesson per week, per semester...$45
One hour lesson per week, per semester...$90
Payable by eligible full-time students receiving individual instruction in music.

### GRADUATION FEE

- Bachelor's Degree...$20
- Master's, Law and Veterinary Medicine Degree...$30
- Doctoral Degree...$70
Payable at the beginning of semester in which the candidate is to be graduated. This fee is non-refundable and is valid for only one year beginning with and including the semester it is paid.

### LATE PAYMENT FEE

**Graduated Late Service Fee**

Upon receipt of a schedule (full, partial, or incomplete) a student is registered and is immediately responsible for payment of fees. Students who preregister for a semester must pay their fees (or make satisfactory arrangements with the Bursar's Office) on the regular registration dates in order to avoid late payment service charges. Effective the first regular business day following the last regular registration day, a graduated late service fee of $2 per day will be charged during the next ensuing five regular business days. Students who do not preregister but register through the "secondary" registration procedures will be granted two additional days after the final regular registration day to pay their fees (or make satisfactory arrangements with the Bursar's Office) before the graduated late service fee begins. Such students will be charged the graduated late service fee beginning with the third regular business day following the last regular registration day. (Minimum charge $6 third day, $8 fourth day, $10 fifth day).

### Additional Late Service Fees

All students who have not completed registration and paid their appropriate charges (or made satisfactory arrangements with the Bursar's Office) within five regular business days after the last regular registration day will be charged an additional $10 late service fee (total $20).

After 10 regular business days students will be charged a second additional $10 late service fee (total $30). After 15 regular business days students will be charged a fourth additional $10 late service fee (total $50), and may, at the discretion of the University, be withdrawn from school and assessed the appropriate fees as of the date dropped.

A $10 service fee is applicable to extension accounts and room and board charges which are not paid (or deferral arrangements made) within seven calendar days after the date payment was due.

### REINSTATEMENT FEE $30

A student withdrawn (or subject to withdrawal) for failure to pay appropriate fees who is reinstated for the semester will be charged a $30 reinstatement service fee.

### LATE REGISTRATION FEE $10

Students who do not advance register will be charged a $10 late registration fee.

### RETURNED CHECK SERVICE FEE POLICY

In the event a check given to the University in payment of initial fees and charges fails to clear the bank, the late registration service fee in effect at the time the check is redeemed (minimum $20) will be assessed, plus a $10 Returned Check Service Fee.

If the student responds promptly to the first notice regarding the returned check but cannot re-deem the check within a week, the $5 Delayed Payment Service Fee will be added. Any student who does not respond within seven days from the date of the first notice may be subject to withdrawal from the University and will be assessed an additional $10 Service Fee plus the $5 Delayed Payment Service Fee.

For other returned checks the service charge will be $10 if the check is made good after seven days from the date of notice and $20 if made good after seven days.

### TUTION PAYMENT PLANS

All student fees are due in advance and should be paid in full at registration each semester.

- **Prepayment Plan**
  - A prepayment plan has been developed to assist students with planning and budgeting their academic year expenses. Under the plan, students may choose the expenses they wish to prepay including room, board, tuition, and fees. Expenses can be prepaid over a period of eight months. Students and/or parents wishing to participate in the prepayment plan should contact the Bursar's Office for details.
- **Deferred Payment Policy**
  - Although fees, rent, and University expenses will be due and payable at the beginning of each semester, a full-time student in good financial standing with The University may request a deferment of up to 30% of the total charges for a period of up to four weeks from the first day of registration. All financial aid monies must be applied to fees before a deferment will be considered. For more details, contact the Bursar's Office.
  - **Room and Board Payment Plan**
    - Semester room and board charges may be paid in monthly installments. The first month's rent plus a deposit of one month's rent is due at registration. The remaining installments are due every four weeks. For more information and an application, contact the Bursar's Office.

### DEFERRED PAYMENT SERVICE FEE.... $10

(See Tuition Payment Plans)

This fee is applicable when the payment of any part of a student's account is deferred, including accounts which must be billed to outside agencies, organizations, and institutions.

It is the student's responsibility to take the initiative to pay all University obligations promptly.

### LATE PAYMENT SERVICE FEE..... $5

This fee is applicable when a supplemental charge (tuition, room and board adjustments, etc.) is not paid within seven calendar days after the date it is incurred. Students are expected to take the initiative to pay all University obligations promptly. The $10 deferred payment service fee will be added if it is necessary for the Bursar's Office to send a notice regarding non-payment of the adjustment.

### APPLICATION FEE $15

Each first-time undergraduate, graduate, and College of Law application for admission to The University of Tennessee, Knoxville must be accompanied by a fee of $15 before it will be processed. This fee is not refundable and is not required for transfers within the University system.

### CLEP FEES

$5 per credit hour for evaluation and proficiency credit.

### PROFICIENCY FEES

Fees for proficiency examinations are $15 per credit hour for undergraduates and $22 per credit hour for graduates. See page 37 for information on proficiency, and CLEP examinations.

### CO-OP REGISTRATION FEE $15

If credit is received, the appropriate semester hour rate will be added.

### AUDITOR'S FEE

Fees for courses being audited are the same as those taken for credit. Auditors do not take the examination, receive credit, or participate in class discussions.

### REFUND OF FEES FOR WITHDRAWAL

Once a schedule has been received by the student, withdrawal for the semester...
must be by official notification to the Withdrawal Office, 212 Student Services Building, whether or not fees have been paid, class attended, or the schedule is incomplete. Failure to attend a class does not automatically withdraw or drop a student from college or class.

The effective date of withdrawal is the date the Withdrawal Office is notified by completion of the official withdrawal request form. The appropriate percentage of fees will be charged unless this action is completed by the close of the last day designated for regular registration and before the first official day of classes for the semester. Failure to notify the Withdrawal Office promptly when withdrawing could result in a larger fee assessment. Withdrawal does not cancel fees and charges already incurred.

The drop/add procedure must not be used to withdraw from school for the semester. For a regular academic semester, withdrawal within 7 calendar days beginning with the first day following regular registration permits a 90 percent fee refund. Withdrawal between 8 and 14 calendar days following regular registration permits a 70 percent fee refund between 15 and 21 calendar days following regular registration permits a 50 percent fee refund. Withdrawal between 22 and 28 calendar days following regular registration permits a 30 percent fee refund. However, the withdrawal refund policy does not apply to off-campus Graduate Centers. Refunds, in accordance with the withdrawal refund policy, will be made after the drop deadline.

Part-time students may pay fees computed at the appropriate semester-hour rate as indicated above. No charge is made for courses dropped during the first 5 calendar days following regular registration. A 40 percent charge is made for courses dropped between 6 and 21 calendar days following regular registration, and a 100 percent charge is made for courses dropped after 21 days. Students who drop courses are eligible for a refund of the sum of the charges computed at the semester-hour rate for the hours continued plus the percentage assessed for the hours dropped in an amount less than that paid. A course on a student's schedule has been dropped, and the drop becomes effective, on the date that the change of registration form is processed on a drop/add terminal. Any refund due for dropped courses will be made after the final audit at the end of the semester.

Rental charges and adjustments will be determined by the Office of Residence Halls in accordance with the terms of the housing agreement or contract.

OTHER INFORMATION REGARDING FEES

All charges and refunds will be made to the nearest even dollar. All charges are subject to subsequent audit and verification. The University reserves the right to correct any error by appropriate additional charges or refunds.

All students are required to have a validated fee receipt to complete the registration procedure. This includes graduate and teaching assistants, staff, others whose fees were charged, or a refund. Withdrawal between 1 and 15 calendar days following registration service fees are also applicable to such students.

No student is authorized to attend courses who has not obtained a class schedule from the Office of the Dean of Admissions and Records and a validated fee receipt from the Bursar's Office.

The University is authorized by statute to withhold diplomas, grades, transcripts, and registration privileges on any student until student debt and obligations (other than Student Loan Fund notes which have not matured) owed to the University are satisfied.

Student Health Insurance. The University makes available, by contract with an insurance company, group health insurance expressly for students. The program is designed to supplement the care provided by the campus Student Health Service and provide a deposit of $50 each for uniform rates. Primary emphasis is placed on hospitalization benefits since in-patient care is not provided on campus. Students not otherwise covered are urged to avail themselves of this program. The deposit will be paid for hospital care is the student's own responsibility.

Information about the insurance is mailed following the company to the student's home and participation is solicited. Enrollment in the plan (or alternative coverage) is mandatory for international students. Students may obtain applications from the Student Health Service or the Office of International Student Affairs. In addition to international students, enrollment for insurance is not a part of registration for classes. NOTE: The family health insurance policy should be carefully reviewed since most family policies do not cover the dependent child after a given age, some as early as age nineteen.

Military Deposits. All students registering for Air Force ROTC courses are required to make a deposit of $50 each for uniform items issued to them. All students who are members of the band are required to make a deposit of $50 each to cover damage to or loss of property issued to them. The unused portion of the deposits will be returned to the student after completion of the training.

Identification Card. ID cards, issued during registration or anytime during the year to all students, are prepared during registration of the first day a student enrolls in the University and are validated each term thereafter. These cards are required for many purposes such as use of library facilities, check cashing facilities in the UT Bookstore, and admission to various athletic, social, and cultural events. These cards are non-transferable and may not be duplicated. A current valid fee receipt is necessary to obtain a new or replacement ID card.

IDENTIFICATION CARDS MUST BE CARRIED AT ALL TIMES FOR PURPOSES OF IDENTIFICATION. Lost or stolen cards should be replaced by contacting the Student ID Card Office, Room 344, University Center. There is a minimum charge for replacement or duplicate ID cards.

Arrangement for Banking while at UTK. Banking arrangements can be made with Knoxville banks. Some Knoxville banks require a waiting period of 10 days before honoring withdrawals, if the deposit is a personal check. New students who wish to open an account are solicited. Enrollment in the University Programs and Services Fee as noted above.

Although the summer term is divided into terms of varying lengths, tuition and fees are assessed at the regular semester hour rate, not to exceed the maximum charge for a complete regular semester.

The refund policy covering withdrawals and dropped courses for the summer term is based on the length of the term for the course(s) dropped. No refund is applicable to term courses dropped later than 14 calendar days after the regular registration day for the course(s) involved.

ESTIMATE OF EXPENSES

The following estimates of the necessary expenses for an undergraduate student during the 1988-89 academic year are average. Actual expenses vary greatly according to the habits of economy or extravagance of the individual student. The room and meal estimates are averages based on accommodations and 20-meal board plan in University facilities. Estimates for equivalent accommodations and meals elsewhere will usually be somewhat higher.

Undergraduate Maintenance Fee

$1,210

Programs and Services Fee

$196

Room and Meals

$2,850

Books, Supplies, Transportation, etc.

$1,065

Total for Tennessee Residents

$5,921

Add for Non-Resident Tuition

$2,604

$8,525

These figures give a fair idea of average expenses, exclusive of clothing, travel, and pocket money. Expenditures for extracurricular activities are not included in the above.

Student Financial Aid

The University of Tennessee, Knoxville offers a comprehensive program of financial aid for students who otherwise would not be able to attend. Through these federal, state, and University programs, an eligible student may receive one or more types of assistance. In order to receive Federal Financial Aid, students must be a U.S. citizen or classified as a permanent resident. All students must also comply with current Selective Service laws prior to receipt of aid. Additionally, all students receiving Federal Financial Aid are expected to maintain satisfactory academic progress toward a degree.

Financial need is defined as the difference between a family's resources and the total cost of attendance. If there is a deficit, the student is considered to be in need of financial assistance. UTK utilizes the need analysis documents of both College Scholarship Service (CSS) and American College Testing (ACT). Through the use of CSS's Financial Aid Form (FAF) or ACT's Family Financial Statement (FFS), the Financial Aid Office determines the amount the parents and student can contribute toward educational expenses. For more detailed

expenses by a personal check on a bank account already fully established.

SUMMER TERM FEES AND EXPENSES

Fees and expenses for the summer term are the same as for the other terms during the academic year with the exception of the University Programs and Services Fee as noted above.

Although the summer term is divided into terms of varying lengths, tuition and fees are assessed at the regular semester hour rate, not to exceed the maximum charge for a complete regular semester.

The refund policy covering withdrawals and dropped courses for the summer term is based on the length of the term for the course(s) dropped. No refund is applicable to term courses dropped later than 14 calendar days after the regular registration day for the course(s) involved.

ESTIMATE OF EXPENSES

The following estimates of the necessary expenses for an undergraduate student during the 1988-89 academic year are average. Actual expenses vary greatly according to the habits of economy or extravagance of the individual student. The room and meal estimates are averages based on accommodations and 20-meal board plan in University facilities. Estimates for equivalent accommodations and meals elsewhere will usually be somewhat higher.

Undergraduate Maintenance Fee

$1,210

Programs and Services Fee

$196

Room and Meals

$2,850

Books, Supplies, Transportation, etc.

$1,065

Total for Tennessee Residents

$5,921

Add for Non-Resident Tuition

$2,604

$8,525

These figures give a fair idea of average expenses, exclusive of clothing, travel, and pocket money. Expenditures for extracurricular activities are not included in the above.

Student Financial Aid

The University of Tennessee, Knoxville offers a comprehensive program of financial aid for students who otherwise would not be able to attend. Through these federal, state, and University programs, an eligible student may receive one or more types of assistance. In order to receive Federal Financial Aid, students must be a U.S. citizen or classified as a permanent resident. All students must also comply with current Selective Service laws prior to receipt of aid. Additionally, all students receiving Federal Financial Aid are expected to maintain satisfactory academic progress toward a degree.

Financial need is defined as the difference between a family's resources and the total cost of attendance. If there is a deficit, the student is considered to be in need of financial assistance. UTK utilizes the need analysis documents of both College Scholarship Service (CSS) and American College Testing (ACT). Through the use of CSS's Financial Aid Form (FAF) or ACT's Family Financial Statement (FFS), the Financial Aid Office determines the amount the parents and student can contribute toward educational expenses. For more detailed
information on the determination of need, please refer to the brochure entitled, "Financial Aid Information," available in the Financial Aid Office.

UTK has three types of financial aid—scholarships and grants, loans, and part-time employment. These may be awarded individually or in combination to meet the needs of the student. For detailed information on application procedures for each aid program, please refer to the brochure, "Financial Aid Information."

Deadlines for Applications

Because a student's family resources can change significantly during an academic year, UTK requires each student to apply annually for renewal of financial aid. Students desiring assistance based upon financial need (some scholarships, grants, loans, and employment) must submit either the Financial Aid Form or the Family Financial Statement. Students desiring only scholarships based upon academic merit are not required to complete any application forms.

UTK is not able to meet the financial needs of all applicants. Priority in awarding will be given to those students with financial aid files completed by the following dates: February 1 for undergraduate entering freshmen.

TRANSFER STUDENTS

UTK Financial Aid applicants who have attended another college or university are required to have a Financial Aid Transcript sent to UTK whether financial aid was previously received or not. Forms and further information on this requirement are available in the Financial Aid Office.

Scholarships and Grants

Scholarships. The UTK scholarship program is made possible through funds provided by the University, outside foundations, estates, private businesses, civic groups, individuals, and alumni. The majority of these scholarships are coordinated by the Financial Aid Office. The majority of undergraduate scholarships for currently enrolled students are administered in the various schools and departments.

Most scholarships are awarded to students who demonstrate strong academic achievement and a proven need for assistance. There is, however, an academic merit scholarship program which makes awards on the basis of academic achievement only. To compete for merit scholarships only, a student must be admitted or currently enrolled by the priority deadline indicated above. An application form or financial statement is not necessary. Academic achievement for entering freshmen students is judged by the applicant's secondary school academic record and scores on the American College Testing Battery (ACT) or Standard Achievement Test (SAT). Academic achievement for currently enrolled and transfer students is judged by the applicant's cumulative grade point average.

All scholarships, including merit scholarships, are highly competitive; despite the generosity of University friends and alumni, there are not enough funds to provide scholarship aid to all qualified students. Annual stipends range from $100 to $2100. Most scholarships awarded for one year, with the recipients competing for scholarships each year of enrollment.

 Pell Grant. This is a federal grant program for undergraduate students displaying a financial need. The Pell Grant is an entitlement program, all undergraduate students applying for need-based financial assistance from the University must apply for this program. Other forms of financial aid will not be extended to a student until eligibility for the Pell Grant has been determined.

When the program is fully funded, maximum grants are $1,800 and not more than one-half the cost of education. The above regulations and provisions of the Pell Grant Program are correct as of December 1983 and are subject to change by federal legislative action.

Supplemental Educational Opportunity Grants. This is a program of direct grants available to undergraduate students with exceptional financial need. Grants must be matched by an equal amount of assistance from other sources, i.e., scholarships, loans, and/or earnings from University part-time employment. An SEOG may not be less than $200 or more than $2,000. The above regulations and provisions of the Supplemental Educational Opportunity Grant are correct as of December 1983 and are subject to change by federal legislative action.

The Tennessee Student Assistance Award is designed to further educational opportunities to residents of the state who display a financial need for assistance. Awards cover one-half of the maintenance fees for Fall and Spring terms. Applicants must submit a copy of the Family Financial Aid Form/Family Financial Statement to the Tennessee Student Assistance Corporation.

More information may be obtained on this program by writing to the Tennessee Student Assistance Corporation, Capitol B-3 Towers, Suite 9, Nashville, Tennessee 37219.

Student Loans

National Direct Student Loan. Long-term loans are available to students who have a proven need for financial assistance. Loan repayment and interest payments on National Direct Student Loan (NDSL) are deferred as long as the individual remains in full-time attendance at an accredited institution of higher education in the United States. Repayment may be deferred for a period of three (3) years while the borrower is serving in the Armed Forces, Peace Corps, Vista, the U.S. Public Health Service, ACTION agency programs or as a full-time volunteer in a similar tax-exempt service organization, or while (s)he is temporarily, totally disabled or providing care for a spouse who is temporarily, totally disabled. Repayment may be deferred for two years while the borrower is serving an internship required for professional recognition. Interest is 5 percent per year on the unpaid balance. The maximum repayment period is 10 years with the current minimum monthly repayment of $30. If upon graduation the borrower becomes a full-time teacher in a public or non-profit school which is designated by the Secretary as having a high enrollment of low-income families or becomes a teacher of the handicapped, 15 percent of the total principal plus interest may be cancelled for the first and second year of teaching, 20 percent for the third and fourth years, and 30 percent for the fifth year. If after graduation the student becomes a staff member in a preschool program which is operated for a period comparable to a full school year, 15 percent of principal plus interest may be cancelled for each year of service. Cancellation for up to 50 percent of the loan may also be given at the rate of 12 1/2 percent of the total principal plus interest for each year of service in the Armed Forces in an area of hostility.

An undergraduate may borrow an annual maximum of $1,500 to an accumulated loan of $6,000. Graduate level students may borrow an annual maximum of $3,000 to an accumulated loan of $12,000 (including any amount borrowed, whichever is greater). The above regulations and provisions of the National Direct Student Loan Program are correct as of December 1982 and are subject to change by federal legislative action.

The University Student Loan. Student loans from University sources are available to currently enrolled students with a 2.0 or higher cumulative grade point average. A loan of an annual maximum of $1,300 can be extended as a 7 percent loan. A promissory note is required for each promissory note must be completed each loan a loan is received. The interest rate is 6 percent for the first year paid on July 1 of each year. Repayment of the amount borrowed plus any unpaid accrued interest shall begin on the first day of the fourth month following graduation, withdrawal, or transfer from Tennessee, Knoxville, or when the student ceases to carry at least one-half of the full-time academic workload. Minimum monthly installments will be $30 or 1/36th of the amount borrowed, whichever is greater. The borrower may choose to pay, without penalty, all or any part of the loan plus interest before entering the normal repayment period. The above regulations and provisions of the University Student Loan Program are correct as of December 1982 and are subject to change by action of the Board of Trustees.

Nursing Student Loan. These loans are available to students who are enrolled or admitted as students in a course of study leading to a baccalaureate degree in nursing and who demonstrate an exceptional financial need. The program provides a long-term loan at a 6 percent interest rate with repayment beginning nine months following termination of full-time study at an accredited school of nursing. Repayment may be deferred for a period of up to 3 years while the borrower is serving in the Armed Forces, Peace Corps, the National Oceanic and Atmospheric Administration Corps, or the U.S. Public Health Service or up to 5 years while the borrower is serving in the Armed Forces. Repayment may be deferred for a period of up to 3 years while the borrower is serving as a full-time teacher in a public or non-profit school which is designated by the Secretary as having a high enrollment of low-income families or becomes a teacher of the handicapped, 15 percent of the total principal plus interest may be cancelled for the first and second year of teaching, 20 percent for the third and fourth years, and 30 percent for the fifth year. If after graduation the student becomes a staff member in a preschool program which is operated for a period comparable to a full school year, 15 percent of principal plus interest may be cancelled for each year of service. Cancellation for up to 50 percent of the loan may also be given at the rate of 12 1/2 percent of the total principal plus interest for each year of service in the Armed Forces in an area of hostility.

The above regulations and provisions of the Nursing Student Loan Program are correct as of December 1983 and are subject to change by federal legislative action.

Health Professions Student Loan. This
loan is available to UTK students who are enrolled or admitted in a course of study leading to a degree of Doctor of Veterinary Medicine and who show exceptional financial need. The program provides a long-term, low-interest loan with repayment beginning 12 months following termination of full-time study at an accredited health professions school. Repayment is required for a period up to 3 years while the borrower is serving the Armed Forces, Peace Corps, the National Oceanic and Atmospheric Administration Corps, or the U.S. Public Health Service or for the years required for a full-time course of study leading to advanced professional training. Interest is 9 percent per year on the unpaid balance; the maximum repayment is 10 years. However, a minimum monthly payment may be required. The maximum loan available to an individual borrower in an academic year is $2,500 plus the cost of tuition. The above regulations and provisions of the Health Professions Student Aid Act of 1982 and are subject to change by federal legislative action.

**Guaranteed Student Loan.** This loan from banks, savings and loan associations, or credit unions through a state guaranteeing agency, may be able to assist with meeting educational expenses. To receive a loan, the student must be enrolled or admitted in at least a half-time enrollment during the program and be in good standing with the University. Applicants may be required to provide documentation indicating that they have financial need for these funds. Interest on such loans is paid by the federal government while the student is in attendance on at least a half-time basis. The student begins repayment of the amount borrowed plus 9 percent interest per year on the unpaid balance six months following termination of half-time enrollment or graduation. The maximum repayment period is 10 years and the minimum monthly payment is $50.

Repayment may be deferred for a period of one month while the borrower is serving in the Armed Forces, Peace Corps, Vista, the U.S. Public Health Service, Action agency programs or as a full-time volunteer in a similar tax-exempt service organization, or while (1) the borrower is disabled or (2) is providing care for a spouse who is temporarily totally disabled; repayment may be deferred for a period of two years while the borrower is serving an internship which is required to receive professional recognition. The maximum amount an undergraduate student may borrow for a 9-month period of enrollment is $2,500 up to an accumulated maximum of $12,500. The maximum amount a graduate student may borrow for a 9-month period of enrollment is $5,000 up to an accumulated maximum of $25,000 (including any amount borrowed as an undergraduate). The PLUS Loan Program. The PLUS Loan Program provides a source of loan funds to the parents of dependent undergraduate students or to the graduate and professional students. The parents can borrow up to $3,000 per year (not to exceed the cost of attendance minus other financial aid) for each dependent undergraduate child. Independent undergraduate students may borrow up to $2,500 per year; this amount includes any loan taken under the Guaranteed Student Loan Program (GSL) as well as PLUS loans. Graduate/professional students are entitled to borrow up to $3,000 per year and may also borrow up to $5,000 per year under the GSL provisions; therefore, they may borrow up to a total of $8,000 per year (not to exceed the need under both GSL and PLUS combined). The cumulative maximum loan amount that can be borrowed by a parent for each dependent undergraduate child is $15,000. Independent undergraduate students may borrow a cumulative maximum of $12,500 (including GSL loans). The cumulative maximum loan for graduate/professional students is $15,000 from PLUS, in addition to a maximum of $25,000 from GSL. The interest rate on PLUS loans is currently 12 percent and there is no federal interest subsidy. Parent borrowers must begin repayment on principal and interest within 60 days of loan disbursement. Student borrowers must begin repayment of interest within 60 days of disbursement, but there is no federal interest subsidy. Student borrowers must begin repayment of interest within 60 days of disbursement. Student borrowers may be required to provide documentation of their earning capacity.

Complete information on both loan programs is available at most banks and credit unions. In the state of Tennessee, write to the Tennessee Student Assistance Corporation, Capitol B-3 Towers, Suite 9, Nashville, Tennessee 37219.

**Student Employment**

Two employment programs are administered by the Financial Aid Office to help students find part-time employment.

**College Work-Study.** This is a federal work-study program which provides jobs for students who have financial need and who must earn a part of their educational expenses. Eligible students are placed in jobs on campus where they work approximately 15 hours per week. The rate of pay is at least the federal minimum wage.

**Student Employment Service** operates as a central referral agency. It coordinates listings of part-time employment from both University and private employers. The service may assist with the requests of students seeking part-time employment. Part-time jobs average from 15 to 20 hours per week. If part-time employment is a financial need to the student with a low grade point average, the student is advised to accept a job requiring fewer hours of work per week.

**Scholarships**

The University of Tennessee, Knoxville, wishes to express gratitude to the contributors and donors of the following scholarships:

- **AACE Scholarship Fund**
- **Acacia Fraternity-John L. Wooten, Jr. Scholarship Fund**
- **Roy & Mildred Acuff Scholarships in Band**
- **The Roy & Mildred Acuff Scholarships/Choral Program & UT Singers**
- **Agriculture Scholarship Fund**
- **Agricultural Communication Scholarship**
- **Ahmed Alsaaffar Graduate Scholarship**
- **Allor Memorial Scholarship & Emergency Studies Aid**
- **Akima Club Interior Design Scholarship**
- **Alcoa Foundation Scholarships**
- **Howard Aldmon Memorial Scholarship**
- **Clyde and Grace Alley, Sr. Agricultural Scholarship**
- **Allied Scholars Program**
- **Alpha Delta Kappa Scholarship**
- **Alpha Gamma Rho Scholarship**
- **Joe Mac Alpin Memorial Scholarship Fund**
- **Elise P. Alexander Scholarship-UTK**
- **American Express Scholarship Fund**
- **American Industry Hygiene Fellowship**
- **American Watercolor Scholarship**
- **Amoco Foundation**
- **Ida A. Anders Scholarship Fund**
- **Arthur Andersen Alumni Scholarship**
- **Anderson County Agricultural Scholarship**
- **Winifred A. Anderson MBA Fellowship**
- **Ray & Mary Andrus Memorial Fund for Excellence in Design**
- **Professor Duncan Angus Scholarship Fund**
- **Animal Husbandry Scholarship**
- **Anonymous Student Awards**
- **School of Architecture Scholarship**
- **Armistead Award in Agriculture**
- **Max B. & Laila Block Arnstein Scholarship**
- **J. Clayton Arnold Teaching Training Scholarship**
- **Art Department Scholarships & Aid**
- **Daniel Arthur Rehabilitation Center**
- **Captain Samuel E. Asher Memorial Scholarship**
- **Ashtee Grant-In-Aid Goswami**
- **Athletic Department Scholarship Fund**
- **Atlantic Richfield Fellowship**
- **E. H. (Buddy) Avery Athletic Scholarship Fund**
- **Baccalaureate Human Services Program Scholarship**
- **Kari F. Bahret Memorial Swimming Fund**
- **Hop Bailey, Sr. Scholarship Fund**
- **Howard H. Baker Memorial Law Scholarship Fund**
- **Lois Beatrice Dunn Barbee Scholarship**
- **Raymond Barnes Award in Woodwind**
- **Dorotha H. Barton Scholarship**
- **Bacon-Beard Scholarship in Philosophy Fund**
- **Bain-Swiggett Poetry Prize**
- **Porter Barnett Athletic Scholarship**
- **Colonel T. H. Barton Scholarship Fund**
- **Grace-Brodie Baynes Scholarship in Accounting**
- **Dr. & Mrs. Joe D. Beals Scholarship Fund**
- **C. Grier Beam Scholarship Fund**
- **Beard Scholarship in Philosophy Fund**
- **Harry E. Beardsen Memorial Scholarship in Engineering**
- **John Beatty Scholarship Award**
- **Hubert Bebb Scholarship Endowment Fund**
- **Fred E. Bell Athletic Department Scholarship Fund**
- **Roy F. & Addie J. Bell Scholarship Fund**
- **Cari M. Bennett Scholarship Fund**
- **Jim Bennett Memorial Development Fund**
- **Phil Sherman Bennett Prize**
- **Edna & King Benson Memorial Scholarship Fund**
- **Benwood Foundation Athletic Scholarship Fund**
- **Berkeley MBA Graduate Fellowship**
- **Berkeley Corporation Scholarships**
- **Beta Sigma Phi Scholarship**
- **Beta Theta Pi Memorial Scholarship Fund**
- **Better English Graduate Aid**
- **Better English Scholarship Fund**
- **Karl and Madira Bickel Scholarship in Music**
- **BIG Orange Swimming Scholarship**
- **J. J. Bird Memorial Scholarship in Agriculture**
- **Voula Bitzas Voice Scholarship**
- **Black Alumni Associates Scholarship**
- **Black Faculty/Staff Association Scholarship**
Robert A. Culver Scholarship in Business
Bernard I. Dahlgren Memorial Scholarship
Dairymen Inc. Scholarships
Mildred & H. D. Dale Scholarship
Stephanie Plaas Dalton Memorial Scholarship
John S. Daniel, Jr. Scholarship Fund
Carroll H. Davenport ATO Scholarship Fund
Grace O. Davis Memorial Scholarship
Capt. Herbert L. Davis Memorial Scholarship
Vic Davis Torchbearer Award Fund
Ella J. Dwyer Scholarship
Durant H. Daponte Dissert Fund
Davidson County Farm Bureau Agricultural Scholarship
Frank & Ruth DeFreise Scholarships
Billie Cannon Demont Graduate Scholarship
William Desmond Scholarship in Performing Arts
C. H. & K. W. Dixon, III Scholarship Fund
Dr. Kenneth G. Dixon Scholarship Fund
Grace Darden Doggett Scholarship Fund
Dow Scientific Arts Festival Scholarship
C. C. Doe-Silverman Memorial Athletic Scholarship
Mildred E. Doyle Scholarship Fund
Donegan Home Economics Club Scholarship Fund
Florence Dorn Piano Scholarship
Leslie & Rita Doss Athletic Scholarship
Dow Foundation Scholarships
Dow Chemical Scholarship in Chemical Engineering
F. M. Dryer Memorial Math Scholarship
Kleber E. Dunklin Athletic Scholarship
Nat Dunn Memorial in Urban Forestry Fund
Dupont Fellowships
East Tennessee OB-GYN Society Nursing Scholarship
Eastman Kodak Scholarship/Grant
Dorothy & Edgar Eaves Mathematics Scholarship
College of Education Alumni Scholarship
B. E. Edwards Agricultural Scholarship
Electrical Engineering Scholarship Fund
Elk River Resources MBA Fellowship
Arnett A. Elliott Fund
J. M. Elliott Scholarship in History & Political Science
The Kenneth M. Elliott Chemical Engineering Scholarship Endowment Fund
Marvin Ellision Memorial Athletic Scholarship
Emergency Intelligence Fund/Work Related Social Work School
Emergency Subsidies Aid Fund
Emory River Land Company Scholarship Fund
Engineering Scholarships and Fellowships
James D. Estep, Jr. Scholarship
Buck Ewing Graduate Scholarship Fund
John Richard Fain Scholarship
Farm Credit Services Scholarships
Emily Mahan Faust Graduate Fellowship
Dr. Mark P. Fecher Agriculture Scholarship
Martin J. Fearsick Memorial Scholarship
Fred Fields Theatre Award
Finer Family Scholarship Endowment Fund
Grace C. Folin Memorial Scholarship
Henry L. Ford Agriculture Scholarship Fund
The Foreign Studies Enrichment Fund in Social Work Scholarship
J. M. Elliott Scholarship in the School of Accounting
Robert L. Forester Memorial Scholarship Fund
E. Bruce & Mary E. Foster Scholarship
Liston Fox Memorial Scholarship Fund
Thomas E. Fox Scholarship Fund
Julius & Henrietta Freed Memorial Scholarship
Katherine A. & Allen Freed Scholarship
Gideon Fryer Scholarship Fund
Gottfried Galston Scholarship in Piano
Patricia & Joe Gamble Athletic Scholarship
Laurence Gardiner Agriculture Scholarship Fund
Andy Holt Scholarship Fund
Herbert Holt Scholarship Fund
Mary & Andy Holt Milan High School Scholarship
D. Frank Holtman Scholarship
Home Federal of Johnson City Scholarship
Hooters Club Scholarship
Horticulture Club Scholarships
J. Elmer Housley Scholarship Fund
Ina M. Housley Scholarship Fund
I. A. Howell & L. Beaasley Scholarship
Human Ecology General Scholarships
Human Ecology 60th Anniversary Scholarship
Jean Vandergriff Humphrey Humanitarian Fellowship
John F. Humphrey Metal Fabricators Inc. Scholarship
Joseph N. Hunter Memorial Law Scholarship
Champe S. Hyatt Athletic Scholarship
Arthur B. Hyman Law Scholarship Fund
IBM Graduate Fellowship Award
ICG Educational Fund, Inc. Scholarship
INPO Fellowship
Insurance Scholarship Fund
International Student Emergency Fund
IOP Excellence Endowment Fund
Italian Studies Awards
Jimmy Jackson Conservation Award
Owen James Memorial Agriculture Scholarship
Jordan Memorial Scholarship Fund
Edith N. Jessop Scholarship Funds
Richard Joel Scholarship Fund
Johnson County Agriculture Scholarship
Homer Johnson Scholarship Fund
Robert L. Johnson Handicap Scholarship
Sally Holdon Johnson Memorial Scholarship
Wander Wheeler Johnston Memorial Scholarship
Dean & Clara Jones Athletic Scholarship
Gippie Jones Scholarship Fund
L. E. & Emma E. Jones Scholarship Fund
Wilma H. Jordan MBA Fellowship
Journalism Scholarship
Edward E. Judy Scholarship
KAMA Scholarship Fund
Drudilla C. Kent Home Economics Education Scholarship
Kathy Kirby Music Scholarship Endowment Fund
Kayo Oil Company Scholarship Fund
Robert A. Keenan Scholarship
Keenen Chemistry Awards Fund
Kefauver-Burke Memorial Football Scholarship
Estes Kefauver Memorial Scholarship
Robert S. Kelly & Thomas H. Edwards Memorial Scholarship Fund
Clyde W. Key Memorial Fund
Gordon Keyes Agriculture Memorial Fund
Jack Kiger Scholarship in Accounting
Kimley-Horn Scholarship in Civil Engineering
John L. & Elizabeth V. Kind Scholarship Fund
E. Ward King Scholarship in Transportation
James M. King Scholarship
Philip C. Klipsch Memorial Law Fund
Knickerbocker Poetry Prize Fund
Knoxville Auxiliary Tennessee Bar Association Scholarship
Knoxville Auxiliary Tennessee Bar Law Review Award
Knoxville Athletic Scholarship
Knoxville News-Sentinel Scholarship in Advertising
Knoxville News-Sentinel Scholarship in Journalism
Knoxville Orthopedic Clinic Scholarship
Knoxville Watercolor Society Scholarship
Knoxville Academic Scholarship
Kodak Graduate Scholarship Fund
Stanley Kogut Memorial Scholarship Fund
Louis & Lillian Kotter Scholarship Fund
Willis F. Kraemer Scholarship Fund
Kranert Thrax Forest Ind Management Scholarship
Clarence C. Kuo Memorial Fund
Guy L. Lachine Award Fund
John Lain Physicist Award
Mr. & Mrs. John M. Lambert Scholarship Fund
Fred R. Langley Athletic Department Scholarship
Law College Scholarship Fund
College of Law Advocates Award
Fred R. Lawson Family Endowment Fund
Lucille & Herbert Lee Mathematics Scholarship
Mcafee Lee Jr. Memorial Scholarship Fund
W. O. Leffelt Scholarship Fund
Levi Strauss Foundation Graduate Fellowship
Abraham Levy Scholarship Fund
Thomas S. Lewis, Jr. Scholarship
Frederick Lewisohn Scholarship Fund
Lincoln City Alumni Agriculture Scholarship Fund
Lincoln City Farmers Co-op Scholarship
Joe P. Little Scholarship Fund
Rosaile Lockenbach Scholarship Fund
Col. Samuel H. Lockett Engineering Scholarship
Col. Samuel H. Lockett Memorial Scholarship
John R. & Sarah N. Long Scholarship Endowment
J. H. Loving Family Scholarship
Harold L. Luper Endowment Fund
R. N. Lyon Scholarship Fund
Macon County Farm Bureau Scholarship
Madden Memorial Prize Stock Judging
Madden Memorial Award Animal Husbandry
Mr. & Mrs. L. H. Oaks Scholarship
Magnavox-Mary Costa Scholarship in Voice
Frank Manning Memorial Scholarship Fund
Tom Marlow Scholarship in Agriculture
Dr. James D. Marsh Memorial Scholarship
Marsteller Foundation Fund
David & Beverly Martin Scholarship
Martin-Adams Memorial Scholarship
Martin-Marietta Scholarships
Martindale Athletic Scholarship
James F. Martinson Memorial Scholarship Fund
Maryville Daily Times Scholarship in Advertising
Maryville Daily Times Scholarship in Journalism
Mason Contractor Association of Chattanooga Scholarship
Masonry Insurers of Tennessee Merit Scholarship in Architecture
Mathematics Graduate Student Teaching Award
Mrs. J. Harvey Mathes DAFI Award
Maury County Farm Bureau Agriculture Scholarship
MBA Student Award
Edgar Wyman McCall Scholarship Fund
Dorothy Ryan McCarthy Scholarship Fund
A. E. McFarland Agriculture Memorial Scholarship
Charles J. McClung Prize
W. K. McClure Fund World Affairs
S. Lloyd McIntosh Scholarship Fund
McDonald’s Restaurants Scholarship Fund
F. Dwight McDonald Memorial Scholarship
McDowell Athletic Scholarship Fund
Gene McEver Athletic Scholarship Fund
Henry G. McGinley Merit Scholarship
Robert L. McKnight Memorial Law Scholarship
Helen Ross McNabb Mental Health Center
Lisa McReynolds Memorial Scholarship Award
Rhoda O. Meara Memorial Scholarship Fund
E. J. Meeman International Com Fellowship
Meigs County Agricultural Extension Scholarship
A. D. Melancon-Rumenim Scholarship Fund
Bernadine Meyer Professional Development Award
Michalopulos Memorial Scholarship
Mid-East Tennessee Social Health Care Works
Mike Millburn Memorial Scholarship
TVA & I. J. F. Mills Scholarship Fund
John M. & Grace G. Miller Fellowship
Carl W. Miller Memorial Student Assistance Fund
Charles Miller Clinical Achievement Fund
John W. Minchey Scholarship Endowment Fund
Minority Students Support Fund
Money Management Program
T. A. Mitchell Scholarship Fund
Susan L. Moeller Memorial Scholarship Fund
Phillips W. Moffitt Scholarship Fund
Chester A. Moloney Memorial Scholarship Fund
Monsanto Fellowship in Botany
Billy J. & Sylvia F. Moore Scholarship Endowment in Child and Family Studies
Fulton B. Moore III Memorial Scholarship Fund
George C. Moore Co. Scholarship Fund
Grace Moore Scholarship Music
Kylie Campbell Moore Scholarship
Richard L. Moore Jr. Graduate Fellowship
Moorman Scholarship Fund
Philip Morris USA Scholarship
Philip Morris Ag Ed Scholarship
Mabel Miller Morelock Scholarship Fund
Morton, Lewis, King and Krieg Scholarship Endowment Fund
A. H. Mcsor Memorial Scholarship in Classics
Flora B. & Bessie Abigal Moss Scholarship Fund
Flora B. & Bessie A. Moss Scholarship Fund
John D. Moss Alpha Gamma Rho Scholarship
W. F. & Golda Moss Agriculture Scholarship Fund
M. L. Mooney Scholarship
C & P Mountcastle, Jr. Band Scholarship Fund
P & C Mountcastle Athletic Scholarship Fund
R. Mountcastle Memorial Law Scholarship Fund
Mr. & Mrs. Herman Morris Mechanical Engineering Scholarship Endowment Fund
MSW Scholarship Fund
Mullins Alpha Gamma Rho Scholarship
NAC-Noritronics in Engineering
Jesse B. Naive Scholarship Fund
NAP Marketing Scholarship Fund
NAP Undergraduate Scholarship
Nashville Banner Scholarship
National Association of Women in Construction Scholarship Fund
Thomas P. Nelson, III Memorial Scholarship
Len B. & Nancy Lois Neubert Scholarship
Jake and Dorothy Newman Scholarship
General Bob Neyland Fund
Robert R. Neyland Academic Scholarship
J. H. Nicholson Memorial Scholarship Fund
Harry Nides Scholarship Fund
A. H. Nielsen College Scholars Scholarship
NFBA Education Foundation Scholarship
Mr. & Mrs. Seward Norris Athletic Scholarship
William B. Nowling Athletic Fund
Mickey O'Brien Scholarship
John Dail Ogle Scholarship
Ornamental Horticulture and Landscape Design Scholarship
Evelyn & Bergein Overholt Scholarship
Kathy Pako Memorial Scholarship Award
Mr. & Mrs. Maurice Parker Scholarship
Parke Memorial Scholarship
Pella Traveling Scholarship
The University

James Wolfkiew Scholarship in Graphic Art
Margaret Woodruff Award Fund
Arthur Brownlow Wood Memorial Scholarship

George & Martha Wood Scholarship Fund
Chancellor Glenn W. Woodlee Scholarship
John Wootten Scholarship Endowment Fund
Working Students Assistance Fund
Senator J. Parks Worley Scholarship Fund
Jack Wright Memorial Scholarship Fund
Gerti Wunderlich Fund in German
Jack York & Scott Kendall Scholarship in Finance
Edwin F. Zwicker Memorial Scholarship Fund

Honors and Awards

Dean's List.

Public announcement of students passing a semester's work "Summa cum laude" (3.65 through 3.79), "Magna cum laude" (3.50 through 3.64), or "Cum laude" (3.00 through 3.49). To be eligible, a student must complete at least 12 hours, not counting work taken on a satisfactory/no credit basis.

The honors and awards available to students at UTK are listed with donors below; the right not to award any of the honors or awards listed herein is reserved to The University of Tennessee, Knoxville.

Victor M. Davis Awards. Granted each year to juniors who demonstrate exceptional campus leadership.

College of Agriculture

The American Society of Agricultural Engineers each year selects an outstanding agricultural engineering student for the ASAE Student Honor Award. Based on scholarship, activities, and community contributions, the award consists of a key and certificate.

The American Society of Agronomy makes available the M. Jacob Animal Husbandry Award for an outstanding senior in the Department of Plant and Soil Science who has a superior academic record and displays evidence of high potential in this field.

The American Society of Animal Science awards scholarship medals and embossed certificates to sophomores, junior, and senior students in the Department of Animal Science who are of good moral character and rank scholastically in the top 10 percent of their class.

The Block and Bridge Club recognizes students in Animal Science who are successful in their academic program, to make unusual contributions to the club's program, and show evidence of leadership in their chosen field.

Jesse David Cliett Memorial Scholarship.

The Danforth Foundation Inc. provides a fellowship to support two weeks of leadership training at Camp Miniwanna on the shores of Lake Michigan for an outstanding agricultural student following the freshman year.

M. Jacob Animal Husbandry Award
Given by East Tennessee Packing Company.
Kentucky-Tennessee Society of American Foresters Scholarship. Awarded annually to the junior forestry student with the highest scholastic average. The award is in cash and a framed certificate.

J. B. Madden Memorial Foundation Fund. Established by J. B. Madden family, for prizes in wood judging competition.

Student-Faculty Council Awards. Each year the College of Agriculture Student-Faculty Council presents plaques to four seniors, three juniors, and two sophomore students in the college judged to be outstanding. Selection is based on scholarship, character, and demonstrated leadership ability. Plaques are also presented to the two students in each class with the highest scholastic averages.

Tennessee Poultry Improvement Board Awards. Awards to students competing in poultry and poultry products judging.

School of Architecture

General Shale Products Corporation Fellowship Fund. Scholarships awarded to scholastically outstanding fifth year students.

Goodstein, Hahn, Shor & Associates Draftsmanship Award. Awarded each spring to architecture student excelling in draftsman ship.

Malcolm Rice Achievement Award. Awarded annually to the third-year student showing most improvement with design studio.

Mason Contractors Association of Chattanooga Scholarship. Awarded to a fifth-year architecture student from Hamilton County, Tennessee, or if none exists, from a bordering county in the State of Tennessee.

Ray and Mary Evelyn Andrus Award. Awarded to outstanding student in design.

College of Business Administration

Beta Gamma Sigma Awards. Plaques and awards given to the freshman and sophomore students with highest grade point averages by this national business honorary society.

Delta Sigma Pi Scholarship Key. Given by international fraternity to male senior with highest four-year scholastic average.

Liston M. Fox Memorial Undergraduate Scholarship. Awarded annually to the rising sophomore who is being admitted to a major in the College of Business Administration.

John Fred Holly, Jr. A memorial scholarship endowed by parents.

Knoxville Sales Executive Club Award. Plaque plus dinner in student's honor, to outstanding senior marketing major.

John M. and Suzanne W. Larsen Phi Kappa Phi Scholarship Award. Awarded to the College of Business Administration junior initiates with the highest grade point averages.

John M. and Suzanne W. Larsen Beta Gamma Sigma Outstanding Male and Female Awards. Awarded to the male and female College of Business Administration junior initiates with the highest grade point averages.

James R. and Dorothy Newman Transportation Scholarship Fund. Awarded on an annual basis to a student chosen by the scholarship committee for the department.

Fulton Beverly Moore, III Memorial Real Estate Scholarship. A memorial scholarship fund endowed by the parents.

Pi Omega Pi Scholarship Key. Key to senior business education major with highest 7 semester scholastic average.

Shell Companies Foundation Scholarship/Transportation and Logistics, Smoky Mountain Chapter of the Bank Administration Institute. Cash awarded to a junior or senior who is a resident of Tennessee and majoring in banking.

Tennessee Eastman Scholarship in Office Administration. Awarded to undergraduate students only. Recipients shall be selected on the basis of academic excellence.

William Way, Jr. Memorial Award. Gold medal or key to senior transportation major with highest academic average.

Zeta Lambda Chapter of Alpha Kappa Psi. Professional business fraternity, awards annually the Alpha Kappa Psi Scholarship Award to the male student pursuing a degree in business who has attained the highest scholastic average for three years of collegiate work in this University.

Communications

Advertising Club of St. Louis College Award Citation. Given to outstanding man and woman graduating in Department of Advertising.

Alcoa Foundation Scholarship. Given to an outstanding undergraduate planning a career in public relations.

Alcoa Foundation Minority Scholarship. Given to an outstanding undergraduate minority student in the College.

Karl and Madira Bickel Scholarships.
Freshman, upperclass and doctoral scholarships. Open to all students showing academic performance (3.00 or B or better), professional promise, and need.

Edward J. Meeman International Communications Fellowships. To two outstanding graduate students from other countries.

Greater Knoxville Advertising Club Scholarship Fund. Awarded to an undergraduate student in advertising.

Greater Knoxville Ad Club Award. Awarded to outstanding graduate in Department of Advertising.

Maryville-Alcoa Daily Times Scholarship in Advertising. Awarded to juniors or seniors majoring in a communication field.

Maryville-Alcoa Daily Times Scholarship in Journalism. Awarded to juniors or seniors majoring in journalism.

Hoyt B. Wooten Award. Given by family. Plaque and basic broadcasting library awarded to the outstanding senior in recognition of scholarship and broadcasting achievement.

Pi Omega Pi Scholarship Key. Key to senior business education major with highest 7 semester scholastic average.

Shell Companies Foundation Scholarship/Transportation and Logistics, Smoky Mountain Chapter of the Bank Administration Institute. Cash awarded to a junior or senior who is a resident of Tennessee and majoring in banking.

Tennessee Eastman Scholarship in Office Administration. Awarded to undergraduate students only. Recipients shall be selected on the basis of academic excellence.

William Way, Jr. Memorial Award. Gold medal or key to senior transportation major with highest academic average.

Zeta Lambda Chapter of Alpha Kappa Psi. Professional business fraternity, awards annually the Alpha Kappa Psi Scholarship Award to the male student pursuing a degree in business who has attained the highest scholastic average for three years of collegiate work in this University.

Communications

Advertising Club of St. Louis College Award Citation. Given to outstanding man and woman graduating in Department of Advertising.

Alcoa Foundation Scholarship. Given to an outstanding undergraduate planning a career in public relations.

Alcoa Foundation Minority Scholarship. Given to an outstanding undergraduate minority student in the College.

Karl and Madira Bickel Scholarships.
Freshman, upperclass and doctoral scholarships. Open to all students showing academic performance (3.00 or B or better), professional promise, and need.

Edward J. Meeman International Communications Fellowships. To two outstanding graduate students from other countries.

Greater Knoxville Advertising Club Scholarship Fund. Awarded to an undergraduate student in advertising.

Greater Knoxville Ad Club Award. Awarded to outstanding graduate in Department of Advertising.

Maryville-Alcoa Daily Times Scholarship in Advertising. Awarded to juniors or seniors majoring in a communication field.

Maryville-Alcoa Daily Times Scholarship in Journalism. Awarded to juniors or seniors majoring in journalism.

Hoyt B. Wooten Award. Given by family. Plaque and basic broadcasting library awarded to the outstanding senior in recognition of scholarship and broadcasting achievement.

Pi Omega Pi Scholarship Key. Key to senior business education major with highest 7 semester scholastic average.

Shell Companies Foundation Scholarship/Transportation and Logistics, Smoky Mountain Chapter of the Bank Administration Institute. Cash awarded to a junior or senior who is a resident of Tennessee and majoring in banking.

Tennessee Eastman Scholarship in Office Administration. Awarded to undergraduate students only. Recipients shall be selected on the basis of academic excellence.

William Way, Jr. Memorial Award. Gold medal or key to senior transportation major with highest academic average.

Zeta Lambda Chapter of Alpha Kappa Psi. Professional business fraternity, awards annually the Alpha Kappa Psi Scholarship Award to the male student pursuing a degree in business who has attained the highest scholastic average for three years of collegiate work in this University.
Samie Lynn Puett Award. Given to outstanding student in the public relations sequence in the School of Journalism.

Tom Siler Scholarship. Given by East Tennessee Professional Chapter of The Society of Professional Journalists, Sigma Delta Chi, to an outstanding student in the news-editorial sequence of the School of Journalism.

Society of Professional Journalists Scholarships. Given by East Tennessee professional chapter of Sigma Delta Chi to news-editorial journalism or broadcasting news/public affairs majors. Funds are raised by the chapter’s annual Front Page Follies and presented in the names of Tom Siler and Escar Thompson, distinguished East Tennessee journalists.

Society of Professional Journalists, Sigma Delta Chi Outstanding Graduate Citation. Certificate given by professional journalism society to outstanding graduate.

Willis C. Tucker Scholarship Award. Given by Society of Professional Journalists, Sigma Delta Chi. Silver bowl or key to graduating senior with highest academic average.

College of Education

Knoxville Branch of American Association of University Women Award. Membership to senior women selected on basis of scholarship and leadership qualities.

New Repertory Dance Company Scholarship Fund. Awarded to dance majors.

Pi Lambda Theta Fraternity Scholarship Key. Key, to junior woman showing most outstanding qualities for professional leadership in education, attaining high scholastic average through junior year.

College of Engineering

American Association of Cost Engineers Scholarship

American Chemical Society. East Tennessee Section of American Chemical Society offers an award each year to an outstanding senior in chemical engineering.

American Institute of Aeronautics and Astronautics. Award of one-year membership to a branch member whose performance scholastically and in branch activities has been outstanding.

American Institute of Chemical Engineers Professional Achievement Award. Given to chemical engineering senior who has contributed most to student chapter.

Robert F. Gunlocke Scholarship. Given by Robert F. Gunlocke to a standing senior industrial engineering major.

Asian Institute of Chemical Engineers Award. A cash award given annually to outstanding undergraduate or graduate student in the field of chemical engineering.

Billy J. and Sylvia F. Moore Scholarship Fund. A cash award given to one or more upperclass students majoring in electrical engineering, preferably seniors who have participated in the engineering coop program. Based on both academic achievement and need.

East Tennessee Chapter of American Institute of Industrial Engineers Award. Award of handbook and plaque to the outstanding senior industrial engineering major.

Electrical Engineering Leadership Award. One or more cash awards may be made annually to juniors or seniors in electrical engineering who have exhibited outstanding leadership ability and have maintained a B average or above.

H. L. Weissberg Memorial Award. An annual award given by the department to an outstanding senior major in engineering science. Letter of recognition, plaque.

J. Mac Tucker Outstanding Senior Award. Recognition by the Student Section of the American Society of Mechanical Engineers of the outstanding senior in the Department of Mechanical and Aerospace Engineering. Award is based on leadership, scholarship, and service. Name on plaque.

Jere B. Ford Memorial Scholarship. A cash award presented annually by the Tennessee Roadbuilders Association to an outstanding civil engineering student.

Joel F. Bailey Award. Award by Tennessee Tau Eta Chapter of Pi Tau Sigma to the student in mechanical engineering graduating with the highest scholastic record.

Kimeley-Horn Scholarship in Civil Engineering. Proctor & Gamble Minority Chemical Engineering Scholarship Fund. Awards can be made to minority chemical engineering students who are either United States citizens or USA permanent-visa holders.

John Mittenley Scholarship Endowment Fund. Cash award in recognition of scholastic achievement and evidence of high potential as a future civil engineer, to one or more upperclass civil engineering students as selected by the civil engineering faculty.

L. Raymon Shobe Excellence in Engineering Mechanics Award. Given annually to student with outstanding record of undergraduate study in engineering mechanics at UTK. Letter, plaque.

Taux Beta Pi Outstanding Senior Award. Given by the Tennessee Alpha Chapter. Recognition of a senior in engineering who displays outstanding service, leadership, and scholarship. Name on plaque.

Texas Philanthropic Foundation University of Tennessee Book and Supply Store Award. An electronic calculator awarded each term. Chosen by departmental committees in rotation. Given to upperclass student on the basis of need and demonstrated academic performance.

WATTeC UT Engineering Scholarship

College of Human Ecology

Akima Club Interior Design Scholarship. Awarded to student enrolled in interior design, in-state tuition.


Dorothea B. Barton Scholarship. Awarded to an outstanding junior. Variable.

Jack Daniel Distillery Scholarship. Awarded to student enrolled in the tourism, food and lodging administration program.

Frank and Ruth Liggett DeFriese Scholarship. Awarded to a home economics student biannually.

Donelson Home Economists General Foods Fellowship. Awarded to home economics doctoral student.

Irene Hill Greene and Condon L. Greene Memorial Scholarship. Awarded to student from Anderson County.

Jessie W. Harris Scholarship. Awarded to sophomore, junior, and senior with highest scholastic records.

Holiday Inns, Inc. Tourism, Food and Lodging Scholarship Fund. Awarded to 10 students majoring in the four year B.S. program. Variable.

Hawkins County Farm Bureau. Awarded to a freshman from Hawkins County.

Howard Johnson’s Scholarship. Awarded to student enrolled in tourism, food and lodging administration program.

Tennessee Howard Johnson’s Scholarship. Awarded to student enrolled in the tourism, food and lodging program.

Greater Knoxville Hotel-Motel Association Scholarship. Awarded to student enrolled in tourism, food and lodging administration program.

Lewisohn Scholarships. Endowed by Frederick Lewisohn. Ten, variable.

F. Dwight McDonald Scholarship. Awarded to an entering freshman.

Memphis Hotel-Motel Association Scholarship. Awarded to student enrolled in the tourism, food and lodging administration program.

Nashville Hotel-Motel Association Scholarship. Awarded to student enrolled in the tourism, food and lodging administration program.

Nellie Crooke Award. Award of reference books and journals to an outstanding junior.

National Institute of the Foodservice Industry. Awarded to student enrolled in the tourism, food and lodging administration program.

Nicolson Nu Sophomore Scholarship Award. Awarded by the home economics honor fraternity.

Roane County Council of Home Demonstration Clubs. Awarded to freshman from Roane County.

Schenel Industries Scholarship. Awarded to student enrolled in the tourism, food and lodging administration program.

Scruggs Restaurant Equipment, Inc. Scholarship. Awarded to student enrolled in tourism, food and lodging administration program.

Standard Textile Scholarship. Awarded to student enrolled in tourism, food and lodging administration program.

Statler Foundation Scholarship. Awarded to hospitality students throughout the United States.

Stouffer Foods Corp. Scholarship.
Tennessee Chapter of Future Homemakers of America
Tennessee Dietetic Association. Awarded to upperclass student enrolled in dietetics program.
Tennessee Rehabilitation Corporation Scholarships. Ten.
Tennessee Restaurant Association Scholarship. Awarded to student enrolled in tourism, food and lodging administration program.
University of Tennessee General Scholarships. Variable.
White Stores Scholarship. Awarded to an entering freshman.

College of Liberal Arts
John M. Allen Mathematics Prize. Medal, to outstanding freshman mathematics student. Prize is determined by competitive examination.

Bain-Swiggart Poetry Prize. For excellence in writing conventional forms of English poetry.
Philo Sherman Bennett Prize. Established by the late Honorable William J. Bryan, cash award to student submitting best essay discussing principles of free government.

Bildglosia Award. Plaque, to the outstanding biology senior.

Eleanor A. Burke Award. For excellence in expository writing. Founded in honor of the daughter of a former head of the English department.

Captain Robert A. Burke Award. For excellence in English prose fiction. Founded in honor of the son of a former head of the English department.

Chi Omega Prize. Given by Pi Chapter of sorority to the senior woman majoring in the social sciences, who has the greatest proficiency in the subject.

Dorothea and Edgar D. Eaves Outstanding Teaching Award and Summer Fellowship Awards. Awarded each year to the G. T. A. in mathematics with previous teaching experience who is named the outstanding teacher of the year in his or her group. Cash award each year to beginning second and third-year teachers for teaching excellence and one based on financial need. Subjects are set by the Department of Speech Communication.

Mrs. J. Harvey Mathes Tennessee D. A. R. American History Scholarship. Given to a woman student selected by the Department of History.

A. D. Melaven-Rhenium Scholarships. For students in the Bachelor of Science in Chemistry curriculum. Established from funds obtained by the sale of rhenium metal and rhenium compounds prepared by procedures devised by Professor A. D. Melaven. Cash awards given each year to outstanding students.

Judson H. Robertson Award in Analytical Chemistry. Endowment established by family and friends of the late Professor Robertson. Given to a student with highest scholastic average in sophomore analytical chemistry courses.

Benedicte Schmitt History Scholarships. Two scholarships for academic excellence and one based on financial need. History majors only.

Ruth Stephens Award in International Relations and International Law. Established by the late Mr. and Mrs. Oscar Handly, Knoxville. Given to the student showing greatest knowledge of international relations or international law.

Ruth Stephens History Scholarship. Given to history major for academic excellence.

Ruth Strong Medal. Established by the late Benjamin Rush Strong, Knoxville. Medal to student submitting best essay on "The Value of Truth".

Lee L. Verstandig Fellowship in History. Cash award to an outstanding student in history.

Pauline Capell Walker Prize in French. Given to senior French major with greatest mastery of language, literature, and civilization of France.


College of Nursing
Kama Scholarship Fund. Awarded to students attending nursing schools at East Tennessee Baptist Hospital, Fort Sanders Presbyterian Hospital, St. Mary's Hospital, and the University of Tennessee College of Nursing.

Honorary and Professional Societies
A number of honorary and professional societies have chapters at The University of Tennessee, Knoxville. Membership in these organizations is generally based on the initiate's good character, professed interest in the chosen field, leadership characteristics, and high scholastic record.

Those honorary societies, both national and local, with chapters at UTK are:

Alpha Chi Sigma, for chemical engineering and chemistry students. Student must have a grade point average of 2.5 in chemistry and/or chemical engineering combined and 2.5 in all academic work and must have been enrolled in this school for at least one semester. Members are elected by others in the respective class.

Alpha Epsilon Delta, for students preparing for study in medicine. Students with minimum 3.0 average in all courses may be pledged at the end of their first year in the University. They may be initiated in the next year if an appropriate overall average has been maintained.

Alpha Mu Chapter, Eta Sigma Gamma. Students with a major or minor in health and safety are eligible for membership. Undergraduate candidates for membership must have a 2.5 cumulative average, and each graduate candidate must have graduated with a 2.7 cumulative average or must have a 3.4 graduate cumulative average.

Alpha Phi Omega. Any undergraduate who is a former Scout is eligible for membership. A pledge must have completed one semester of academic work with and average grade of 2.0 before being eligible for initiation.

Alpha Pi Mu, for industrial engineering students. Prospective members are chosen from the upper one-third of the senior class and upper two-thirds of the junior class. A minimum 2.5 average is required.

Alpha Zeta, agricultural fraternity for juniors and seniors. Prospective members must be among the upper two-fifths of their respective classes and must show leadership ability.

Beta Alpha Psi, for accounting students. Any undergraduate or graduate accounting major registered in advanced accounting subjects and having a minimum B-minus average in all subjects, is eligible for active membership.

Beta Gamma Sigma, national business honorary society for undergraduate students with a major in a College of Business Administration curriculum. Additional criteria pertain to number of business administration credit hours taken and number of transfer hours/previous academic performance for transfer students. MBA students must be in the top 20 percent of graduating class, and DBA students must complete all degree requirements with a minimum GPA of 3.50.

Chi Epsilon, for civil engineering students. Junior and senior civil engineering majors ranking in the highest one-third of their respective class are eligible for membership.

Delta Mu Alpha, for transportation students. Prospective members must have completed the basic transportation courses and have a minimum 2.3 average.

Delta Pi Epsilon, for business education graduate students. Prospective members...
must have a minimum 3.4 average for nine hours of graduate work in business education. Candidates are required to show evidence that they have satisfied a minimum of 30 semester hours of University credit with a scholastic average of at least 2.5 is required for initiation.

**Delta Sigma Pi**, professional business fraternity for students enrolled in the College of Business Administration. A minimum of 3.0 grade point average in all University work and a minimum 3.2 average in Spanish and must have completed at least 30 hours of credit, including a B-minus average in all French courses taken. Prospective members must have a minimum grade point average of 3.5 the first year while carrying a full academic load. All candidates must rank in upper 20 percent of their respective class.

**Iota Lambda Sigma**, for industrial education students. No one may be initiated until he has acquired a minimum of 9 hours of industrial education courses with at least a 3.0. Prospective members must be seniors ranking among the upper 10 percent of their respective class.

**Pi Kappa Lambda**, for students in music and all music disciplines. Membership is open to male student enrolled in the College of Liberal Arts, with a minimum 3.0 average in all University work and a minimum 3.2 average in Spanish and must have completed at least 30 hours of credit, including a B-minus average in all French courses taken. Prospective members must have a minimum grade point average of 3.5 the first year while carrying a full academic load. All candidates must rank in upper 20 percent of their respective class.

**Golden Key National Honor Society**, national academic honor society for students in all fields of study. Induction is held in the fall or spring for invited students who have maintained a cumulative grade point average of 3.5 in all University work and a minimum 3.2 average in Spanish and must have completed at least 30 hours of credit, including a B-minus average in all French courses taken. Prospective members must have a minimum grade point average of 3.5 the first year while carrying a full academic load. All candidates must rank in upper 20 percent of their respective class.

**Omega Alpha Delta**, professional honor society for students in their third year of study of Slavic literature, culture, or related subjects with a minimum average grade of 85 percent or its letter or point equivalent in the subject area and an 80 percent overall average. Members are chosen from the undergraduate and graduate students and faculty of the institution.

**Omicron Delta Epsilon**, honor society in economics for students and faculty. Student members must have a minimum 3.0 overall average.

**Omicron Nu**, for home economics students. Members are elected from the upper one-fourth of the senior class and upper one-fifth of the junior class, not to exceed 20 percent of any group.

**Order of the Coif**, for law students.

**Phi Alpha Delta**, for law students.

**Phi Beta Delta Lambda** professional fraternity for students enrolled in the College of Business Administration. Prospective members must be enrolled in at least three hours in the college with a minimum of 2.2 overall average.

**Phi Beta Kappa**, the oldest national academic honorary society, for liberal arts students ranking among the upper 10 percent of their respective class. Membership is by invitation, based on scholarship and interest.

**Phi Lambda Chi**, national honor society for students in music education. Prospective members must have a minimum 2.75 average for nine hours of credit, including a B-minus average in all French courses taken. Prospective members must have completed at least 30 hours of credit, including a B-minus average in all French courses taken. Prospective members must have a minimum grade point average of 3.5 the first year while carrying a full academic load. All candidates must rank in upper 20 percent of their respective class.

**Pi Kappa Lambda**, for students in music and all music disciplines. Membership is open to male student enrolled in the College of Liberal Arts, with a minimum 3.0 average in all University work and a minimum 3.2 average in Spanish and must have completed at least 30 hours of credit, including a B-minus average in all French courses taken. Prospective members must have a minimum grade point average of 3.5 the first year while carrying a full academic load. All candidates must rank in upper 20 percent of their respective class.

**Torchbearers** epitomize the finest qualities of The University of Tennessee student. Each year the seniors who have contributed the most to the University during their college careers are selected as Torchbearers. Selection is based on scholarship, activities, character, and service.
Admission to The University of Tennessee, Knoxville

As the state’s largest and most comprehensive university, The University of Tennessee, Knoxville seeks to provide high quality educational programs for all students who have the academic ability and motivation to adapt to and profit from a baccalaureate education. Similar opportunities are available at the graduate level, see the Graduate Catalog. While the majority of students at UTK are residents of the State of Tennessee, the university welcomes qualified students from other states and from outside the United States. Students from a variety of cultures add richness and diversity to the total educational experience for all.

The curricula, supporting programs, and administrative structure at UTK are designed to serve students bringing with them a variety of academic backgrounds and experience.

Honors courses and sections and special programs challenge a student who previously has demonstrated outstanding overall academic attainment or skills in a particular subject area. However, experience has shown that many students whose past academic records are average can achieve a high level of attainment. This achievement is of vital importance to the student, the University, and the State. The student’s motivation must be sufficiently strong and the University must provide the necessary attention of concerned teachers and advisors. UTK encourages persons whose interests and goals have changed with time. Many adults who have little or no college work find that, after some years in the working world, they are both willing and able to take advantage of the study opportunities provided by a major university such as UTK. Others who have completed a program of study or have received a degree may desire to expand their knowledge or prepare for a different vocation and may re-enroll or transfer previous credits to UTK.

ADMISSION TO THE UNIVERSITY AND ASSOCIATION WITH A COLLEGE OR SCHOOL

There are two distinct steps in the acceptance of a student by the University. These steps can be separated in time or may occur simultaneously. The initial step is admission to The University of Tennessee, Knoxville. This admission action occurs only once, unless a student leaves the University for some reason and then returns after a time lapse. The second step involves dual selection.

1. selection by the student of the school or college offering the desired educational program, and

2. selection by a college or school of those students who have the necessary academic preparation for the programs in the college and who can be adequately accommodated by the available staff, space, and facilities.

These matching processes occur continuously in most colleges and schools. A student may be admitted to the University, select a particular college, and be accepted into that college all at the same time when all conditions are favorable.

Many students are undecided about a career. With careful planning, a student can explore alternatives and accomplish some of these objectives with little, if any, loss of time.

All qualified students are initially admitted to The University of Tennessee, Knoxville. Admission to UTK entitles one to take many courses and to participate in programs which do not lead to an academic degree. However, completion of a baccalaureate degree requires the selection of, and acceptance by, one of the colleges on the Knoxville campus which grants undergraduate degrees. These units and the various degrees available are summarized subsequently in Table IV.

Admission as a University student does not guarantee acceptance by any particular school or college, since each degree-granting unit defines its own standards and prerequisites as presented subsequently. A student must associate with a college or school in order to receive a degree, since there is no general university degree.

A student is expected to complete the association process at a time well in advance of the completion of degree requirements. The limit to the amount of time students may remain as University Students is included in the section on general regulations. Many upper division courses are available only to students who have been accepted into a particular major. Non-majors may not be allowed to take such courses. A University student should contact the college with which association is desired to determine the latest time (in terms of coursework required for the degree) at which association is possible.

REQUIREMENTS FOR ADMISSION AS A UTK UNDERGRADUATE STUDENT

Anyone interested in attending UTK as an undergraduate student should contact the Admissions Office, 320 Student Services Building, for application forms and informational booklets. Return of completed forms and transcripts to the Admissions Office results in the formation of an admissions file for each applicant. When a file is complete, an admissions decision is made by personnel in the Admissions Office, and the applicant is notified of the decision by mail.

Freshman Admission

For admission purposes, a student is classified as an entering freshman if:

1. the student has graduated from high school; and

2. the total of attempted college-level credit work at an accredited institution after graduation from high school has been less than 12 hours, excluding summer school and college courses taken while still in high school.

26
Students are encouraged to apply as early as possible. Early admission contributes to better orientation, course planning, class scheduling and financial aid consideration. High school students planning to apply as freshmen should submit applications as soon as possible after completion of the junior year. Applications for admission are available from many secondary school guidance counselors, admission offices and from the Office of Admissions, UTK, 320 Student Services, Knoxville, TN 37996-0230.

The University seeks to admit those students who can provide evidence of the intellectual performance and potential that will permit them to benefit from UTK programs. In 1986 the freshman class, had an average ACT score of 21.4 or an average SAT of approximately 1000 and a high school GPA of 3.0 or higher.

Currently, a prospective student must have completed at least three (3) units of high school English. Beginning Fall 1989, the following high school courses are required:

- four (4) units of English;
- three (3) units of math including two (2) units of algebra and one (1) unit of advanced math, trigonometry, geometry, or calculus (The College of Engineering requires 3 1/2 years of math including trigonometry and geometry as prerequisites for all courses);
- two (2) units of natural sciences including at least one (1) unit of biology, chemistry, or physics;
- one (1) unit of American history;
- one (1) unit of European or world history or world geography;
- two (2) units of a single foreign language.

Applicants with foreign language deficiencies from those high schools that do not offer the required two years of a single foreign language may, with proper approvals, be admitted to the University. However, this deficiency must be eliminated during the first two years (60 semester hours) of University work; courses taken to satisfy foreign language deficiencies may be taken only as electives.

In addition to the application form, a freshman applicant must:

1. Have a final transcript of all high school credits sent to the Admissions Office. If any courses have been taken for college credit, the institution(s) granting credit must be contacted and asked to send an official transcript to the UTK Admissions Office as a part of the admission file. Students who have achieved a high school diploma through the General Education Development (GED) Test also must have the GED scores sent. Older than average students may be given special consideration. (See re-entry student applicants below.)

2. Send the score report of the American College Testing program (ACT) or the Scholastic Aptitude Test (SAT) to the Admissions Office. The score report is a necessary part of the application.

3. Pay a nonrefundable application fee of $15.00.

4. Submit any additional items and information requested in the application materials or by the Office of Admissions.

Any applicant who is denied admission may make written appeal to the Director of Admissions.

Advanced Placement Examinations:

Students admitted to UTK may receive credit on the basis of performance on one or more of the Advanced Placement Examinations offered each May by the College Entrance Examination Board in 13 subject areas. The tests are usually taken by high school students preparing to enter college during their junior or senior year.

Departments at UTK which grant advanced placement credit for satisfactory test scores include Art, Biology, Chemistry, English, History, French, Spanish, German, Latin, Mathematics, Music, and Physics. The CEEB sends scores and test books on request to the Director of Admissions at UTK sometime in June or July. Each participating department decides the acceptable score for credit. Information can be obtained from the Admissions Office or from the Liberal Arts Advising Center.

Transfer Applicants

A student who has attempted 12 hours or more of college credit coursework at one or more accredited institutions of higher learning and who does not qualify as a freshman applicant under the above rules must apply for admission as a transfer student. In addition to high school transcripts, a complete transcript of all work at each college or university attended should be sent by those institutions directly to the UTK Admissions Office. Transcripts carried by the student may be useful in the advising and course selection process, but they are not acceptable in the admissions file. Transfer students who have taken neither the ACT nor the SAT are not required to do so. Upon admission to UTK, a student may be classified as a freshman, sophomore, junior, or senior, according to the number of hours passed. Only those courses in which a grade of C or better was earned shall be eligible for transfer credit.

The faculty, through the deans and directors of the colleges and schools at UTK, has the responsibility for determining which courses from other institutions will be accepted for transfer credit. Certain transferable courses are not equivalent to specific UTK courses. These courses may be used to meet specific curriculum requirements only with approval of the UTK college or school in which the student's program is located. Appropriate credit for transfer course credit, whether by institutions or by individuals, should be addressed to the dean of the appropriate UTK college or school for review.

Prospective transfers to UTK are encouraged to complete a sequence of related courses rather than transferring a single course from a series. Students at two-year community colleges, particularly within the State of Tennessee, are encouraged to complete the associate degree requirements prior to transferring to UT, provided that such action is consistent with their educational goals.

In order to be considered for admission to UTK, a transfer applicant must have a transfer grade point average of 2.00 or better (on a 4-point scale) for all courses eligible for transfer credit.

International Student Applicants

All foreign nationals on non-immigrant visas are classified as international students whether they are applying to UTK as freshmen or transfer students. In addition to the information below, a pamphlet entitled "UTK Overseas Applicant Information" is available from the Admissions Office or from the Center for International Education.

To apply for admission as an undergraduate student, each international student is required to provide the following:

1. A completed application for undergraduate admission;
2. Authenticated copies of all academic records. These records should describe the courses of instruction in terms of years spent in school and types of subject matter covered, with grades earned in each subject;
3. Evidence of English proficiency according to the following:
   a. Any applicant to the undergraduate program whose first language is not English - with the exception of some transfers from regionally accredited colleges or universities in the United States (see b below) - must present a "Test of English as a Foreign Language (TOEFL)" score of at least 525 (earned within two years prior to application) before being admitted; final consideration cannot be granted until test results are received by the Director of Admissions.
   b. The University of Tennessee English Placement Test must be taken prior to registration; this test will determine whether the student needs to take more English and, if so, at what level. The English Placement Test grants no credit. Students assigned to special English courses must enroll the first semester of attendance, stay continuously enrolled in the assigned courses until completion of all requirements, and should complete the requirements within the first year of continued enrollment at The University of Tennessee, Knoxville.
   c. An undergraduate student whose first language is not English is exempted from taking the UTK English Placement Test and from presenting a TOEFL score of 525 provided that the student has satisfied all the requirements for freshman admission.
   d. A United States citizen or permanent resident whose first language is not English but who has graduated from a high school in a country whose first language is English, may be admitted with the minimum ACT English score of 20 (SAT verbal 410) or TOEFL 525. Any other United States citizen or permanent resident whose first language is not English must conform to the regulations stated in a, b and c above.
   e. Applicats from certain countries are required to make a significant monetary deposit prior to issuance of Form I-20 to secure a student visa.
   f. International students must enroll in the health and accident insurance plan provided by UTK.
International students are subject to various enrollment limitation regulations comparable to those affecting U.S. citizens. The Admissions Office will notify any applicant of any applicable regulations in effect at the time of application.

Visiting Student Applicants
A visiting student is one who is actively enrolled in a program at another accredited institution of higher learning but who desires to enroll temporarily at UTK because of the availability of certain coursework or because of temporary residence in the Knoxville area. Visiting students are admitted for one semester. Students desiring to transfer to UTK must file an application for admission as a transfer student. Students desiring to attend UTK on an interim basis for only one semester must submit, in addition to the application form, a letter of good standing from the institution at which enrolled.

Since academic records will not be available at UTK for visiting students, use of UT courses in a visiting student's degree program is a matter to be decided by the home institution. Academic advising will be limited to information about courses in which the student enrolls and may be obtained from the academic departments. Visiting students must have the required background (prequisites) and meet all other course requirements. Academic overloads will not be permitted.

Re-Entry Student Applicants
A re-entry student is one who has not been enrolled in school for 3 years or more prior to making application for admission to UTK. Freshman re-entry students should submit high school transcript(s) to the Admissions Office. Transfer re-entry students should submit high school transcript(s) and transcripts of all previous college work. ACT/SAT scores are not required for either freshman or transfer re-entry students.

Admissions decisions will be made on an individual basis. Exceptions to the admissions criteria may be made for those applicants who demonstrate sufficient preparation.

No applicant who has attended UTK will be considered a re-entry student. Former UTK students should follow readmissions procedures as described elsewhere in this catalog.

Non-Degree Student Applicants
Persons desiring to take courses for credit, but who do not intend to pursue a degree, should apply for non-degree status. The Admissions Office processes all applications, regardless of intended registration location. Non-degree students must show evidence of satisfactory preparation for the courses they wish to take. Ordinarily the high school class of a non-degree student must have graduated. Former University of Tennessee students may not be admitted in this category prior to the receipt of a bachelor's degree.

If there is a change in educational goals leading to interest in a degree program, a non-degree student must meet all previously indicated transfer, admission, or college association requirements for admission to degree seeking status. No more than 60 semester hours of accumulated college credit (from all institutions attended) may be used by a non-degree student in any subsequent degree program at UTK.

Senior and Disabled Applicants
Persons 60 years of age or older and/or totally disabled persons who are residents of Tennessee may audit courses without payment of fees if space is available in the individual class. Persons 65 years of age or older or totally disabled persons who are residents of Tennessee may enroll in courses for credit at reduced fees. Interested persons should inquire at The University of Tennessee Evening School, 451 Communications Building, during regular working hours.

Academically Talented High School Students
Academically talented high school students enrolled in grades 9, 10, 11, and 12 in public or private school in Tennessee may enroll and receive regular college credit from a Tennessee postsecondary institution if: (1) they receive the approval of the high school principal and appropriate higher education institution personnel; (2) they have a grade point average equivalent to 3.2 or higher on a 4.00 scale; and (3) such placement is a part of the student's planned Individual Educational Placement (IEP) as established by the multidisciplinary team process.

Freshman Early-Admission Students
Freshman early-admission students are those who have completed the junior year of high school, have a grade point average of at least 3.50 and have an ACT composite of 28 or above or SAT of 1150 or above. Application is subject to review and approval by the Director of Admission following an interview. For additional information and scheduling of an interview, interested students should contact the Office of Admissions, 320 Student Services Building.

Exceptions to Admissions Requirements
The University requirements for the various categories of admission are thought to be reasonable and consistent with good educational practice. Thus, these requirements are not normally waived or modified for any applicant, except as specifically noted. However, unusual circumstances sometimes exist. If a potential student thinks that some part of the requirements for the category sought should not apply as stated, he/she should write a letter to the Director of Admissions. The letter should state clearly the specific circumstances prompting the appeal and what changes in the stated requirements are sought. The reply to this letter will indicate whether any exception to the requirements will be made, the reasons for the decision, and will describe any further action which the applicant might take. The Dean of Admissions and Records has the prerogative of making exceptions on the minimum criteria for applicants who do not show high aptitude in certain scholastic skills but show other indications of ability to progress through UTK and earn a degree.

Deadlines for Applications
Completed application materials and supporting credentials for first-time freshmen and transfer students must be received in the Office of Admissions no later than the following dates: July 1 for Fall Semester; November 1 for Spring Semester; and April 1 for Summer Term. Any applicant who wishes to be considered for financial aid for the school year must submit completed application by March 1.

Former students who have been dropped from the University for academic deficiency must apply for academic readmission and provide supporting materials to the Director of Readmissions no later than six weeks before the start of classes of the semester they wish to enter. Former students who left the University in good standing who have not re-enrolled for at least two semesters must apply for readmission no later than three weeks prior to the start of classes of the semester they wish to enter. The readmissions application for Summer Term for students in good standing is one week prior to the start of classes.

Fee Classification for the Purpose of Paying University Fees and for Admission Purposes
Students are classified as in-state or out-of-state for the purpose of paying University fees. The classification is determined by the University. The classification on the application for admission and may be reviewed as the result of submission and may be reviewed as the result of submission of a subsequent fee classification questionnaire. Notice of classification is given in the preровки after the student applies to the University. The determination is made on the basis of the Regulations established by the Board of Trustees, with the intent that all public institutions of higher education in Tennessee apply uniform classification rules. Basically, these Regulations state that (1) students receiving parental support are classified according to parental domicile, and (2) an emancipated student independent of parents may establish in-state classification by producing satisfactory evidence of Tennessee domicile with proof that the move to Tennessee was not primarily for obtaining educational opportunities for themselves, dependents, or spouse. Forms and copies of the Regulations for undergraduates may be obtained from the Residency Clerk, 320 Student Services Building. Additional appeals may be directed to the Fee Classification Coordinator, Room 320 Student Services Building. If a student classified out-of-state applies for in-state classification and is reclassified, the in-state classification shall
be effective as of the date on which reclassification was sought. However, out-of-state tuition will be charged for any term during which reclassification is sought and obtained unless notification for reclassification is made to the classification officer on or before the last day of regular registration of that term. Rule 1720-1-180.

Scholarship recipients and children of alumni are treated as in-state residents for the purpose of applying admissions criteria. However, such students will be required to pay out-of-state fees and tuition unless they can meet the in-state residency requirements stated above.

An out-of-state student completing one of the University's pre-professional programs (law, health services, veterinary medicine, etc.), does not gain preferential priority in seeking admission to a professional program that is otherwise restricted primarily to Tennessee residents.

Special State and Federal Laws for Educational Purposes

AMERICAN HISTORY

Effective July 1, 1978 and afterwards, all students receiving a bachelor’s degree must have completed one unit of American history on the high school level or six semester hours of collegiate American history in order to receive a bachelor’s degree as required by the General Assembly of the State of Tennessee (Tennessee Code Annotated Section 49-3253).

EEO/TITLE IX/SECTION 504 STATEMENT

The University of Tennessee, Knoxville, does not discriminate on the basis of race, sex, color, religion, national origin, age, handicap, or veteran status in provision of educational opportunities or employment opportunities and benefits.

UTK does not discriminate on the basis of sex or handicap in the education programs and activities which it operates, pursuant to the requirements of Title IX of the Education Amendments of 1972, Pub. L. 92-318; and Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112; respectively. This policy extends to both employment and admission to the University.

Inquiries concerning Title IX and Section 504 should be directed to the Director of Affirmative Action, 405-D Andy Holt Tower, Knoxville, TN 37996-0144, 974-2498. Charges of violation of the above policy should also be directed to the Director of Affirmative Action.

FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT

This act provides for confidentiality of student records. However, it also provides for basic identification of people at UTK within the consent of the individual. Release of information to third parties includes directory information, such as contained in the campus telephone book and sports brochures. Such information includes name, address, telephone number, date and place of birth, classification, college, major, dates of attendance, degrees and awards, the most recent previous educational agency or institution attended, participation in school activities and sports, and weight and height (for special activities).

Public notice of the categories to be contained in a directory is given, and a period of one week is provided during which a student may request that such information not be released.

SOCIAL SECURITY NUMBER USE

The University of Tennessee, Knoxville, requires assignment of an individual student number for internal identification of each student's record. The University began using the social security number as the student identification number prior to January 1, 1975; therefore, the federal law allows continued use of this number. However, if a student does not desire the social security number to be used, notification to the University must be made at the time of application for admission; a student identification number will be assigned instead. For prompt and accurate retrieval of records and for conducting business about their own records, students and alumni must give their student identification number. Student identification numbers, whether a social security number or an assigned number, are used administratively within the University only and are not given to third parties without expressed consent of the student concerned.

STATE BOARD OF EDUCATION

Effective November 1978, the Tennessee State Board of Education requires all students preparing for a teaching career in Tennessee to pass a standardized test of basic skills (Pre-Professional Skills Test) prior to admission to teacher education programs.

College Association

College of Agriculture

The College of Agriculture grants and encourages association at the time of admission. Students who seek College of Agriculture association in candidacy for the Bachelor of Science in Agriculture must offer one unit of algebra and one unit of geometry, or two units of algebra; for the Bachelor of Science in Forestry, the Bachelor of Science in Wildlife and Fisheries Science, and the Bachelor of Science in Agricultural Engineering, two units of algebra, one unit of geometry and one-half unit of trigonometry or equivalent.

Students must have an overall GPA of 2.0 for all previous college work (including UTK) for transfer into the college. Out-of-state students desiring to transfer into certain heavily enrolled programs of the College of Agriculture may be required to have a higher GPA. Students desiring a B. S. degree in Agriculture in conjunction with the minimum requirements for admission to the College of Veterinary Medicine should seek association in the pre-veterinary medicine curriculum offered in the Department of Animal Science.

School of Architecture

The School of Architecture grants and encourages provisional association at the time of admission to the University. The program of the School is carefully designed by stages, and students who are not ready for association at the time of university admis-
TRANSFER STUDENTS FROM OUTSIDE UTK

All transfer students - Tennessee residents, out-of-state students and international students - must apply to a College Association Committee prior to an Association decision, regardless of transfer GPA. This committee normally is composed of the Associate Dean for Academic Affairs of the College and the Head of the Department with which Association is desired. Factors considered in the decision include:

1. Overall academic performance in previous college work;
2. Incidence of withdrawals, incompletes, or other evidence of problems interfering with orderly academic progress;
3. The level of prior interest in engineering, as evidenced by the kinds of courses taken at institution attended;
4. A statement of educational goals, which all transfer students are encouraged to submit as part of their admission to UTK; and
5. The restrictions on space and staff in the department applied for.

TRANSFER STUDENTS FROM WITHIN UTK

Any UTK student desiring association with one of the departments of the College of Engineering should go to the departmental office for the desired major. An interview with the department head or his designee is held, with the major items of consideration being the same as for external transfer students. If association is granted, College Major/Advisor Change form is processed by the department to officially change the student’s academic home.

College of Human Ecology

The College of Human Ecology grants and encourages association of eligible students for all programs at the time of admission to the University. Progression requirements for particular majors are listed in the College of Human Ecology section of this catalog.

College of Liberal Arts

The College of Liberal Arts grants and encourages association of eligible students for all programs at the time of admission to the University. The minimum requirement is that students be in association with the college for the last 30 semester hours of coursework. To be eligible for association a student must:

1. Have completed a minimum of two years (2 units) of study in high school in one foreign language. Deficiency may be removed by completing one year of study at the college level or by passing a proficiency examination. Beginning in Fall 1987, no course work completed in order to satisfy an association requirement - as reviewed by a foreign language department - may be used to satisfy graduation requirements.
2. Have completed one unit of algebra and one unit of geometry (or two units of algebra) in high school. As of Fall 1987, two units of algebra and one unit of geometry. Deficiency may be removed by obtaining a score of 22 or above on the mathematics portion of the ACT; by passing a proficiency examination administered by the mathematics department; or by passing an appropriate non-credit course offered through the Evening School.
3. Have completed a minimum of 22 or above on the mathematics portion of the ACT; by passing a proficiency examination administered by the mathematics department.

Association for the Bachelor of Science in Chemistry requires at least 1.5 units of algebra and one unit of geometry. The two-year Pre-Pharmacy, Pre-Nursing, and Allied Health Programs have the basic mathematics requirements but no language requirements.

Students who desire to associate with the College of Nursing should ensure that they have an advisor in the college whether or not they meet these requirements. Go to the Liberal Arts Advising Center.

College of Nursing

The minimum requirement is that students be in association with the College of Nursing for the last 30 semester hours of coursework.

Specific progression requirements are listed in the College of Nursing section of this catalog.

College of Social Work

The minimum requirement is that students be in association with the college for the last 30 semester hours of coursework.

Specific progression requirements are found in the College of Social Work section of this catalog.

Credit Hours, Grades and Grade Point Average

The basic unit of credit at the University of Tennessee, Knoxville, is the semester hour. This normally represents one hour of lecture or recitation or two hours of laboratory work per week. Each course at the University carries a number of credit hours specified in the course description. At the completion of each course, a student will be assigned a grade reflecting the student's performance in the course. Passing grades normally carry with them a certain number of quality points per credit hour in the course. A student's grade point average is obtained by dividing the number of quality points the student has accumulated at UTK by the number of hours the student has attempted at UTK, not including hours for which grades of I, N, NC, P, S, and W have been received.

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>Performance</th>
<th>Quality Points Per Semester</th>
<th>Hour of Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Superior</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>B+</td>
<td>Very Good</td>
<td>3.5</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>Good</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C+</td>
<td>Fair</td>
<td>2.5</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>Satisfactory</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Unsatisfactory</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>F</td>
<td>Failure</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Grades of Incomplete

Under extraordinary circumstances and at the discretion of the instructor, an "I" (incomplete) may be assigned to a student whose work is satisfactory but who has not completed a portion of the course. The terms for removal of the "I", including the time limit for removal of the "I", will be decided by the instructor. It is the responsibility of the student receiving an "I" to arrange with the instructor whatever action needed to remove the grade at the earliest possible date, and in any event, within one year of the assignment of incomplete. The "I" grade does not carry quality points and is not computed in the grade point average. If the "I" grade is not removed within one calendar year or upon graduation, it shall be changed to an "F" and count as a failure in the computation of the grade point average. A student need not be enrolled at the University to remove a grade of incomplete.

Grades That Do Not Influence Grade Point Average

The following grades carry no quality points, and hours for which these grades are earned are not counted in computing a student's grade point average.

NC (no credit) indicates failure to complete a course satisfactorily when taken on an S/NC basis.

S (satisfactory) is assigned for C or better work when a course is taken on an S/NC grading basis.

W (withdrawal) is assigned in courses when a student has officially withdrawn from the University. Regulations concerning withdrawal from courses or from the University appear in a following section of this catalog, entitled "Changes in Registration."

Satisfactory/No Credit Grading System

The purpose of this system is to encourage the student to venture beyond the limits of those courses in which the student usually does well and, motivated by intellectual curiosity, explore subject matter in which the performance may be somewhat less outstanding than work in other subjects. To this end Satisfactory/No Credit (S/NC) grading has been developed for undergraduate courses (100-, 200-, 300-, and 400-level courses). Neither grade is counted in a student's grade point average, but, like all other grades, is entered on the permanent record. S is given for C or better work on the traditional grading scale and NC is given for less than C work. The student only receives credit in the course if an S is received. A student may not repeat a course for S/NC if the student received a conventional grade (A, B+, B, C+, C, D, F).

The instructor of a conventionally graded course will not be informed which student, if any, has elected S/NC grading. If the student elects non-conventional grading, grades of A, B+, B, C+, C, and D or F as NC. The grade of I for incomplete work will be recorded as an SI, which will not be computed in the average. A student is permitted to change the system of grading in a course through the add deadline. The changing of an S/NC grade to a conventional letter grade or vice versa is not
permitted unless an error is determined by the Registrar.

**Freshman English**

English 102, 102, 118, 121, 131, and 132 are offered on a system of A, B+, B, C+, C, I, NC, W grading.

All entering freshmen, except international students, must enroll in English 101, 102 or 118.

**Repeating Courses**

For all courses taken prior to and during an undergraduate student’s first 30 semester hours (attempted) of collegiate study, only the last grade earned in a course that a student repeats will be counted in computing his or her grade point average. These courses must be repeated before a student attempts 60 semester hours of credit in order to be eligible for this policy. For all courses taken beyond the 30 semester hour provision, all grades in all courses will be included in determining the grade point average.

Unless it is otherwise specified in the course description, no course may be repeated more than twice and no course may be repeated in which a grade of C or better has already been earned. Exceptions to the number of times a course may be repeated will be allowed only with prior written permission of the student’s college dean. Each course is counted only once in determining credit hours presented for graduation.

**Mid-Term Progress Reports**

Mid-term progress reports are issued to all students who have attempted fewer than 30 credit hours at UTK and to students in academic review. On the progress report instructors indicate whether the student’s work is unsatisfactory or at the level of a C grade or better. The reports are sent to the student and to the student’s advisor or advising center. They are not entered on the transcript.

**Graduate School Grades**

Graduate students and undergraduates taking courses for graduate credit are graded as follows:

- A (4 quality points per hour), superior performance
- B+ (3.5 quality points per hour), better than satisfactory performance
- B (3 quality points per hour), satisfactory performance
- C+ (2.5 quality points per hour), less than satisfactory performance
- C (2 quality points per hour), performance below the standard expected of graduate students
- D (1 quality point per hour), clearly unsatisfactory performance and cannot be used to satisfy degree requirements
- F (no quality points), extremely unsatisfactory performance and cannot be used to satisfy degree requirements

I (no quality points), a temporary grade indicating that the student has performed satisfactorily in the course but, due to unforeseen circumstances, has been unable to finish all requirements. An I is not given to enable the student to do additional work to raise a deficient grade. The course will not be counted in the cumulative grade average until a final grade is assigned. No student may graduate with an I on the record. Consult the *Graduate Catalog* for regulations concerning the removal of incomplete grades.

S/NC (carries credit hours, but no quality points), S is equivalent to B or better, and NC means no credit earned. Courses where NC is received may be repeated for an S. S/NC grading is allowed only where indicated in the course description in the *Graduate Catalog*. The number of S/NC courses in a student’s program is limited to one-fourth of the total credit hours required.

P/NP (carries credit hours, but no quality points), P indicates progress toward completion of a thesis or dissertation. NP indicates no progress or inadequate progress.

W (carries no credit hours or quality points), indicates that the student withdrew from the course.

No graduate student may repeat a course for the purpose of raising a grade already received, with the exception of NC. A graduate student may not do additional work to raise a final grade.

**Law School Grades**

Law students are graded on a numerical scale from 0.0 to 4.0. Quality points per hour of credit in a given course are equal to the numerical grade received in the course. Grades of 0.9 and below count as failures. Some courses are graded on an S/NC basis.

**General Regulations**

**Academic Advising at UTK**

Faculty, administrators, and professional staff on this campus consider advising both a responsibility and an opportunity for improving each student’s pattern of undergraduate education. There are many situations during an academic program when a student will find informed academic and career advice helpful. The objective of the academic advising system at UTK is to help a student at each stage to define the choices that must be made and to give any needed guidance.

At the time of application for admission to UTK, each student is asked to indicate whether he/she has already identified a preferred college or school. Advising centers in advanced students. At all levels, campus-wide guidelines for good advising are supplemented by specific college standards, guidelines, and evaluations. Prior to advanced registration, during each main term of the academic year (i.e., during Spring and Fall), each student has the obligation to consult an advisor for a substantial conference.

Students who are admitted as university students and have not yet declared an interest in a particular college are advised by the College of Liberal Arts Advising Center, 220 Ayres Hall, with assistance of advisors in other colleges and career planning.

New students at UTK should review carefully the prescribed curricula of the respective degree-granting units and should choose courses in accordance with their college preference. An advisor assists a student in selecting subjects to ensure a well-balanced education and interprets university and college policies and requirements. However, the student, not the advisor, bears the ultimate responsibility for selecting courses, meeting course prerequisites, and adhering to policies and procedures.

Part-time students, particularly those registering through Evening School, should establish contact with an advisor in the college with which they are associated or in which they have expressed an interest.

Assistance to students with academic problems or questions is provided by course professors, advisors, department heads, and college deans or advising centers. Numerous other sources of academic, career, and personal counseling exist on the UTK campus and are available to admitted students. These are described in this catalog under “Student Affairs and Services.”

**Accelerated Program**

The University operates on the semester calendar, and a majority of its courses, especially at the lower division, are offered every term. Through appropriate arrangements of courses and attendance during the summer terms, students may frequently complete their degree programs in less than four years. A student’s faculty advisor should be consulted for assistance in planning an accelerated program.

**Advanced Military Service and Air Force Aerospace Studies**

Students who elect to enroll in the advanced military courses (junior and senior years) are obligated by written agreement with the government to complete the courses and to accept a commission if tendered.

**Class Attendance and Eligibility**

Only students who are properly registered for a course may attend its classes on a regular basis. Any other person in the classroom for special reasons must obtain the consent of the instructor.

It is the prerogative of the individual instructor to set the attendance requirements for a particular class. This means, for example, that an instructor in Freshman English may state in a syllabus how many absences are allowed before a student receives a grade of No Credit.
Classification
Undergraduate students are classified according to the following chart, on the basis of semester hours passed.
To be considered a full-time undergraduate student in any semester, a student must be enrolled in 12 semester hours, including the full summer term. Six hours for each separate term of the summer session are required for full-time classification. Audit hours are not considered in the computation.

Classification of Students by Semester Hours Passed

<table>
<thead>
<tr>
<th>Year</th>
<th>Undergraduate</th>
<th>All Other Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>0-29.9</td>
<td>0-31.9</td>
</tr>
<tr>
<td>Second</td>
<td>30-59.9</td>
<td>60-69.9</td>
</tr>
<tr>
<td>Third</td>
<td>60-89.9</td>
<td>70-99.9</td>
</tr>
<tr>
<td>Fourth</td>
<td>90-129.9</td>
<td>130-199.9</td>
</tr>
<tr>
<td>Fifth</td>
<td>129-199.9</td>
<td>200-299.9</td>
</tr>
</tbody>
</table>

CLEP Credit
When approved by a given department, nationally recognized examinations, such as the examinations of the College Level Examinations Program (CLEP) of the College Entrance Examination Board, may be used as proficiency examinations in one or more courses offered by that department. The final decisions, as to specific courses for which such examinations are to be taken as evidence of acceptable proficiency, and as to the minimum score required for credit to be given, rest with the department.

The CLEP examinations may be taken at the Center for Extended Learning, 420 Communications and University Extension Building. The Center supplies information on test dates and procedures, and also current departmental policies concerning the acceptance of CLEP credit.

Correspondence Work
A student may offer by correspondence as much as one-fourth of the total hours required for the degree sought and have this work count toward the degree. Credit for undergraduate courses in correspondence in the major subjects shall be limited to one-fourth of the total credit hours required. Correspondence credits are not accepted for students enrolled in the College of Law or, except by prior permission, for students in the Center for Health Sciences.

All courses taken by correspondence for which credit is given must meet degree program requirements of the Knoxville campus. In addition, all currently enrolled UTK students who intend to take correspondence courses must have the approval of the dean of the college or school in which they are enrolled prior to registering for any college-credit correspondence course. Degree credit will not be granted for correspondence courses taken at an institution other than The University of Tennessee by a UTK student if an equivalent correspondence course is available from The University of Tennessee Center for Extended Learning.

Correspondence courses are open to students who have been dropped from the University for academic reasons only with the prior permission of the dean of the college or school in which they were enrolled.

A senior may take only six hours of the last year's work (the last 30 semester hours) by correspondence, and this must be taken with The University of Tennessee, Knoxville. If the students transfer, no work may be taken by correspondence.

Students taking work for teacher certification purposes should consult the State Department of Education concerning the amount of correspondence credit allowed for teacher certification.

Effective September 1, 1989, students may only register for semester credit correspondence courses.

Course Numbers and Levels
Each course offered by the University is identified by the name of the department offering the course and a three-digit course number. These numbers indicate course level, as follows:

Course Numbers Level
000-099 Non-credit; preparatory
100-299 Lower-division-primarily for freshmen and sophomores
300-499 Upper-division-primarily for juniors and seniors; when taken for graduate credit, the letter "U" will precede the course credit hours on the grade report
500-599G Graduate; sometimes available for undergraduate credit; when taken for undergraduate credit, the letter "U" will precede the course credit hours on the grade report
600-699 Advanced graduate; open to graduate students only
800-899 Law; occasionally open to other qualified students. Veterinary medicine.
900-999 Correspondence credit allowed for teacher certification purposes should consult the Director of Honors Programs and appropriate collegiate personnel which may include the department head and/or dean. The evaluation may take place at the beginning of or during the next semester and, if successful, the senior will receive the degree at the next commencement.

To be eligible for upper-division work a student must normally have attained junior (third-year) status. Some departments, colleges, or schools require approval by the dean of the student's college to enroll in upper-division work. This rule applies to transfers as well as to those who have previously attended the University. A cumulative grade point average of at least 2.00 is required to begin upper-division work.

Following certain course descriptions in this catalog are the designations: F, Sp, Su, A-O, A-E, E. These indicate the semesters Fall, Spring, Summer, Alternate Odd Academic Years, Alternate Even Academic Years, or Every Semester in which a course is normally offered and are intended as an aide to students planning their programs of study.

Deviation from Catalog Rules
The University offers a petitioning procedure through which students can occasionally gain exceptions to the general rules included in this catalog. It is the direct responsibility of the student who seeks to deviate from the rules to complete the petitioning process. In cases where this might affect the student's eligibility to enroll in a particular course, the student should begin the petitioning process during the previous term and must gain final approval for the petition no later than the add deadline of the term involved.

Failure to Meet Progression Requirements
Undergraduate students who are not eligible to progress in a college, school, or major with such requirements will be notified and assigned to the advisor to University Students who will advise the student and approve enrollment requests until the student is enrolled in another college or major.

Graduating Senior Privileges
A senior who fails one subject during the semester of intended graduation may, with approval, take an examination or other appropriate form of evaluation. The senior must receive the approval of the instructor and appropriate collegiate personnel which may include the department head and/or dean. The evaluation may take place at the beginning of or during the next semester and, if successful, the senior will receive the degree at the next commencement.

Honor Courses
Courses specifically designated as honor courses will receive the notation "Hon". These courses are available, but not exclusive to, those students enrolled in the University Honors Program. Students selected on the basis of ACT/SAT scores and previous academic performance may also enroll. There is no limit to the number of credits that may be earned in these courses except in the senior readings courses not requiring regular class attendance. These courses may not total more than six credit hours toward graduation. In the fields of science that offer four credit hour courses, the total may be eight semester hours.

Letters are sent to entering freshmen who qualify for non-departmental honors courses. Students other than freshmen should consult the Director of Honors Program or individual programs.

Minimum Class Size
An undergraduate course will not normally be given for fewer than fifteen students at the lower division; twelve at the upper division; and nine at the graduate level except by permission of the Provost. The University reserves the right to cancel, postpone, or combine when necessary.

Proficiency Examination
A proficiency examination may be given in any academic course offered for undergraduate credit. The University policy is to reserve to departments the decisions as to
which courses, if any, cannot be passed by proficiency examinations.

When applying to a department for a proficiency examination, a student should present evidence of having developed the abilities, knowledge, and attitudes expected of those who have taken the course in question. The giving of the examination must be approved by the head of the department in which the course is offered. A fee must be paid in advance at the Office of Registrar.

Subject to the grading policy of the college in which the student is enrolled, and except for courses which are graded only on a S/NC basis, a student who passes a proficiency examination and who wishes to have the grade recorded may choose to take the grade on the examination (A, B+, B, C+ or C) or take an S. An S gives credit for the course but does not affect the grade point average. If a grade of D or F is made on a proficiency examination, the department is expected to note the attempt but no record of the examination is made on the student's transcript. The maximum credits obtainable through proficiency examinations and the use of proficiency examinations to remove failing grades (also the grade of I) are determined by the department offering the proficiency examination.

Entering international students whose native language is not English are required to take the UT English Proficiency Examination to determine placement in the appropriate English course. No credit for any English course is awarded through this special examination.

Program Assessment and Improvement Through Student Evaluation

In order for the University to assess and improve its academic programs, periodic measurements of student perceptions and intellectual growth must be obtained. As a requirement for graduation every student shall participate in one or more evaluative procedures, which may include examinations in general education and/or the major field of study. The evaluative information obtained through testing is used solely to improve the quality of the educational experience for future generations of students.

Seniors Eligible for Graduate Credit

A senior at The University of Tennessee, Knoxville, who needs 30 semester hours or less to complete the requirements for a bachelor's degree and has at least a 3.00 grade point average, may take sufficient work for graduate credit to fill out a schedule of 12 hours of credit undergraduate and graduate work per semester, subject to the approval of each term of the Dean of the Graduate School.

Special Requirements for Student-Athletes

Student-athletes participating in intercollegiate sports under the provisions of the National Collegiate Athletic Association and the Southeastern Conference must fulfill the NCAA academic progress requirements in addition to the University's academic continuation and retention policies for continuation of eligibility to participate in intercollegiate sports.

Teacher Certification

Teacher certification is a responsibility of the College of Education of The University of Tennessee, Knoxville. Students desiring certification must meet general education, professional education, and area of specialization requirements described in the College of Education section of this catalog.

University Students

Many students are undecided about their major when they enter UTK. All undecided students are designated University Students and are advised by the Liberal Arts Advising Center. While it is proper to explore alternative choices, student should also aim at pursuing a course of study that culminates in graduation. For this reason students who enter UTK as freshmen may remain as University Students no longer than through the completion of the second full term of study (30 semester hours). Students who transfer from another college or university may enroll as University Students, however, if the total number of hours transferred is more than 30 semester hours, transfer students may remain as University Students no longer than through the completion of 15 semester hours. UTK students who fail to progress in a given major, college, or school and are undecided about an alternative course of study may continue at UTK as University Students for a maximum of 15 semester hours.

All students, whether enrolled in a college or school or University Students, must be accepted by the college or school of their major for a minimum of the last year of study (30 semester hours prior to graduation).

Writing Competence

The faculty of all colleges expect students to communicate effectively in standard written English in laboratory reports, examinations, essays, and other written assignments.

Writing Deficiency

By checking the column headed "English Deficiency" on the grade forms, individual faculty members have the opportunity to report students who are deficient in writing to the Writing Laboratory for help in improvement. Such students are required to begin work in the laboratory at the start of their next term in residence and continue this work until their writing is deemed adequate. The adequacy of a student's writing will be determined by:

a. demonstration of adequate skills on the Writing Laboratory Diagnostic Test. A passing grade on this test excuses a student from required laboratory attendance for one year. Reports in subsequent years of writing deficiency will require the student to demonstrate his/her writing proficiency once again; or

b. demonstration, to the satisfaction of the Writing Laboratory director, of adequate writing skills in assignments and work sessions designated by the Director. Release by the director of the Writing Laboratory excuses a student from required laboratory attendance for one year. Reports in subsequent years of writing deficiency will require the student to demonstrate his/her writing proficiency once again.

A student shall fulfill the above requirements to graduate. However, if a student has no obligation to the Writing Laboratory in the term before graduation, a new report in the final term will not prevent graduation. A student deficient in writing who fails to report to the Writing Laboratory will have his/her class schedule held the following term. To have the schedule released, he/she must first make an appointment to attend Writing Laboratory for the fall that will be required to attend a minimum of one session per week in the Writing Laboratory unless excused by the director. A student who has four (4) unexcused absences in the term for which his/her schedule has been held and released will be put on academic review for his/her following term in residence. A student who has four (4) unexcused absences in his/her review term will be dismissed from the University and will be ineligible to apply for readmission for one academic year.

Registration

Dates for orientation and registration are announced to new transfer and freshman students when the Certificate of Admission is issued. Graduate students are instructed when to register upon receipt of their Admission Status. Former students who have been absent from UTK other than the summer term and students who have withdrawn from the previous semester will receive registration information with their letter of readmission. Evening School students should contact the University Evening School for registration times.

Requirements for Registration of Admitted Students

Medical History. Though a physical examination is not required, a Medical History Questionnaire is sent to all admitted students and must be completed by the student, parent, or other responsible party who is familiar with the student's medical history. Such information will facilitate University physicians in providing continuing health care. This form must be returned to the Student Health Services before registration.

Participation in Orientation. Beginning freshmen and transfer students are required to attend an orientation session prior to their first registration at the University. Schedules for these programs are mailed to admitted students by the Dean of Student Conduct and Orientation. Orientation programs are designed to help new students become acquainted with opportunities and services at the University and to provide information...
needed for registration. Students who wish to attend the Evening School should contact the University Evening School for information about registration and orientation.

First Class Meeting

Students who do not attend the first class meeting may be dropped from the course unless they have made prior arrangements with the department. It is the responsibility of students to take whatever steps necessary to see if they have been officially dropped from a course.

Maximum Hours Per Term

Undergraduate students may enroll for a maximum of 19 credit hours each semester unless a lower maximum is specified by the college or school in which the student is enrolled. Enrollment in more than 19 hours must be approved by the dean of the student's college or school. Graduate students may enroll for a maximum number of 15 credit hours each semester. Enrollment in more than 15 hours must be approved by the Dean of the Graduate School. Law and Veterinary Medicine students may enroll for the maximum number of credit hours each semester as specified by the respective college.

Auditing Courses

Students may enter classes as auditors with the consent of the instructor. The instructor will determine the appropriate requirements or restrictions. Auditors receive no credit and the audited course will not be recorded on the transcript. The student's name will appear on the class role to inform the instructor that the student is properly enrolled as auditor.

Auditors are required to register and pay fees. Prior to the drop and add deadline, a change from credit to audit or from audit to credit may be made by completing the appropriate form for section changes in order to receive credit for the course. There are two drop deadlines at UTK prior to which students may withdraw from courses without penalty. Consult the current timetable for announced calendar dates. For all first semester undergraduate students, the drop deadline is 22 calendar days after the beginning of classes. After completion of the first semester of undergraduate study, the drop deadline is 10 calendar days after the beginning of classes. The exceptions to these deadlines are summer and other special sessions. Students should consult the summer term timetable for the appropriate drop deadlines.

Any course may be dropped before the drop deadline specified above without notation on the academic record. In order to drop a course students must fill out and submit a drop form to the Registrar's Office.

Evening School students should consult the University Evening School timetable for procedures to drop courses. Graduate students should consult the Graduate Catalog for regulations concerning dropping courses.

After the drop deadline, any undergraduate or graduate student who drops a course will receive the grade of F unless it can be demonstrated that the request to drop the course is based on circumstances beyond the student's control. Examples of these circumstances are illness or injury (verified by the student Health Service or private physician), or necessary change in work schedule occurring after the drop deadline (verified by the student's employer). Examples of causes which would not be acceptable for a late drop are improper registration by the student or failing a course.

Withdrawing from the University

All official withdrawals from the University for undergraduate day school are made through the Readmission and Withdrawal Office. It is important that all students who leave the University before the end of a term report their withdrawal to this office. Official withdrawal from the University by Evening School students is made through the University Evening School.

If an undergraduate student officially withdraws from the University before the drop deadline of 10 days (or 22 days for first semester undergraduate students) after the beginning of classes, the grade of W will be given in all courses in which the student is currently enrolled. Summer term drop deadlines are published in the summer term timetable. In cases of withdrawal before the drop deadline, the Registrar will be notified of the date of withdrawal, who will then inform the instructors that the grade in those courses is automatically W. Graduate students should consult the Graduate Catalog for regulations concerning withdrawal from the University.

Any undergraduate student who withdraws from the University after the drop deadline of 10 calendar days (or 22 days for first term undergraduates) will receive the grade of F in all courses in which the student is currently enrolled unless it can be demonstrated that the request to withdraw is based on circumstances beyond the student's control. Examples of these circumstances are listed above in the section on dropping courses.

Undergraduate Retention Standards

Transfer Students

A transfer student who has been conditionally admitted must meet the regular University standards of retention during the first term, or any subsequent term before attaining good standing.

Academic Second Opportunity

As an aid to the serious re-entry student whose previous academic work was below average, the following policy regarding the treatment of previous college-level academic work is available. An undergraduate student who has not taken any college-level credit courses for three calendar years or more prior to admission or readmission to UTK may petition for Academic Second Opportunity. Whether or not Academic Second Opportunity is granted is at the discretion of the Committee of Readmission. If granted, all previous academic work will remain on the permanent record, but the grades for such work will not be used in the computation of the grade point average or in the determination of good standing for retention purposes. Prior courses in which a "C" grade or better has been earned may be used to meet major, distribution, and graduation requirements; the previous grades will be computed as Satisfactory (S) grade. At least 30 hours must be completed at UTK after readmission. In addition, at least 60 semester hours of letter grades (A-F) must be earned after readmission in order to meet the minimum qualifications for graduation with honors. Academic Second Opportunity may only be declared once. All petitions for Academic Second Opportunity must be submitted to the Committee of Readmission no sooner than completion of the first semester at UTK and no later than one calendar year following readmission to UTK.

Readmission

A student in good academic standing who has withdrawn from school or who has been absent for a term other than the summer must make application for readmission. Transfer students must apply for readmission before the deadlines.

A student who has been dropped academically must apply for readmission. Former students who in the interval have been enrolled at another accredited college or university must apply for readmission. An official transcript from other institutions attended and an acceptable combined cumulative grade point average are required for readmission.

To register for credit courses in any branch, center, or division of the University controlled by the Knoxville campus (except correspondence courses), a student must meet the readmission regulations that govern courses for credit at the Knoxville campus.
Academic Review (Subject to approval by the Board of Trustees)

The University of Tennessee expects all students who enter the University to remain in good academic standing. To accomplish this, the University has established retention standards. To graduate from UTK, the minimum cumulative GPA must be 2.00. The catalog contains additional retention, progression, and graduation requirements for specific programs.

A student whose cumulative or semester grade point average falls below the minimum acceptable level of 2.00 will be placed in academic review for the subsequent semester of enrollment. During that semester and any other semesters in review, a student must participate in a special advising program in the Dean's Office of the college or school. If, while in review, a student does not maintain a 2.00 grade point average for hours attempted each term, the student must meet with a committee appointed by the academic dean of the college or school of enrollment. This committee will determine the most appropriate academic action. In turn, a commitment from the student to accomplish the action recommended by the committee is expected. In certain circumstances, it may be concluded that a term of suspension from the University is necessary.

General Requirements for a Bachelor's Degree

To receive a bachelor's degree from The University of Tennessee, Knoxville, a student must complete all of the requirements listed below. Some of the colleges and schools within the University have special requirements above and beyond those stated here, and students are advised to consult the appropriate section of this catalog for any further degree requirements. Each program presented by the candidate for the bachelor's degree is reviewed and approved for meeting the degree requirements by the Office of the Dean of Admissions and Records.

(1) Complete satisfactorily all requirements of the curriculum for which the student is enrolled, as described in the portion of this catalog devoted to the college or school offering the curriculum. Curriculum requirements change frequently, and students should note the caution on the second page of this catalog. A student is allowed to satisfy requirements for a bachelor's degree under any curriculum in effect during the student's attendance at UT, Knoxville provided the curriculum has been in effect within six years of the date of graduation. This does not obligate the University to offer a discontinued course. Programs may be adjusted by the student's faculty advisor and college dean, in consultation with the Registrar's Office.

(2) Achieve a grade point average of at least 2.00 on all work attempted at The University of Tennessee.

(3) Each student is required to achieve a 2.00 grade point average for his/her senior year. The senior year is interpreted to mean the last 30 hours earned at UTK (at least two semesters as a minimum). If a student does not pass enough hours per semester to earn 30 hours during the last two semesters, then the last three or more semesters will be counted. All courses taken during each semester considered as the senior year will be used in computing the average.

(4) Complete the last 60 hours of credit offered for the bachelor's degree at an accredited senior college.

(5) Complete the last 30 hours of credit offered for the bachelor's degree in residence at The University of Tennessee, Knoxville. In the College of Agriculture at least 18 semester hours of upper-division technical agriculture approved by the student's faculty advisor must be completed at The University of Tennessee, Knoxville.

Credit for correspondence courses taught by the faculty of the Knoxville campus may be counted as part of this requirement, with the exception of the limitation noted in the regulations concerning correspondence work. Special arrangements to allow work taken at other University of Tennessee campuses to be counted as part of this requirement must be approved by the dean of the student's major college or school and the Dean of Admissions and Records.

(6) Comply with the state law that one unit of American history at the high school level or six semester hours of collegiate work be satisfactorily completed. This requirement is effective for those graduating July 1, 1978 and thereafter. It may be satisfied by completing History 251-252 (or 257-258). History 449 may be used in lieu of three hours of American history. Students should consult the catalog of enrollment to determine how the six hour's credit for fulfillment of this requirement is to be included in individual curricula.

(7) Satisfy all financial obligations (fees or fines) owed to the University.

(8) Pay to the Treasurer's Office the graduation fee no later than the beginning of the semester of graduation.

(9) File an application for a degree with the Office of the Registrar, Room 209 Student Services Building, no later than the eighth day of classes of the semester of intended graduation. This deadline is imperative in order that all necessary processing can take place toward the degree.

Honors Categories for Graduation

Honors are conferred upon graduating students who have displayed a high level of achievement during their university career. Recipients of honors receive their degrees with:

- "honors" 3.00 through 3.39
- "high honors" 3.40 through 3.74
- "highest honors" 3.75 through 4.00

These honors categories are based on a student's cumulative average at the end of the semester preceding the graduation semester. For all students entering Fall, 1985 and thereafter, honors categories are based only on the average earned at The University of Tennessee, Knoxville. Students must have earned at least 60 hours at UT in order to qualify for honors categories. For all other students, the honors category is based on the average earned at UTK and the combined average of all college work attempted, with the lower of the two averages determining the honors category.

If, at graduation, a student's grade point average would allow a higher honors category than that determined at the end of the semester preceding the graduation semester, the student may, upon written request, receive a substitute diploma indicating the higher category. Courses may not be repeated for the purpose of raising an honors category.

Beginning with the Spring, 1989 commencement, honors categories will be based on the following scale:

- "Cum laude" 3.5 through 3.64
- "Magna cum laude" 3.65 through 3.79
- "Summa cum laude" 3.80 through 4.00

Second Bachelor's Degree

A student who holds a bachelor's degree may receive a second bachelor's degree from The University of Tennessee, Knoxville, by satisfying the following:

(1) Meet all requirements of both degrees, as specified above.
(2) Complete at least 30 semester hours beyond the first bachelor's degree.
(3) Attend the University for at least two semesters beyond the minimum time required for the first bachelor's degree.
(4) Declare the intention to work for a second bachelor's degree with the Office of Registrar.

Degrees

Graduate School
Doctor of Business Administration
Doctor of Education
Doctor of Philosophy
Specialist in Education
Master of Accountancy
Master of Business Administration
Master of Fine Arts
Master of Mathematics
Master of Music
Master of Science in Nursing
Master of Public Administration
Master of Public Health
Master of Science
Master of Science in Library Science
Master of Science in Planning
Master of Science in Social Work

College of Agriculture
Bachelor of Science in Agriculture
Bachelor of Science in Agricultural Engineering
Bachelor of Science in Forestry
Bachelor of Science in Ornamental Horticulture and Landscape Design
Bachelor of Science in Wildlife and Fisheries Science
School of Architecture
Bachelor of Architecture

College of Business Administration
Bachelor of Science in Business Administration

College of Communications
Bachelor of Science in Communications

College of Education
Bachelor of Science in Education

College of Engineering
Bachelor of Science in Aerospace Engineering
Bachelor of Science in Chemical Engineering
Bachelor of Science in Civil Engineering
Bachelor of Science in Electrical Engineering
Bachelor of Science in Engineering Physics
Bachelor of Science in Engineering Science
Bachelor of Science in Industrial Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Metallurgical Engineering
Bachelor of Science in Nuclear Engineering

College of Human Ecology
Bachelor of Science in Home Economics
Bachelor of Science in Human Ecology
Bachelor of Science in Interior Design
Bachelor of Science in Tourism, Food and Lodging Administration

College of Law
Doctor of Jurisprudence

College of Liberal Arts
Bachelor of Arts
Bachelor of Fine Arts
Bachelor of Music
Bachelor of Science
Bachelor of Science in Chemistry

College of Nursing
Bachelor of Science in Nursing

College of Social Work
Bachelor of Science in Social Work

College of Veterinary Medicine
Doctor of Veterinary Medicine
# TERMS COMMONLY USED IN ADMISSION AND REGISTRATION PROCEDURES AT UTK

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Admission</td>
<td>The process of being admitted to UTK as a university student with the opportunity to take classes.</td>
</tr>
<tr>
<td>Association</td>
<td>The process of acceptance of an admitted student into a particular academic degree program of a college or school at UTK.</td>
</tr>
<tr>
<td>Progression</td>
<td>An internal evaluation process in some colleges or degree programs by means of which an associated student's academic standing is examined to determine if prior work is complete and if the student should proceed towards completion of the remaining degree requirements. The most common evaluation point is at the end of the sophomore year.</td>
</tr>
<tr>
<td>Lower division</td>
<td>1. A course normally taken during the freshman and sophomore years. In the UTK courses numbering system, lower division courses carry 100 and 200 numbers. Credit for lower division courses completed at another institution may be labeled “LD credit.”</td>
</tr>
<tr>
<td></td>
<td>2. A term referring to a student's location in the progression of coursework leading to an undergraduate degree and implying freshmen or sophomore classification.</td>
</tr>
<tr>
<td>Upper division</td>
<td>1. Courses normally taken during the junior and senior years (300 and 400 numbers at UTK). A student taking primarily junior and senior courses is said to be an upper division student. Credit for upper division courses may be labeled “UD credit” on a transfer evaluation.</td>
</tr>
<tr>
<td></td>
<td>2. The state of being classified as a junior or senior.</td>
</tr>
<tr>
<td>Add and drop deadlines</td>
<td>The latest date in an academic quarter at UTK when a course may be added or dropped from a student's class schedule without approval of someone other than the student (exception: when the additional hours produce an academic overload).</td>
</tr>
<tr>
<td>Curriculum</td>
<td>The set of courses offered in a particular degree program. More generally, the courses (in total) offered in a college or university. The plural word is curricula.</td>
</tr>
<tr>
<td>Prerequisite</td>
<td>A requirement to be completed (or a level of skill or knowledge to be demonstrated) before enrollment in a course, a degree program, or association with a college.</td>
</tr>
<tr>
<td>Corequisite</td>
<td>A course to be taken or a requirement to be fulfilled at the same time as a particular course is being taken.</td>
</tr>
<tr>
<td>Application deadline</td>
<td>The date which all documents required for the admissions file of a prospective student must be received by the UTK Admissions Office.</td>
</tr>
<tr>
<td>Admissions file</td>
<td>The set of documents related to a request for admission to UTK. The set contains the application form and official transcripts of previous work in high school or college and may contain standardized test scores (ACT for freshman applicants), a statement of career objectives, forms for international students, or other information required by the Admissions Office or by a particular college or school.</td>
</tr>
<tr>
<td>Registration</td>
<td>The process of officially gaining entrance into one or more courses.</td>
</tr>
<tr>
<td>Orientation</td>
<td>A meeting (or series of meetings) designed to acquaint a new student with the facilities, policies, sources of information and assistance, and academic and social atmosphere of UTK.</td>
</tr>
<tr>
<td>Semester hour</td>
<td>The unit of academic credit at UTK.</td>
</tr>
<tr>
<td>Academic load</td>
<td>The total semester hours of credit for all courses taken during a specified time—semester, summer term, or other special sessions.</td>
</tr>
<tr>
<td>Full-time</td>
<td>One who is registered for 12 hours or more during a semester.</td>
</tr>
<tr>
<td>Semester</td>
<td>The division of the calendar year used in academic scheduling at UTK. A semester is roughly 4 months in duration.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Quality points</td>
<td>UTK compiles academic performance records through use of a scale assigning 4 “quality points” per semester hour of credit for an “A” grade ranging to 1 quality point per semester hour of credit for a “D” grade.</td>
</tr>
<tr>
<td>Grade point</td>
<td>An average on the 4-point scale determined by dividing the total accumulated quality points by the corresponding total of hours of credit attempted. Certain grades do not influence this computation. High schools have a similar procedure for computing an average on the numerical grading scale (often abbreviated as HSGPA).</td>
</tr>
<tr>
<td>AP exam</td>
<td>An Advanced Placement Examination in a specific subject area available nationally to high school students from the College Entrance Examination Board (CEEB). Obtain information on taking the examination from a high school guidance counselor. Information on UTK course credit for these examinations is available from the Admissions Office.</td>
</tr>
<tr>
<td>CLEP test</td>
<td>Subject area examination administered by the College Entrance Examination Board. Details and comparisons with the AP exam can be obtained from: The College-Level Examination Program Box 1821 Princeton, NJ 08540 Statements on acceptance of CLEP test scores for academic credit at UTK are found on this catalog.</td>
</tr>
<tr>
<td>Proficiency exam</td>
<td>A test given to a student admitted to UTK to evaluate knowledge or skills normally acquired through completion of a particular UTK course.</td>
</tr>
<tr>
<td>TOEFL test</td>
<td>An internationally administered examination measuring ability to use the English language. Required of any international student applying to UTK whose native language is not English. For information and to make arrangements to take the examination, contact: The Test of English as a Foreign Language Educational Testing Service Princeton, NJ 18540</td>
</tr>
<tr>
<td>English Proficiency Test</td>
<td>A test taken at UTK prior to initial registration (but after admission) by undergraduate international students to determine what English course (if any) must be taken at UTK. This local test is in addition to the minimum TOEFL test requirement.</td>
</tr>
<tr>
<td>University honors courses</td>
<td>Non-departmental enrichment courses available (by invitation only) from the University Honors Program.</td>
</tr>
<tr>
<td>Honors course or section</td>
<td>A version of a regular course reserved for students with superior preparation for that course. See, for example, English honors; Chemistry honors; Mathematics honors; History honors.</td>
</tr>
<tr>
<td>Evening school</td>
<td>An administrative unit of UTK’s Division of Continuing Education designed to serve students who work during the major portion of the day.</td>
</tr>
<tr>
<td>Major</td>
<td>The principal education interest of a student as represented by one of the curricula offered by the various colleges at UTK. The undergraduate degree may or may not carry the same title as the major. Every student has one or more majors but may or may not have a concentration within a major or be following an option within a major.</td>
</tr>
<tr>
<td>Minor</td>
<td>A secondary subject area interest (to the major) represented by a specified set of hours and/or courses. Differs from “concentration” in that a minor is not a subdivision of the major subject area.</td>
</tr>
<tr>
<td>Concentration</td>
<td>A collection of courses within a major which focus on a particular subject area. The term “concentration” describes the nature of the set of courses.</td>
</tr>
<tr>
<td>Option</td>
<td>A concentration of elective courses within a major which emphasizes one aspect of the major, chosen by a student according to his/her interests.</td>
</tr>
<tr>
<td>Accredited</td>
<td>A term applied to a school or specific program which has been recognized by some national or regional organization as meeting certain academic standards for quality and educational environment.</td>
</tr>
</tbody>
</table>
# MAJORS, MINORS, AND CONCENTRATIONS

<table>
<thead>
<tr>
<th>DEPARTMENT (UNIT)</th>
<th>MAJOR</th>
<th>CONCENTRATION WITHIN THE MAJOR</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>College of Agriculture</td>
<td>Agriculture (Interdepartmental Unit)</td>
<td>Agricultural Economics and Rural Sociology</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td></td>
<td>Agricultural Biology</td>
<td></td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td></td>
<td>Agricultural Economics and Rural Sociology</td>
<td>Agricultural Economics and Rural Sociology</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td></td>
<td>Agricultural and Extension Education</td>
<td>Agricultural Education</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td></td>
<td>Agricultural Engineering</td>
<td>Agricultural Engineering</td>
<td>Bachelor of Science in Engineering</td>
</tr>
<tr>
<td></td>
<td>Agricultural Engineering Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agricultural Extension Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Animal Science</td>
<td>Animal Science</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td></td>
<td>Entomology and Plant Pathology</td>
<td>Food Technology and Science</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td></td>
<td>Forestry, Wildlife, and Fisheries</td>
<td>Forestry</td>
<td>Bachelor of Science in Forestry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Wildlife &amp; Fisheries Science</td>
<td>Bachelor of Science in Wildlife &amp; Fisheries Science</td>
</tr>
<tr>
<td></td>
<td>Ornamental Horticulture and Landscape Design</td>
<td>Ornamental Horticulture and Landscape Design</td>
<td>Bachelor of Science in Ornamental Horticulture and Landscape Design</td>
</tr>
<tr>
<td></td>
<td>Plant and Soil Science</td>
<td>Plant and Soil Science</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td>School of Architecture</td>
<td>School of Architecture</td>
<td>Architecture</td>
<td>Bachelor of Architecture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Architectural Design</td>
<td>Bachelor of Architecture</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Second Baccalaureate Degree</td>
<td>Bachelor of Architecture</td>
</tr>
<tr>
<td>College of Business Administration</td>
<td>Accounting and Business Law</td>
<td>Accounting</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td>Business Administration (Interdepartmental Unit)</td>
<td>General Business</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public Administration</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td>Economics</td>
<td>Economics</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Finance</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td>Management</td>
<td>Management</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td>Management Science Programs</td>
<td>Marketing and Transportation</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marketing</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Transportation and Logistics</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td></td>
<td>Statistics</td>
<td>Statistics</td>
<td>Bachelor of Science in Business Administration</td>
</tr>
<tr>
<td>College of Communications</td>
<td>Advertising</td>
<td>Advertising</td>
<td>Bachelor of Science in Communications</td>
</tr>
<tr>
<td></td>
<td>Broadcasting</td>
<td>Broadcasting</td>
<td>Bachelor of Science in Communications</td>
</tr>
<tr>
<td></td>
<td>School of Journalism</td>
<td>Journalism</td>
<td>Bachelor of Science in Communications</td>
</tr>
<tr>
<td></td>
<td></td>
<td>News-Editorial Public Relations</td>
<td>Bachelor of Science in Communications</td>
</tr>
</tbody>
</table>

*Minor available
*Minor available for students in other colleges
*Minor available: Coaching
*Minor available: General Special Education
*Minor available in Portuguese
<table>
<thead>
<tr>
<th>DEPARTMENT (UNIT)</th>
<th>MAJOR</th>
<th>CONCENTRATION WITHIN THE MAJOR</th>
<th>DEGREE</th>
</tr>
</thead>
</table>
| College of Education\(1\)  
Art and Music Education | Art Education (Intercollegiate) | Vocal Music (Voice Principal) Vocal Music (Piano or Organ Principal) Instrumental Music | Bachelor of Fine Arts, and Bachelor of Science in Education |
| | Music Education | | Bachelor of Science in Education |
| Continuing Education | | | |
| Curriculum and Instruction | Elementary Education | | Bachelor of Science in Education |
| Educational Leadership | | | |
| Educational and Counseling Psychology | Special Services Education | | Bachelor of Science in Education |
| | | Special Education\(1\) General Special Education Speech and Hearing | |
| | | Human Services | |
| Technological and Adult Education | Business/Marketing Education | Teaching Training | Bachelor of Science in Education |
| | Distributive Education | | Bachelor of Science in Education |
| | Industrial Education | Trades & Industries Industrial Arts Industrial Training | Bachelor of Science in Education |
| Health, Leisure and Safety\(2\) | Health Education\(1\) | Community Health Health Care School | Bachelor of Science in Education |
| | Recreation | Sports Management (Interdisciplinary) Private Commercial Therapeutic | Bachelor of Science in Education |
| Physical Education | Physical Education\(1\) | Exercise Physiology/Fitness Movement Sciences Sports Management (Interdisciplinary) Sport Communications Teaching Concentration | Bachelor of Science in Education |
| | Dance | | Bachelor of Science in Education |
| College of Engineering  
Basic Engineering | Chemical Engineering | Chemical Engineering | Bachelor of Science in Chemical Engineering |
| | Civil Engineering | Civil Engineering | Bachelor of Science in Civil Engineering |
| | Electrical \& Computer Engineering | Electrical Engineering | Bachelor of Science in Electrical Engineering |
| | Engineering Physics | Engineering Physics | Bachelor of Science in Engineering Physics |
| | Engineering Science and Mechanics | Engineering Science | Biomedical Engineering | Bachelor of Science in Engineering Science |
| | Industrial Engineering | Industrial Engineering | Bachelor of Science in Industrial Engineering |
| | Materials Science and Engineering | Metallurgical Engineering | Bachelor of Science in Metallurgical Engineering |
| | Mechanical \& Aerospace Engineering | Mechanical Engineering | Bachelor of Science in Mechanical Engineering |
| | Aerospace Engineering | Aerospace Engineering | Bachelor of Science in Aerospace Engineering |
| | Nuclear Engineering | Nuclear Engineering | Bachelor of Science in Nuclear Engineering |
| College of Human Ecology  
Child and Family Studies | Child and Family Studies\(1\)  
(Intercollegiate) | Child Development\(1\)  
Family Science\(1\) | Bachelor of Science in Human Ecology |
| | Home Economics Education | Home Economics Education | Bachelor of Science in Home Economics |

\(1\)Minor available  
\(2\)Minor available for students in other colleges  
\(3\)Minor available in Portuguese
<table>
<thead>
<tr>
<th>DEPARTMENT (UNIT)</th>
<th>MAJOR</th>
<th>CONCENTRATION WITHIN THE MAJOR</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition and Food Science</td>
<td>Nutrition and Food Sciences&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Science in Human Ecology</td>
</tr>
<tr>
<td></td>
<td>Tourism, Food and Lodging Administration</td>
<td></td>
<td>Bachelor of Science in Tourism,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Food and Lodging Administration</td>
</tr>
<tr>
<td>Textiles, Merchandising and Design</td>
<td>Interior Design</td>
<td>Merchandising&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Bachelor of Science in Interior Design</td>
</tr>
<tr>
<td></td>
<td>Textiles and Apparel</td>
<td>Textile Science&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Bachelor of Science in Interior Design</td>
</tr>
<tr>
<td>College of Liberal Arts</td>
<td>Anthropology&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>Art Education (Intercollegiate)</td>
<td></td>
<td>Bachelor of Fine Arts and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Bachelor of Science in Education</td>
</tr>
<tr>
<td></td>
<td>Art History&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>Studio Art&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>Graphic Design/ Illustration</td>
<td>Graphic Design Illustration</td>
<td>Bachelor of Fine Arts</td>
</tr>
<tr>
<td></td>
<td>Studio Art</td>
<td>Ceramics</td>
<td>Bachelor of Fine Arts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Drawing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fiber-Fabrics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Inter-Area</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Painting</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Printmaking</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sculpture</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Watercolor</td>
<td></td>
</tr>
<tr>
<td>Audiology and Speech Pathology</td>
<td>Audiology</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>Speech Pathology</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>Biochemistry&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Biology Consortium</td>
<td>Biology&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Cell Biology, Organismal and Systems Biology</td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Botany</td>
<td>Botany&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Chemistry</td>
<td>Chemistry&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Science in Chemistry</td>
</tr>
<tr>
<td></td>
<td>Chemistry</td>
<td></td>
<td>Bachelor of Science in Chemistry</td>
</tr>
<tr>
<td>Classics</td>
<td>Classics</td>
<td>Greek&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Computer Science</td>
<td>Computer Science&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Cultural Studies</td>
<td>Cultural Studies</td>
<td>Afro-American Studies&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>American Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ancient Mediterranean Civilizations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Asian Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cinema Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Comparative Literature&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Latin American Studies&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Linguistics</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Medieval Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Russian &amp; European Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Urban Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Women's Studies</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>Economics&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>English</td>
<td>English&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Literature</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Writing</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Individualized Honors</td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>Geography&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Geological Sciences</td>
<td>Geology&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Germanic and Slavic Languages</td>
<td>German&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>Russian&lt;sup&gt;1&lt;/sup&gt;</td>
<td></td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>History&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Honors</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Mathematics</td>
<td>Mathematics&lt;sup&gt;1&lt;/sup&gt;</td>
<td>Honors Program in Mathematics</td>
<td>Bachelor of Science</td>
</tr>
</tbody>
</table>

<sup>1</sup>Minor available on a minor basis for students in other colleges
<sup>2</sup>Minor available in Portuguese
<sup>3</sup>Minor available: Coaching
<sup>4</sup>Minor available: General Special Education
<table>
<thead>
<tr>
<th>DEPARTMENT (UNIT)</th>
<th>MAJOR</th>
<th>CONCENTRATION WITHIN THE MAJOR</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology</td>
<td>Microbiology</td>
<td>Science-Medical Technology</td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Music</td>
<td>Music</td>
<td>Applied Music, Music History &amp; Literature</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td></td>
<td>Music</td>
<td>Multiple Woodwind Instruments, Organ, Sacred Music (organ and piano), Sacred Music (voice), Piano, Multiple Keyboard Instruments (piano, organ, harpsichord), Strings, Voice, Woodwind, Brass and Percussion Instruments, Studio Music and Jazz, String Pedagogy, Electronic Music Composition, Music History and Literature, Music Theory, Piano Pedagogy and Literature</td>
<td>Bachelor of Music</td>
</tr>
<tr>
<td>Philosophy</td>
<td>Philosophy</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Physics and Astronomy</td>
<td>Physics</td>
<td>Bachelor of Science</td>
<td></td>
</tr>
<tr>
<td>Physical Sciences</td>
<td>Physical Sciences</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>Political Science</td>
<td>Honors in Political Science Public Administration</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Psychology</td>
<td>Psychology</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Pre-Professional Programs</td>
<td>Pre-Professional Programs</td>
<td>Pre-Dental, Pre-Medical, Pre-Medical Technology, Pre-Pharmacy, Pre-Veterinary, Pre-Cytotechnology, Pre-Dental Hygiene, Pre-Medical Records Administration, Pre-Nursing, Pre-Physical Therapy, Pre-Optometry</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>Religious Studies</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Romance Languages</td>
<td>Romance Languages</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>French</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Italian</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spanish</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>Sociology</td>
<td>Criminal Justice</td>
<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Speech Communication</td>
<td>Speech</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Theatre</td>
<td>Theatre</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Zoology</td>
<td>Zoology</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Individualized Program</td>
<td>Individualized</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>College Scholars Program</td>
<td>College Scholars</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>Liberal Arts</td>
<td>Liberal Arts</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Intercollegiate with the College of Business Administration)</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>College of Nursing</td>
<td>College of Nursing</td>
<td>Bachelor of Science in Nursing</td>
<td></td>
</tr>
<tr>
<td>College of Social Work</td>
<td>College of Social Work</td>
<td>Bachelor of Science in Social Work</td>
<td></td>
</tr>
<tr>
<td>Graduate School of Library and Information Science</td>
<td>Graduate School of Library and Information Science</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>University Honors</td>
<td>University Honors</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
<tr>
<td>University Studies</td>
<td>University Studies</td>
<td>Bachelor of Arts</td>
<td></td>
</tr>
</tbody>
</table>

*Minor available: Coaching
*Minor available: General Special Education
*Minor available: Driver and Traffic Education and Health Education
*Minor available in Portuguese
The College of Agriculture traces its history to 1869 when the University was designated as Tennessee’s Federal Land-Grant Institution. Under terms of the Federal Land-Grant Act, the University was enabled for the first time to offer instruction in agriculture. This later was expanded to include research for the development of new knowledge and extension for dissemination of such knowledge to rural people.

Two separate administration units — the Agricultural Experiment Station and the Agricultural Extension Service — were organized and assigned responsibility for research and extension functions, respectively. More recently a College of Veterinary Medicine was established. These three units and the College now constitute the University of Tennessee’s Institute of Agriculture. Thus, the College of Agriculture is not only an academic unit of The University of Tennessee, Knoxville campus, it is also an important administrative unit of the Institute of Agriculture.

There are many shared resources and positive interactions between various units of the Institute. For example, most of the faculty in the College of Agriculture hold joint appointments in the Agricultural Experiment Station and they are actively involved in significant basic and applied research in agriculture and the associated natural resources. On campus and field research laboratories are utilized in the instructional programs of the College, while extension and research activities provide many students excellent part-time job opportunities.

The unique association the College has with the UTK campus and the other units of the Institute of Agriculture make it possible for the College to offer comprehensive high quality undergraduate and graduate programs.

Curricula in Agriculture

Broad opportunities for individuals to prepare for a future in agriculture, forestry, and wildlife and fisheries science are offered in the College of Agriculture. The College provides curricula leading to the degrees of Bachelor of Science in Agriculture, Bachelor of Science in Agricultural Engineering, Bachelor of Sciences in Forestry, Bachelor of Sciences in Ornamental Horticulture and Landscape Design and Bachelor of Science in Wildlife and Fisheries Science. The professional degree program in agricultural engineering receives strong support from the College of Engineering and is fully accredited by the Accreditation Board of Engineering and Technology. The forestry curriculum is fully accredited by the Society of American Foresters.

A pre-professional curriculum in veterinary medicine is offered in the College. This program is designed to prepare students for admission to the College of Veterinary Medicine located on the Knoxville campus. Students pursuing programs leading to the degree of Bachelor of Science in Agriculture major in one of several specialized areas of agriculture offered in the college. These major areas are agricultural economics and business, agricultural education, animal science, food technology and science, and plant and soil science. Specific courses required for each of these areas are given under the departmental headings in this section of the catalog. A student must complete the curriculum outlined by the department in which he/she is majoring in order to receive a degree. In all areas of specialization, particular emphasis is placed upon the sciences as a background for agricultural instruction; other courses are included to provide a liberal education. In all subject matter departments there is the opportunity to select elective courses appropriate to the educational objectives of individual students. The choice of electives in each curriculum should be made with the guidance of the faculty advisor.

Students seeking the Bachelor of Science in Forestry may choose concentrations in forest resource management, forest recreation or wood utilization.

All academic and general requirements of the University as stated in the front section of this catalog must be met by agricultural students, and they must complete the requirements in one of the organized curricula. Students transferring into the College of Agriculture from other than the UTK campus must have a grade point average of 2.0.

The use of transfer credit in technical subject matter areas appropriate to each organized curriculum will be considered and approved by the advisor of that curriculum and the Dean of the College of Agriculture. When desirable, validating or proficiency examinations may be requested to determine competence in an area and to avoid unnecessary repetition. Such examinations should be taken during the first semester in residence and must be conducted under the supervision of the head of the department in which the course is offered.

A minimum of 18 semester hours of upper division technical agriculture appropriate to a specified major requirement, and approved by the major advisor, must be completed in residence to fulfill the requirements of baccalaureate degrees offered in the college.

Satisfactory/No Credit Courses

Students may include a maximum of 21 hours in non-directed electives taken on a satisfactory/no credit basis in the total hours required for graduation.

Graduate Study in Agriculture

MASTER OF SCIENCE PROGRAMS

Programs of graduate study leading to
the Master of Science degree are offered in all departments in the College of Agriculture.

DOCTORAL PROGRAMS

Graduate study programs lead to the Doctor of Philosophy degree in animal science, agricultural economics, agricultural engineering, food technology and sciences, and plant and soil science.

General requirements and policies of the Graduate School of The University of Tennessee relating to admission to the Graduate School, residence, language, research, examination, and admission to candidacy shall apply to these programs and are described in the Graduate Catalog.

Facilities

The College of Agriculture uses the facilities on the agricultural campus, on University farms located near Knoxville, and on the main University campus. On the agricultural campus are found the main agricultural building, Morgan Hall; the Agricultural Engineering Building; McCord Hall; the Dairy Products Building; McLeod Food Technology Building; C. E. Brehm Animal Sciences Building, which includes a large pavilion; Ellington Plant Sciences Building which houses the plant science departments; and greenhouses for teaching and experimental work. The buildings which have been erected recently provide facilities comparable to the best in the country for the departments which they serve.

Four farms adjacent to or within eight miles of the agricultural campus are used both for instructional and experimental purposes. Morgan Farm (80 acres), Cherokee Farm (550 acres), Plant Sciences Farm (212 acres), and a livestock farm (510 acres) provide excellent field laboratory facilities for instructional programs offered in the College. Cherokee Woodlot (120 acres), the Oak Ridge Forest (2,250 acres), and Ames Plantation (8,000 acres of forested land) provide excellent facilities for field work in forestry, wildlife and fisheries.

Transportation by bus is provided for classes of agricultural students from the agricultural campus to the University farms and to other points of interest where instruction may be given. Transportation by bus is provided between the agricultural campus and the main University campus so that students may make the change between classes without serious inconvenience.

The facilities of the University on the main campus are available to agricultural students. Courses in the basic sciences, business, communications, engineering, etc. are open to agricultural students and are taught on the main University campus.

Selection of Curriculum

Agricultural students who have determined their areas of special interest may choose the curriculum most adaptable to their needs when they register as freshmen, and an advisor from the department will be assigned for their counseling. It is not necessary, however, that freshman students select their curricula at the end of their first year. Those who are in doubt will be assigned a special advisor to assist them in exploring agriculture and to guide them in the planning of appropriate courses of study for the freshman year. When they choose a curriculum, an advisor will be assigned from that department.

Students with special interest in science, business, or production technology should consult the advisor about selection of appropriate electives. A foundation for advanced study beyond the baccalaureate degree may be established in any curriculum if appropriate electives are included; also, courses may be elected by the student's curricula leading to the degree of Bachelor of Science in Agriculture. In preparation for employment with the Agricultural Extension Service. For this purpose, both the major-curriculum advisor and the agricultural-extension advisor should be consulted.

A very careful choice of electives enables a student with an above-average academic record to complete a double or triple major by satisfying the requirements in each curriculum. For this purpose, the advisors of each curriculum should be consulted, the dean of the College of Agriculture should be informed, and each advisor should maintain a record of the student's progress. The multiple major will normally require more than 132 hours credit for graduation.

Optional Minors

Agricultural students may have single or multiple minors in agriculture or in other college recorded on their transcripts without regard to course overlap among majors and minors. A minor in a department of the College of Agriculture requires a minimum of 18 credit hours in courses numbered 200 and above with the majority of credit hours at the 300 and 400 level. At least 9 of the credit hours required for the minor must be completed at UTK. Specific requirements are listed by each department offering a minor. Minors offered in the College of Agriculture are open to students of other colleges who have the approval of their advisor and department.

Minimum Requirements for Baccalaureate Degree Programs

All B.S. degree programs offered in the College have the following minimum requirements:

- Agriculture and Renewable Natural Resources Perspectives (3)
- Biological Sciences (College of Agriculture courses included) (8)
- Computer Science (3)
- English and Communications (12)
- Physical Sciences (Chemistry, Physics, Geology) (8)
- Social Sciences and Humanities (12)
- Economics (4)
- Electives (6)
- Directed Electives (6)
- Major Courses (24)
- College of Agriculture courses (outside of the major department) designated by the department and/or electives (12)
- Other courses designated by the department and/or electives (38)

For a total of 132 hours.

1. Bachelor of Science in Agricultural Engineering
2. Must be courses in English and communications, biological sciences, physical sciences, or social sciences and humanities or combinations of these subject matter areas.
3. Bachelor of Science in Agricultural Engineering and Bachelor of Science in Forestry program exist.

Independent Study

Independent study and special topics courses and seminars offered in each department provide exceptional students the opportunity to explore in greater depth subject-matter of unusual significance to agriculture. Students gain experience and are encouraged to assume responsibilities not available in formally organized courses. Association with students and faculty from all phases of agriculture and the renewable natural resources in the study of a common problem provides an unusual challenge.

Course Load

Students desiring to take more than 19 hours per semester must have the approval of the dean of the college.

Transfer Students

Students who transfer to the College of Agriculture from another institution, or from another college at UTK, should consult the dean if in doubt about the curriculum they wish to follow and for assignment to an appropriate advisor. Requests for substitutions or special examinations should be submitted for consideration during the first semester of study in the selected curriculum.

Agricultural Economics and Rural Sociology

Professors:
- M. B. Badenhop, Ph.D. Purdue
- J. R. Brooker, Ph.D. Florida; C. L. Cleland, Ph.D. Wisconsin; I. Dubov, Ph.D. California (Berkeley); D. B. Eastwood, Ph.D. Tufts; L. H. Keller, Ph.D. Kentucky; T. H. Klinadt (Asst. Dean), Ph.D. Kentucky; F. O. Leuthold, Ph.D. Wisconsin; J. A. Martin (Emeritus), Ph.D. Minnesota; D. L. McClemore, Ph.D. Clemson; B. R. McManus, Ph.D. Purdue; S. D. Mundy, Ph.D. Tennessee; B. H. Pentecost (Asst. Vice Pres.), J. D. Tennessee; W. P. Ranney (Emeritus), Ph.D. Minnesota; C. B. Sappington, Ph.D. Illinois; T. J. Whatley (Emeritus), Ph.D. Purdue.

Associate Professors:
- B. C. English, Ph.D. Iowa State; R. H. Orr, Ph.D. Cornell; W. M. Park, Ph.D. Virginia Polytechnic Institute; R. K. Roberts, Ph.D. Iowa State; R. W. Todd, J. D. Tennessee.
Agricultural and Extension Education

### Hours Credit

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Agriculture 101</td>
<td>3</td>
</tr>
<tr>
<td>Biology 110, 120</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 110, 111</td>
<td>6</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Economics 201</td>
<td>3</td>
</tr>
<tr>
<td>Nondepartmental social science and humanities</td>
<td>3</td>
</tr>
<tr>
<td>Juniors: Journal 201</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 100</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Economics 210</td>
<td>3</td>
</tr>
<tr>
<td>Physical Science electives</td>
<td>3</td>
</tr>
<tr>
<td>Speech 210 or 240</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 201, 202</td>
<td>6</td>
</tr>
<tr>
<td>Nondepartmental agricultural electives</td>
<td>3</td>
</tr>
<tr>
<td>Sophomore: Agricultural Engineering Technology 201</td>
<td>3</td>
</tr>
<tr>
<td>Plant and Soil Science 210</td>
<td>3</td>
</tr>
<tr>
<td>Plant and Soil Science 230</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Engineering Technology 201</td>
<td>3</td>
</tr>
<tr>
<td>Food Technology and Science 360</td>
<td>2</td>
</tr>
<tr>
<td>Physical Education elective</td>
<td>1</td>
</tr>
<tr>
<td>Junior: Entomology and Plant Pathology 321</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 331</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science elective</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Engineering Technology elective</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Education 345, 346</td>
<td>6</td>
</tr>
<tr>
<td>Agricultural Economics 342</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
<td>3</td>
</tr>
<tr>
<td>Special Education 370</td>
<td>2</td>
</tr>
<tr>
<td>Curriculum and Instruction 302</td>
<td>3</td>
</tr>
<tr>
<td>Health Elective</td>
<td>3</td>
</tr>
<tr>
<td>General Electives</td>
<td>2</td>
</tr>
<tr>
<td>Senior: Agricultural Education 435, 436</td>
<td>12</td>
</tr>
<tr>
<td>Agricultural Education 420</td>
<td>2</td>
</tr>
<tr>
<td>Educational Psychology 315</td>
<td>3</td>
</tr>
<tr>
<td>Curriculum and Instruction 461</td>
<td>3</td>
</tr>
<tr>
<td>Human and Social Science electives</td>
<td>3</td>
</tr>
<tr>
<td>General elective</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural electives</td>
<td>6-7</td>
</tr>
</tbody>
</table>

Total: 132 hours

1. The course should contain a writing component.
2. Select from ornamental horticulture, fruits or vegetables.
3. Select from Animal Science 481, 482, 483.
4. Equivalent hours will be substituted for students not desiring certification.
Engineering Cooperative Scholarship program, Engineers’ Day program, and other student activities in the College of Engineering. They are also eligible for selection into Tau Beta Pi and Alpha Zeta.

Agricultural engineering majors interested in the Cooperative Engineering Scholarship program should consult with the head of the Department of Agricultural Engineering.

### Agricultural Engineering

#### Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 120</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 141, 142</td>
<td>8</td>
</tr>
<tr>
<td>Science 101, 111, 112, 121</td>
<td>13</td>
</tr>
<tr>
<td>Science 120</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 200</td>
<td>1</td>
</tr>
<tr>
<td>Physics 201</td>
<td>1</td>
</tr>
<tr>
<td>Plant and Soil Science 101</td>
<td>3</td>
</tr>
<tr>
<td>Agricultural Engineering 200</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Engineering 300</td>
<td>2</td>
</tr>
<tr>
<td>Agricultural Engineering Basic Courses</td>
<td></td>
</tr>
<tr>
<td>Basic Engineering 201</td>
<td>1</td>
</tr>
<tr>
<td>Electrical Engineering 301, 303, 302</td>
<td>6</td>
</tr>
<tr>
<td>Industrial Engineering 408</td>
<td>2</td>
</tr>
<tr>
<td>Humanities/Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>Physics 231, 232</td>
<td>7</td>
</tr>
</tbody>
</table>

#### Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Engineering 400</td>
<td>7</td>
</tr>
<tr>
<td>Agricultural Engineering Basic Courses</td>
<td></td>
</tr>
<tr>
<td>Agricultural Engineering 400, 410, 420, 425</td>
<td>7</td>
</tr>
<tr>
<td>Design Electives</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
</tr>
<tr>
<td>English 459</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Speech 201, 240</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Senior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Engineering 400, 410, 420, 425</td>
<td>7</td>
</tr>
<tr>
<td>Design Electives</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
</tr>
<tr>
<td>English 459</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

#### Total: 137 hours

For equivalent honors course.

If mathematics ACT is less than 28 or placement test score is unsatisfactory, take Mathematics 130 prior to 141 (see advisor for alternate course schedule). Credit toward graduation will not be granted for Mathematics 130.

Courses selected from areas of 1) Humanities and the Arts, 2) Historical Perspectives, 3) Social Science; at least one course from Humanities and the Arts and at least two upper division courses from one of the three areas.

May include agricultural engineering design course or design courses from other engineering disciplines as agreed as advisor: Agricultural Engineering 430, 435, 440, 445, 450, 455, 460.

As agreed with advisor.

### Agricultural Engineering With Concentration In Food Engineering

#### Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Engineering 100, 101, 111, 121, 131</td>
<td>13</td>
</tr>
<tr>
<td>Chemistry 100, 110</td>
<td>6</td>
</tr>
</tbody>
</table>

### Agricultural Engineering Technology

#### Advisors

Professors Luttrell, Bledsoe, Henry, McDow, Tompkins, and Wilhelm. Associate Professors Mote and von Bernuth.

No baccalaureate degree program is offered in agricultural engineering technology; however, seven undergraduate courses are offered to prepare students in other disciplines to apply elementary principles, techniques, and systems of engineering to the broad industry of agriculture. A minor in agricultural engineering technology requires a minimum of 18 semester hours as follows: Agricultural Engineering Technology 201, 211, 432, 442 and two of the three courses 422, 452, 462.

A program leading to the Master of Science degree with a concentration in agricultural engineering technology is available (see the Graduate Catalog). The graduate program is open to qualifying BS graduates from other disciplines who earned a minor in agricultural engineering technology and who completed courses equivalent to those required for the minor in agricultural engineering technology.
Entomology and Plant Pathology

Professors:

Assistant Professors:
J. F. Grant, Ph. D. Clemson; B. B. Reddick, Ph. D. Clemson; M. T. Windham, Ph. D. North Carolina State.

Advisors:
Southards, Gerhardt, Hily, Lambdin, and Pleas.

No undergraduate curriculum exists in the Department of Entomology and Plant Pathology, but a program leading to the Master of Science degree with a major in entomology and plant pathology is available (see Graduate Catalog). Courses in economic entomology, forest protection, plant pathology and veterinary entomology are available to undergraduate students.

Instruction and training is provided in those disciplines which deal with the natural hazards that are major causes of losses in agricultural production, namely, insects and plant diseases. Courses of study in entomology or plant pathology should give the student an appreciation of insects and microorganisms, their ecology, population dynamics, potential damage to plants and their products, and various considerations in control alternatives.

Animal Science

Professors:
D. O. Richardson (Head), Ph. D. Ohio State; K. M. Barth, Ph. D. Rutgers; M. C. Bell (Emeritus), Ph. D. Oklahoma State; J. K. Bietner (Emeritus), Ph. D. Ohio State; C. C. Chamberlain (Emeritus), Ph. D. Iowa State; B. H. Erickson, Ph. D. Kansas State; O. G. Hall (Dean), Ph. D. Iowa State; S. L. Hansard (Emeritus), Ph. D. Florida; E. R. Lidvall, M. S. Tennessee; T. F. McDonald, Ph. D. Tennessee; J. B. McLaren, Ph. D. Auburn; G. M. Merriman (Emeritus), D. V. M. Michigan State; J. K. Miller, Ph. D. Georgia; M. J. Montgomery, Ph. D. Illinois; R. R. Shrode, Ph. D. Iowa State; R. L. Tugwell (Emeritus), Ph. D. Kansas State.

Associate Professors:
W. R. Backus, Ph. D. Tennessee; H. Eiler, D. V. M. Ph. D. Illinois; R. N. Heitmann, Ph. D. Illinois; W. C. Cullen, Ph. D. Minnesota; G. A. Baumbach, Ph. D. Florida; B. R. Bell, Ph. D. North Carolina State; A. B. Chestnut, Ph. D. Illinois; W. C. Cullen, Ph. D. Minnesota; J. D. Godkin, Ph. D. Massachusetts; S. P. Oliver, Ph. D. Ohio State; S. E. Orozco, Ph. D. V. M. Ohio State; J. D. Smailling, Ph. D. Texas A&M.

Advisors:
Professors Barth, Erickson, Lidvall, McLaren, Montgomery, Richardson, Shirley and Shrode. Associate Professors Backus, Heitmann, Hitchcock, Kattesh, Masincupp, Robbins and Waller. Assistant Professors B. Bell, Godkin, Oliver and Smalling.

The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in swine, poultry, sheep, dairy and beef cattle production and management may be elected, providing the opportunity for special or additional training in the dynamic livestock and husbandry technology (production) areas. Through course selection, students may prepare for general or livestock farming, management, business, or science, or elect the pre-veterinary courses preparatory for specialization. Elective selection permits special training for work with feed companies, meat animal, milk, egg, or poultry production, managerial or marketing groups, other educational agencies, supply and equipment business, agricultural extension services, agricultural communication, public relations, and various organizations associated with agriculture.

A minor in animal science consists of 18 credit hours including 261 (3), 281 (4), and 11 credits from 321 (3), 322 (3), 331 (3), 332 (3), one of the 360 series (2) and one of the 480 series (3). Requests for substitution of similar courses in biology or zoology will be considered on an individual basis. It is suggested that the selection from the 360 series and one of the 480 series deal with the same class of livestock.

Hours Credit

Freshman

English 101-102 ........................................ 6
Mathematics 121-122 or 141-142 or 151-152 ....... 6
Biology 110-120 ........................................ 8
Chemistry 101-111 or 120-130 ......................... 8
Agriculture 101-120 .................................... 3
Animal Science 101-120 ................................. 4
Humanities/Social Science elective .................. 3

Sophomore

English/Communications electives .................. 6
Microbiology 210 ........................................ 3
Chemistry, Physics, or Geology elective .......... 3
Animal Science 261, 281 .............................. 7
Statistics 201 ........................................... 3
Computer Science Elective .......................... 3
Biology 220 ............................................. 3
Plant and Soil Science Elective ..................... 4

Junior

Animal Science 341, 321, 323, 322, 332 .......... 15
Humanities/Social Science electives .......... 3

Senior

Animal Science, 2 of 481, 482, 483, 484, 485, 486, or 487 (6 hours); 495 (1 hour) .... 7
Non-Animal Science Agriculture electives .... 9
Free Electives ........................................ 9

Total: 132 hours

Electives allow students to select an area for specialization. Those interested in production would select additional courses in agriculture; in business administration, economics, agricultural economics, finance, and accounting; in research in chemistry, zoology, physics, and statistics. Electives should be chosen with career objectives in mind and in consultation with the advisor.

The animal science core courses are 261, 281, 321, 322, 331, 332 and 341.

Combined Program Prevet B. S. Degree

This program allows students to be awarded a B.S. degree in Agriculture with a major in Animal Science and a minor in Animal Science, after the successful completion of the first two semesters in the CVM. Students must begin this program early in the pre-veterinary curriculum. The specific requirements are:

1. Completion of all pre-veterinary requirements.
2. The last 30 hours of the three-year pre-veterinary curriculum must have been taken at UTK.
3. At least 12 hours of upper division (300 and 400 level courses) technical agriculture courses must be taken at UTK.
4. In addition to all the required pre-veterinary medical courses, the following (or approved equivalents) must be completed before entering the College of Veterinary Medicine.
   a. Agriculture 101-3 hours
   b. Animal Science 261, 281-7 hours
   c. Animal Science 322-3 hours
   d. Animal Science 331-3 hours
   e. Animal Science 341-3 hours
   f. One of Animal Science 481, 482, 483, 484, 485, 486, or 487-3 hours
   g. Computer Science-3 hours
   h. Economics 201-3 hours

NOTE: The pre-veterinary requirements include 18 hours of Humanities and Social Sciences. By proper selection of these courses the pre-vet and Animal Science requirements can be satisfied.

1. Non-Animal Science Agriculture - 6 hours
2. Satisfactory completion of the first two semesters in the CVM professional program
3. No later than January 31 of the student's first year in the CVM (s)he should contact the Animal Science Department in order to check on graduation procedures for this program.
4. A total of 132 hours must be completed by the end of the first year in the CVM.

Hours Credit

Freshman

English 101-102 ........................................ 6
Mathematics 121-122 or 141-142 or 151-152 .......... 6
Biology 110-120 ........................................ 8
Chemistry 120-130 .................................... 8
Agriculture 101-120 .................................. 3
Animal Science 101-120 ............................... 4
Humanities/Social Science elective ............... 3

Sophomore

English/Communications electives ................ 6
Microbiology 210 ..................................... 3
Chemistry, Physics, or Geology elective ........ 3
Animal Science 261, 281 ............................ 7
Statistics 201 ........................................ 3
Computer Science Elective .......................... 3
Biology 220 .......................................... 3
Plant and Soil Science Elective ................... 4

Junior

Animal Science 341, 321, 323, 322, 332 .......... 15
Humanities/Social Science electives .......... 3

Senior

Animal Science, 2 of 481, 482, 483, 484, 485, 486, or 487 (6 hours); 495 (1 hour) .... 7
Non-Animal Science Agriculture electives .... 9
Free Electives ........................................ 9

Total: 132 hours

1. Combined Program Prevet B. S. Degree
College of Agriculture

Biology 220 .............................................. 3
Economics 201 ........................................ 4
Computer Science Elective .......................... 3
Junior
Animal Science 341, 322, 331, and one of Animal Science 481, 482, 483, 484, 485, 486, or 489 ....... 12
English/Communications Elective ................ 3
Biochemistry 410 .................................... 3
Physics 221-223 ....................................... 4
Non Animal Science Agriculture ................ 6

Total: 102 hours

Courses required beyond PV requirements for PV-BS combined program.
Will count toward Humanities/Social Science elective for PV requirements.

This curriculum meets the requirements for entrance to the CVM and after the first successful year in the CVM, the student will be awarded a B.S. in Agriculture with a major in Animal Science. Should the student not gain admittance to the CVM after the Junior year, the student could complete the requirements for a major in Animal Science during the Senior year.

Food Technology and Science

Professors:
H. O. Jaynes (Head), Ph. D. Illinois;
J. L. Collins, Ph. D. Maryland; S. L. Melton, Ph. D. Tennessee; J. T. Miles (Emeritus), Ph. D. Wisconsin; W. W. Overcast (Emeritus), Ph. D. Iowa State; M. P. Penfield, Ph. D. Tennessee.

Associate Professors:
P. M. Davidson, Ph. D. Washington State;
B. J. Demott, Ph. D. Michigan State;
F. A. Draughon, Ph. D. Georgia;
H. D. Loveday, Ph. D. Kansas State;
J. R. Mount, Ph. D. Ohio State;
M. J. Riemann, Ph. D. Kansas State.

Assistant Professors:
R. N. Bleswal, University of Massachusetts, Amhurst; G. L. Christen, Ph. D. Missouri.

Advisors:
Collins, Draughon, Jaynes, Melton, Mount, and Penfield.

The major in food technology and science prepares students for a professional career in positions in the food industry such as food microbiologist, food chemist, quality evaluation and control supervisor, plant management, ingredients specialist, etc. The program of coursework conforms to the guidelines in the model Curriculum of the Institute of Food Technologists. A special problems course provides opportunity for practical training in food processing plants and laboratories or federal and state laboratories.

The minor in Food Technology and Science requires a minimum of 16 hours as follows: 140, 420-429, 410 or 411, 440, and one elective course in Food Technology and Science.

Food Technology and Science

Freshman

Agriculture 101 .................................... 3
Chemistry 120, 130 ................................... 8
English 101, 102 ...................................... 8
Food Technology and Science 140 ...................... 6

Sophomore

Elective .............................................. 3
Biology 120 ......................................... 4
Chemistry 110 ...................................... 4
Economics 201 ...................................... 4
Microbiology 210 .................................... 3
Physics 121 .......................................... 3
Speech 210 .......................................... 3
Communications Elective ............................ 3
Computer Science Elective .......................... 3

Junior

Agricultural Engineering Technology 422 ......... 3
Food Technology and Science 410, 411 ............. 6
Food Technology and Science 420, 429 .......... 6
Nutrition and Food Sciences 200, 201 .......... 7

Senior

Food Technology and Science 491 ..................... 2
Food Technology and Science 430, 440 .......... 4
Nutrition and Food Sciences 300 .......... 3
Food Technology and Science Electives ............ 9
General Electives .................................. 15

Total: 132 hours

Mathematics 130 and 141 or 151 accepted for students with advanced mathematics background.

Social Sciences and Humanities courses within the departments of Art, Music, Theatre, Classics, History, Cultural Studies, c. Germanic and Slavic Languages, Romance Languages, and d. Philosophy: Psychology, Anthropology, Human Services, Sociology (including Agricultural Economics and Rural Society), Economics, Political Sciences, Religious Studies, Social Work.

Requirements will be a minimum of 8 credits from a., b., or c. and a minimum of 9 credits from d. to include Economics 201.

Or Statistics 201

Three commodity electives are required, one each in dairy products, meats and foods from plant sources.

Forestry, Wildlife and Fisheries

Professors:
G. T. Weaver (Head), Ph. D. Tennessee;
J. W. Barrett (Emeritus), Ph. D. Syracuse;
E. R. Buckner, Ph. D. North Carolina State;
J. L. Byford, Ph. D. Auburn; H. A. Core (Emeritus), Ph. D. Syracuse; R. W. Dimmick, Ph. D. Wyoming; W. E. Hammitt, Ph. D. Michigan; R. L. Little, Ph. D. North Carolina State; D. M. Ostermeier, Ph. D. Syracuse;

Associate Professors:
B. L. Dearden, Ph. D. Colorado State;

Assistant Professors:
S. E. Scharbaum, Ph. D. Colorado State;
P. M. Winistorfer, Ph. D. Iowa State.

The department offers two majors. The major in forestry leads to the degree Bachelor of Science in Forestry and the major in wildlife and fisheries science leads to the degree Bachelor of Science in Wildlife and Fisheries Science. The forestry major has three concentrations; Forest Resource Management Concentration, Forest Recreation Concentration, and Wood Utilization Concentration.

Forestry

The profession of forestry is the science, the art, and the practice of managing and using for human benefit the natural resources which occur on and in association with forest lands. Benefits are derived from the multiple resources of the forest: wood, water, wildlife, recreation, forage, and environmental amenities. Foresters are managers of these resources. Thus, our principal instructional objective is to provide the broad education needed to deal effectively with the complex of forest resources.

A minor in Forestry consists of 16 credit hours as follows: FWF 211 or FWF 250, FWF 311 and 9 hours of courses having a Forestry designation. Prerequisites will not be waived.

FOREST RESOURCE MANAGEMENT CONCENTRATION

The Forest Resource Management Concentration provides an opportunity to obtain an education related to the management of the broad spectrum of forest resources. In addition to the core of required courses, there are about 15 elective credit hours for broad studies or specialized training in one or more areas of forestry. These areas and examples of related fields of study are:

Forest Biology including plant physiology and morphology, ecology, genetics, tree nutrition, forest soils; Forest Business Management including economics, accounting, finance, marketing, management science; Forest Economics including economics, business administration, social science; Forest Inventory including mathematics, statistics, computer science, photogrammetry; Forest Recreation including natural and social sciences; and Wildlife Management including ecology, zoology, botany.

The University has over 21,000 acres of forest land available for teaching, research, and demonstration. The Tennessee Valley Authority, Great Smoky Mountains National Park, and Cherokee National Forest provide...
additional land and facilities available to the teaching program. Contained within these areas is a wide variety of tree species and forest types ranging from elements of the boreal forest to southern pines and hardwoods. Lumber, pulp and paper, and other wood-using industries cooperate in conducting tours and demonstrating industrial processes.

### Hours Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 130, 151</td>
<td></td>
</tr>
<tr>
<td>Botany 110, 120</td>
<td></td>
</tr>
<tr>
<td>Chemistry 100</td>
<td></td>
</tr>
<tr>
<td>English 110 or Physics 121 or Geology 101</td>
<td></td>
</tr>
<tr>
<td>Agriculture 101</td>
<td>3</td>
</tr>
<tr>
<td>FWF 211</td>
<td></td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Economics 201</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 101</td>
<td></td>
</tr>
<tr>
<td>Speech 210 or 240</td>
<td>3</td>
</tr>
<tr>
<td>FWF 311</td>
<td></td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
</tr>
<tr>
<td>Statistics 252</td>
<td>3</td>
</tr>
<tr>
<td>Forestry 331, 332</td>
<td>3</td>
</tr>
<tr>
<td><em>Social Sciences Elective</em></td>
<td>3</td>
</tr>
<tr>
<td><em>Humanities Elective</em></td>
<td>3</td>
</tr>
<tr>
<td><em>Communications Elective</em></td>
<td>3</td>
</tr>
<tr>
<td>Multidiscipline/Multiculture Elective</td>
<td>3</td>
</tr>
<tr>
<td>Restricted Electives</td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>FWF 300, 312, 313, 315, 316, 317</td>
<td>14</td>
</tr>
<tr>
<td>Forestry 321, 322, 323, 324, 325</td>
<td>15</td>
</tr>
<tr>
<td>EPP 306</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td>132 hours</td>
<td></td>
</tr>
</tbody>
</table>

†Lists of appropriate courses in Social Sciences, Humanities, History, and Communications are available at the Department of Forestry, Wildlife and Fisheries Office.

2Restricted Electives are chosen in conference with advisor; students will choose one course from WFS 443, 444, 445 to satisfy three hours of restricted electives.

### FOREST RECREATION CONCENTRATION

The Forest Recreation Conference provides opportunities to obtain an education in preparation for professional positions in the planning, development, interpretation, and management of private and public forested lands for recreational purposes. Students also learn the basic philosophy and principles associated with leisure time and its use along with the relationship of forest resources to the constructive use of leisure time.

#### Hours Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 141, 142, 143, 144</td>
<td></td>
</tr>
<tr>
<td>Botany 110, 120</td>
<td>8</td>
</tr>
<tr>
<td>Agriculture 101</td>
<td>3</td>
</tr>
<tr>
<td>FWF 211</td>
<td></td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td><em>Communications Elective</em></td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td><em>Vertebrate Biology Elective</em></td>
<td>3</td>
</tr>
<tr>
<td>redeemable in Economics 101</td>
<td></td>
</tr>
<tr>
<td>IE 200, 201, 202, 203, 204, 205</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 241</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 251</td>
<td>3</td>
</tr>
<tr>
<td>FWF 311</td>
<td></td>
</tr>
<tr>
<td>Forestry 331, 332</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td>135 hours</td>
<td></td>
</tr>
</tbody>
</table>

†Lists of appropriate courses in Humanities and History are available at the Department of Forestry, Wildlife and Fisheries Office.

### WOOD UTILIZATION CONCENTRATION

The Wood Utilization Concentration trains students for careers in forest products industries such as lumber, furniture, pulp and paper, or wood composites. Coursework is oriented toward the application of wood technology and engineering principles to wood processing. A sound background in basic sciences is required. Demand for forest products is forecasted to increase. This increased demand should continue to provide excellent opportunities for forest products graduates.

#### Hours Credit

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 141, 142, 143, 144</td>
<td></td>
</tr>
<tr>
<td>Botany 110, 120</td>
<td>8</td>
</tr>
<tr>
<td>Agriculture 101</td>
<td>3</td>
</tr>
<tr>
<td>FWF 211</td>
<td></td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td><em>Communications Elective</em></td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td></td>
</tr>
<tr>
<td>FWF 312, 313, 315, 316</td>
<td>10</td>
</tr>
<tr>
<td>Forestry 431, 432</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 252</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 101</td>
<td>3</td>
</tr>
<tr>
<td>IE 300, 302</td>
<td>3</td>
</tr>
<tr>
<td>Speech 210 or 240</td>
<td>3</td>
</tr>
<tr>
<td><em>Humanities and Social Science Elective</em></td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
</tr>
<tr>
<td>138 hours</td>
<td></td>
</tr>
</tbody>
</table>

†Communications course in speech or writing.

†Vertebrate Biology course in ornithology, herpetology, mammalogy, or ichthyology.

†Science Electives are to be 300-level or above from the following departments: Animal Science, Botany, Entomology and Plant Pathology, Forestry, Wildlife and Fisheries, Plant and Soil Science, and Zoology.

### Ornamental Horticulture and Landscape Design

Professors:


Associate Professor:

J. W. Day, Ph. D. Mississippi State.
Assistant Professor: S. M. Rogers, M. L. A. University of Georgia.
Instructor: Sue Wilson, M. S. Ohio State.
Advisors: Callahan, Crater, Day, McDaniel, Rogers, van de Werken, and Williams.

The curriculum in Ornamental Horticulture and Landscape Design provides five general areas of study designed to provide students knowledge and skills needed for successful careers. The areas are landscape design, landscape construction, nursery management, floriculture and turfgrass management. Landscape design is the shaping and enhancement of the environment for our use, comfort, and enjoyment. It not only involves the use of plant material to accomplish this goal, but also involves an understanding of the functional requirements for work, recreation, and housing. Emphasis is on understanding the design process and acquiring the appropriate graphic, scientific, and technical skills. Opportunities include landscape design services, landscape development and maintenance, garden center operation, allied sales, municipal and highway landscaping, park development, and teaching.

Landscape construction begins with a final design plan and involves implementing the plan with all the necessary construction steps including earthwork, paving surfaces, fences, pools, decks, patios, benches, and planting installation. Students learn about basic construction materials, drainage and irrigation, water features, outdoor lighting and other components of landscape construction.

Nursery management involves the growing of trees, shrubs and other ornamental plants for sale. Skills necessary to be a nursery manager include horticultural knowledge and management skills. Opportunities are in nurseries, garden centers, botanical gardens, and arboretums, and in landscape maintenance and installation.

The area of floriculture includes the science of producing flowering plants in field and greenhouse, and the art and science of using these plants for the benefit of humans. Opportunities are in nurseries, garden centers, botanical gardens, and arboretums, and in landscape maintenance and installation.

Plant and soil science deals with field and vegetable crops and soil resources. Plant science includes crop ecology and physiology, crop breeding and genetics for crop improvement; introduction of new varieties, crop management for high quality products, and weed control for efficient crop production. Soil science includes studies in soil formation and classification for better understanding of our soil resources; soil management for optimum crop production, conservation and environmental quality; soil fertility for efficient nutrient utilization; basic studies in chemistry, physics, and biology as they apply to the soil and to a better understanding of its properties and use.

The plant and soil scientist must have knowledge of the basic physical, chemical, and biological sciences and be trained in communication and computer skills. The scientist may be broadly trained or may specialize in a more specific phase of the subject. Many employment opportunities are available for the well-trained plant and soil scientist including positions with public agencies such as Agricultural Extension Services, Soil Conservation Service, Forest Service, Federal Credit Service, and educational institutions. Many plant and soil scientists are also employed in private industry as technical specialists, consultants, supervisors, salespersons, appraisers, advisors, farm managers and in international agriculture.

Students selecting this major must complete the basic curriculum for the College of Agriculture and fulfill the major group requirements. A minor may be selected from among many related disciplines.

Required courses for a major in Plant and Soil Science are 210, 230, 401 and 471 plus 3 courses from Group A and 3 courses from Group B. Of the 6 courses chosen from Groups A and B, one must be a soil science course and one must be a plant science course.


Appropriate selection of the many electives available in the Plant and Soil Science curriculum permits students to select options that meet their interest and career goals. A departmental advisor will assist in designing a program to meet the student's individual objectives. Possible options include field crops, fruits, vegetables, soil and water conservation, plant breeding, pest management, agriculture education, etc. A minor in Plant and Soil Science consists of 16 credit hours including 210, 230.
and at least 9 elective hours to be taken by selecting at least one course from each of Group A and Group B. Plant and Soil Science 471 will not be accepted as a course to meet minor requirements.

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>Agriculture 101</td>
<td>3</td>
</tr>
<tr>
<td>Lower Division Biological Science (110-120 General Botany or 110-120 General Biology)</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 120-130</td>
<td>8</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 130-151</td>
<td>6-8</td>
</tr>
<tr>
<td>Sophomore</td>
<td></td>
</tr>
<tr>
<td>Plant and Soil Science 210, 230</td>
<td>7</td>
</tr>
<tr>
<td>Physics 121 or 221</td>
<td>3-4</td>
</tr>
<tr>
<td>Speech 210 or 240</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
</tr>
<tr>
<td>Speaking or Writing Elective</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 101 or 102 or 100</td>
<td>3</td>
</tr>
<tr>
<td>Humanities or Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Biological or Physical Science Elective</td>
<td>4</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Humanities or Social Science Electives</td>
<td>9</td>
</tr>
<tr>
<td>Biology 220</td>
<td>3</td>
</tr>
<tr>
<td>Entomology and Plant Pathology 313 or 321</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 110 or 350</td>
<td>3-4</td>
</tr>
<tr>
<td>Botany 321</td>
<td>4</td>
</tr>
<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Plant and Soil Science 401, 471</td>
<td>4</td>
</tr>
<tr>
<td>Animal Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Plant and Soil Science Electives</td>
<td>6</td>
</tr>
<tr>
<td>Non-Departmental Agricultural Electives</td>
<td>6</td>
</tr>
<tr>
<td>Social Science or Humanities Elective</td>
<td>2-3</td>
</tr>
<tr>
<td>Electives (open)</td>
<td>11-16</td>
</tr>
<tr>
<td>Total: 132 hours</td>
<td></td>
</tr>
</tbody>
</table>

Students with a Mathematics ACT of 26 or more or a satisfactory placement test score should take Mathematics 151-152 or 141-142.
School of Architecture

Roy F. Knight, Dean
William J. Lauer, Associate Dean

Professors:
R. F. Knight (Dean), M. Arch. Harvard;
G. Anderson, M. Arch. Illinois; G. Conley,
B. Arch. Harvard; J. W. Fortey, P. E.
Doctorate D' Universite de Toulouse
(France); F. Grier, M. Arch. Pennsylvania;
M. Kelso, M. S. Tennessee;
J. A. Kersavage, D. Sc. S. California;
R. M. Kelso, M. S. Tennessee;
(France); F. Grieger, M. Arch. Pennsylvania;
Doctorate D' Universite de Toulouse
B. Arch. Harvard; J. W. Fortey, P. E.

Financial Assistance

A number of scholarships are made available each year through the Architecture Endowment Fund and the Tennessee Foundation for Architecture. Other scholarships have been funded by the Masonry Institute of Tennessee, the General Shale Corporation and other architectural firms, manufacturers of building materials, and other construction related industries. Scholarships are also available through the national headquarters of the American Institute of Architects. Honor students in all but the upper four years are eligible for this aid, but it is primarily awarded to students of third and fourth-year standing.

Assistant Professors:
M. D. Herz, B. Arch. Columbia; S. A. Kinzy,
M. Arch. Illinois; W. E. Martella, B. Arch.
California (Berkeley); M. S. Moffett, Ph. D.
M. T. T.; V. Naracic, B. Arch. Belgrade;
J. S. Rabun, M. Arch. Texas.

Associate Professors:
C. H. Bovill, M. Arch. University of Hawaii;
J. Coddington, B. Arch. Tennessee;
L. D. Grieve, B. Arch. Tennessee; M. Kaplan,
M. Arch. Harvard; J. E. Reno, M. Arch.
California (Los Angeles); P. Von Buelow,
B. Arch. Tennessee; L. Wells-Bowie, M. Arch.
California (Berkeley).

The School of Architecture offers a program of professional studies which prepares its graduates for the practice of architecture. While emphasizing knowledge and skills required by architects in guiding the processes of building, the School is especially concerned that its students learn that kind of good judgement which particularly distinguishes the architect from other professionals who serve the building industry. Therefore, the student is regularly called upon to pay attention to cultural, social, philosophical and ethical issues that appropriately concern the architect in performance of the art of building. The student is also required to discover and understand the principles by which our physical universe appears to operate in order to know the science of building as fully as possible. It is important for the student to learn the characteristics of the natural environment while learning the physical behavior of materials in structures. Because of the special demands an architect faces, the program of the School emphasizes the process of learning with the intent of enabling its graduates to adapt to the changing circumstances of our world. How to learn about architecture is as important a matter for the student as learning itself.

The principal library holdings of the School are located in the James D. Hoskins Library, with additional volumes in the Undergraduate Library. A reading and reference room is maintained in the Art and Architecture Building.

Lecture Program

Throughout the academic year, the School organizes an extensive series of special lectures by experts in architecture and related subjects. Students are expected to attend regularly and benefit from this opportunity to hear the leading people of the field. The lectures are open to the University community and the public as well.

Included in the series is the ROBERT B.
CHURCH MEMORIAL LECTURESHIP.
Named for the School's second dean, it has become widely recognized in the field as an honor to be appointed to this lectureship. The most prominent architects from around the world are brought to the School with income from the endowment.

Other important lectures are sponsored by the General Shale Corporation, the Masonry Institute and the Architecture Annual Fund. Annually in the spring term a special program, TAAST, "The Annual Architecture Spring Thing", is presented. Within a period of one week the students participate in special lectures, seminars, exhibits and informal gatherings. Featured are discussions by a series of visiting experts. TAAST is organized by the students.

Facilities

In the spring of 1981, a new building housing the School of Architecture and shared with the Art Department was completed. The Art and Architecture Building contains all the primary activities of the School. Expressly designed for the School in an open architectural competition, the building has received widespread recognition and has become one of the models sought out by other schools. The building was designed by the Knoxville architectural firm of McCarty, Bullock, Holsaple, Inc. It contains as its major feature a large interior mall or street. Opening off this gathering space, which serves as a campus focal point, are amply designed classrooms, a reference library which contains extensive slide collections and other reference materials, computer rooms, faculty offices, lecture rooms, administrative offices, an elaborate darkroom, workshop, and the C. Kermit "Buck" Ewing Art and Architecture Gallery.

The principal library holdings of the School are located in the James D. Hoskins Library, with additional volumes in the Undergraduate Library. A reading and reference room is maintained in the Art and Architecture Building.

52
Publications
Students in the School each year publish The University of Tennessee Journal of Architecture. Continuing several years of excellent publications covering work of the School and current thinking in the field, this journal has become a widely recognized part of the School’s participation in the profession.

Foreign Studies Program
Each year the School offers at least two opportunities for foreign study to its students. In cooperation with the Danish International Student Committee a program is regularly offered in Copenhagen taught by outstanding Danish architects and educators. Exchange programs are established with Royal Melbourne Institute of Architecture, Melbourne, Australia and Chongqing Institute of Architecture and Engineering, Chongqing, Sichuan Province, China. One member of the School faculty leads a program in Europe each year at varied locations. These projects are designed to include visits to prominent new architectural sites and major historic locations. Most recently the School has offered a program in Yugoslavia in which students and faculty from the Universities of Belgrade and Zagreb join students and faculty from Tennessee to study.

Studies abroad, arranged to include a full semester’s credit for advanced students, include design, history and theory of architecture and directed independent study.

Memphis and Knoxville
Community Design Centers
Each year, throughout the year, advanced students may be given opportunity to work at locations off-campus while enrolled in a course, Architecture 492 Off-Campus Study or Architecture 493 Independent Study. These programs enable students to gain first-hand experience and work alongside outstanding professional architects while dealing with actual community based projects. Students may enroll in additional courses at off-campus locations to complete a full semester’s program of study in keeping with curriculum requirements. During 1986-1988 the School is participating in Knoxville’s “Mainstreet” program funded by the National Trust for Historic Preservation, the United States Department of Housing and Urban Development and the City of Knoxville.

General Information
Students are advised to consult the University’s general requirements as stated in the front section of this catalog as well as the requirements described in the School of Architecture’s Student Handbook. Self advising is not permitted in the School of Architecture. Students must plan their schedule carefully with an assigned advisor. Electives will be chosen with the concurrence of the advisor and with full consideration of the necessary prerequisites.

Freshman Admission Requirements
The School of Architecture, being a professional program and having limited resources, has restricted enrollment based on the following criteria: (1) Accept applicants with an ACT composite score of 27 (SAT 1100) or above; (2) Accept applicants with a total of 55 or above using the formula of the high school grade point average times 10 plus the ACT composite score. A minimum ACT composite score of 20 (SAT 840) is required; (3) Refuse all applicants with an ACT composite score of 16 (SAT 720) or below; and (4) Refer applicants not falling into items 1, 2, or 3 to the Committee on Admissions which meets during the second week of March.

Deadlines for Applications
Deadlines for application to the School of Architecture coincide with those set forth by The University of Tennessee. All applications must be received by August 1 for fall semester admission, and no later than three weeks before the start of classes for admission to any other semester. It should be noted that due to the strong sequential character of the curriculum and certain prerequisites, entry in any semester other than fall may be difficult.

Requirements for Progression to Second-Year Architecture
(1) Satisfactory completion of first-year architecture program with grade point average at least 2.3; exceptions may be made only by petition. (2) Application for progression must be submitted no later than June 15 preceding the start of the second year. Students must maintain an overall 2.3 grade point average by the end of 32 hours (attempted) in order to maintain “full status” in the program. Delinquent students must be put on “temporary status” for one semester. These students will have one semester to raise the overall GPA to a 2.3 or have minimum 2.3 on each semester’s work until overall average is raised to 2.3. If the GPA is not brought up to 2.3, the student will be dropped from the program.

Third-Year Prerequisites
Students are required to have all first and second-year courses satisfactorily completed before entering the third-year design courses, Architecture 371-372. Students’ progress and design work in second-year will be reviewed by a committee of the faculty to determine their readiness for advancement to third-year. Students who register for a third-year design course holding first or second-year deficiencies may be required to drop the course at any point during the semester.

Progression to 400-level Courses
Architectural students must have attained third-year standing in the School before being admitted to any 400-level course, with the exception of Architecture 400 Service Practicum. Students must complete all requirements of the curriculum through the third year before entering Architecture 471.

Minor
An undergraduate minor in architecture is offered in order to enable students in other colleges to pursue studies in architecture which are relevant to their major areas of concentration. The minor will consist of not less than 12 hours. Persons interested must obtain the consent of the School of Architecture Academic Standards Committee and Dean of the School of Architecture, who will approve specific programs of study proposed by students.

Course Load
The average course load in any semester is 16 credit hours. The minimum which may be taken by full-time students is 12 hours; the maximum which may be taken without approval of the Dean is 19 hours.

Satisfactory/No Credit Courses
These 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-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 may not count for required courses or architecture electives; (2) A student who desires to take a course S/NC should indicate this intention at the start 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 for each semester. Students who register for an architecture elective or required course with S/NC grading indicated will be required to change to regular grading.

Curricula for Architecture
The curriculum for the Bachelor of Architecture Degree includes a combination of required and elective courses which offer the student both a solid professional program of study and a sound general education. While the majority of the courses are designated as required, students may use the available architecture electives to expand their knowledge in areas of special interest. Academic non-architecture electives allow students to broaden their education in areas of general interest: the humanities, natural sciences, social sciences, arts and University studies. All electives are to be taken only with the approval of the student’s advisor.
All students studying for a Bachelor of Architecture degree will include the following requirements in their course of study. Students are not allowed to enroll simultaneously in two design courses. For any additional specialized requirements, the student should refer to the Student Handbook of the School of Architecture and the student’s advisor.

SERVICE PRACTICUM REQUIREMENT
A three-month, non-credit internship in an architect’s office is required. Upon petition, work in an engineer’s or contractor’s office or related work may be approved by the School. This work must be evidenced by a letter from the employer indicating type and quality of student’s work and time of employment prior to the fifth year. (See course description for Architecture 400.)

Foreign students may need to obtain Immigration and Naturalization Service Employment Authorization before service practicum begins. To obtain authorization, foreign students should take their I-94 form to the Office of International Student Affairs not more than 60 days nor less than 30 days before the anticipated starting dates. Beginning service practicum employment without INS authorization constitutes unauthorized employment and may jeopardize a foreign student’s continued stay in the United States.

FIVE YEAR PROGRAM

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 101, 102</td>
<td>5</td>
</tr>
<tr>
<td>Architecture 127</td>
<td>7</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>History 151, 152</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 141, 142</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 211, 212</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 231, 232</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 271, 272</td>
<td>12</td>
</tr>
<tr>
<td>Physics 121</td>
<td>4</td>
</tr>
<tr>
<td>Natural Science elective or Physics 122</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 213, 312</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 331, 332</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 341, 342</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 371, 372</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 431, 462</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 471, 472</td>
<td>12</td>
</tr>
<tr>
<td>Architecture elective</td>
<td>6</td>
</tr>
<tr>
<td>Social Science elective</td>
<td>6</td>
</tr>
<tr>
<td>University Studies elective</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fifth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 480</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 481, 482</td>
<td>12</td>
</tr>
<tr>
<td>Architecture elective</td>
<td>6</td>
</tr>
<tr>
<td>Humanities/Arts elective</td>
<td>3</td>
</tr>
<tr>
<td>University Studies elective</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 160 hours

Students are not allowed to enroll simultaneously in two of these design courses.

Bachelor of Architecture as a Second Degree

A curriculum leading to a Bachelor of Architecture degree is available to students who already hold a bachelor's degree or an advanced degree in another field. This program begins with intensive initial studies in architecture and is possible to complete within three years. A minimum of 6 semesters residency is required. The degree is the first professional degree recognized for purposes of eventual qualification for the license to practice architecture.

Applicants must provide a transcript of previous academic work and must have attained at least a 2.5 overall grade point average. Appropriate goals and abilities must be shown by the applicant as well. Second Degree students are required to submit a portfolio which demonstrates a proficiency in freehand and constructed drafting techniques prior to taking Architecture 281 Second Degree Program: Design I. If an otherwise qualified student does not have these skills, he or she can come to the School of Architecture the summer before entering the Second Degree Program and take an intensive drawing course which will fulfill the prerequisite.

SECOND DEGREE PROGRAM

<table>
<thead>
<tr>
<th>First Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 203, 204</td>
<td>4</td>
</tr>
<tr>
<td>Architecture 211, 212</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 231, 232</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 281, 282</td>
<td>10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 213, 312</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 331, 332</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 341, 342</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 371, 372</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 431</td>
<td>4</td>
</tr>
<tr>
<td>Architecture 471, 482</td>
<td>12</td>
</tr>
<tr>
<td>Architecture 481, 482</td>
<td>12</td>
</tr>
<tr>
<td>Architecture electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 95 hours

Students are not allowed to enroll simultaneously in two of these design courses.

To be admitted to the third year the student must submit work for review by a designated committee of faculty of the School. A GPA of 3.0 in Architecture 281, 282, 371, 372 is required along with an overall 2.5 GPA.
Schools of Business, the UTK program in Tennessee was the first in Tennessee to be so accredited. Despite the size, emphasis is placed on quality at all levels. The harmonious blending of undergraduate and graduate programs, of teaching and research, and of development of technical skills on the one hand and broad concern for individual, social and economic values on the other makes the college a vital and exciting place to study and work.

College programs are fully accredited by the American Assembly of Collegiate Schools of Business. The UTK program in business was the first in Tennessee to be so recognized and one of the first ten in the South to receive accreditation.

Undergraduate Programs

General education, a business "core," and area specialization: this trinity underlies the UTK business program. Building on a firm foundation in written and oral communications, mathematical and statistical methods, and an understanding of the methodology and accomplishments of the social, behavioral, and natural sciences, the business core seeks to expose students to the realms of financial and managerial accounting, micro- and macro-economics, and the functional fields of business. Specialization comes through intensive study in one of the seven majors offered.

The combination of breadth and depth in the undergraduate program produces graduates who are prepared to grow in their personal and professional lives and employees who are well educated in one of the professional or functional fields of business. In the preparation of graduates for roles in society, the size of the college is an important advantage. Included among the nearly 140 faculty are many generalists, but also a rich variety of those with specialized knowledge and interests. Furthermore, the comprehensive nature of the University and the combined teaching/research/service mission of the institution and the college mean that the faculty are almost certainly on the cutting edge of their disciplines.

While size and diversity can be important advantages, those advantages can be overwhelmed if the personal touch is lost. In an attempt to avoid the pitfall of impersonal education, the college embarked in the fall of 1980 on a plan of administered enrollments, designed to assure that the numbers enrolled would not exceed the limited capacity of the college to provide a quality education. The plan calls for admission to the programs of the college in two stages: at the lower division level (freshmen and sophomores) and at the upper division level (juniors and seniors). Admission to the upper division is limited to those who have successfully completed the prescribed lower division courses, who have shown seriousness of interest and purpose, and who have records of substantial academic achievement.

A further aspect of the college which helps in the development and maintenance of "personal scale" is found in the many student organizations in the college. More than a dozen clubs and professional fraternities and sororities represent a broad spectrum of student interest and provide continuing opportunities for the development of leadership skills and involvement with small groups on an intensive basis.

Success of any academic program is both difficult to define and hard to measure. In the final analysis, the building of character is probably the most valuable product of academe. On a more mundane level, however, we take a great deal of pride in our success in placing our graduates with local, regional, and national employers, and in the record of our graduating seniors on the nationwide Business Assessment Test, administered by the Educational Testing Service, which placed UTK students well within the top twenty percent of business school seniors nationally.

Student Advising Center

The College maintains a Student Advising Center staffed with full-time academic advisors to assist freshman and sophomore students with their programs. Students who have been admitted to a major are advised by faculty members from the selected major. The objective of the Advising Center is to provide students with the academic information they need.

Center for Business and Economic Research

The staff of the Center engages in studies of the business and economic environment of Tennessee, the Southeast and the nation. The center publishes results of its research and that of others, in monograph form so that significant developments in the various business disciplines can achieve widespread exposure. As periodicals, the center publishes the Tennessee Statistical Abstract and the Survey of Business. The center is a member of the Southeastern Economic Analysis Conference and the Association for University Business and Economic Research. For more information, contact Dr. David A. Hake, Glocker Administration Building, Suite 100, The University of Tennessee, Knoxville, Tennessee 37996.

Management Development Center

The Management Development Center
provides programs tailored to the needs of industry and management. These programs emphasize high quality programming, small class size, outstanding faculty and a highly participatory style of instruction.

The center's programs range from customized 'in-plant' programs to the four-year University of Tennessee Executive Development Program (TEDP). Through The Institute for Productivity through Quality, the center teaches the techniques of statistical process control to both managers and executives. Other programs focus on specific continuing education needs of business and industry. For more information, contact Mr. John Riblett, 708 Stokely Management Center, The University of Tennessee, Knoxville, Tennessee 37996.

Standards

Admission to the College of Business Administration does not guarantee acceptance into the chosen major. Admission to the upper-division (major) is based on the availability of space in the College as a whole and in the major requested. The academic progress of those admitted to the College is evaluated periodically. Those failing to make adequate progress toward meeting the standards for progression to the upper-division are encouraged to seek alternative educational opportunities. Progression standards are adjusted periodically and current requirements can be determined by consulting with an advisor in the Undergraduate Programs Office.

In general, students must apply for a major the semester after attempting 45 hours. The academic record presented will be assessed by the Associate Dean for Undergraduate Programs. The following minimum requirements must have been met in order to be considered for admission to a major:

1. Must have followed a business curricu-
2. Must have earned a minimum 2.30 average, cumulative, over the courses specifically required in the lower-division of that curriculum, excluding non-business and non-departmental electives. Some majors may have differing average requirements.
3. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incom-
4. Progression standards are subject to change; current standards will be available in the Undergraduate Programs Office, Glocker 52.

Transfers From Other UTK Programs

Students in other colleges at UTK must apply for progression to a major in the College of Business Administration at the earliest possible date but definitely prior to 75 hours. As a minimum, all students must be admitted to a CBA major for at least the last 30 hours of work. Only in exceptional cases will application be considered after 75 hours of coursework (at UTK or elsewhere) have been attempted. It should not be sup-

posed that admission must be granted to those who accumulate a substantial number of hours in the CBA courses; on the contrary, an academic record reflecting substantial work which follows the CBA curriculum will be taken as prima facie evidence of an intent to evade this policy and will result in denial of admission.

Appeals

The College has established a Progression Appeals Committee to which those students who have been denied progression may address an appeal. Information on the appeals process may be obtained by calling the Undergraduate Programs Office, 974-5096, or contacting an advisor in that office.

Business Minor for Non-Business Students

Students in other colleges at UTK who wish to obtain a minor in Business Administration must successfully complete the following required courses: Accounting 201-202, Economics 201, and Statistics 201.

Additionally, 12 hours of upper-division business electives must be taken at UTK. No more than three upper-division hours of accounting, economics, or statistics may be used for this minor. Students are responsible for meeting listed prerequisites of any upper-division courses taken in a particular concentration. Acceptance of the minor must have approval of the student's college of enrollment. Minors are unavailable to College of Business Administration students.

Course Load

The normal course load for a semester is 15-18 hours. In unusual circumstances permission to take a course load in excess of this maximum may be granted by the Associate Dean for Undergraduate Programs in Business Administration.

Satisfactory/No Credit

A maximum of 20 credit hours of sa-
1. Must have followed a business curricu-
2. Must have earned a minimum 2.30 average, cumulative, over the courses specifically required in the lower-division of that curriculum, excluding non-business and non-departmental electives. Some majors may have differing average requirements.
3. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incom-
4. Progression standards are subject to change; current standards will be available in the Undergraduate Programs Office, Glocker 52.

Transfers From Other UTK Programs

Students in other colleges at UTK must apply for progression to a major in the College of Business Administration at the earliest possible date but definitely prior to 75 hours. As a minimum, all students must be admitted to a CBA major for at least the last 30 hours of work. Only in exceptional cases will application be considered after 75 hours of coursework (at UTK or elsewhere) have been attempted. It should not be sup-

posed that admission must be granted to those who accumulate a substantial number of hours in the CBA courses; on the contrary, an academic record reflecting substantial work which follows the CBA curriculum will be taken as prima facie evidence of an intent to evade this policy and will result in denial of admission.

Appeals

The College has established a Progression Appeals Committee to which those students who have been denied progression may address an appeal. Information on the appeals process may be obtained by calling the Undergraduate Programs Office, 974-5096, or contacting an advisor in that office.

Business Minor for Non-Business Students

Students in other colleges at UTK who wish to obtain a minor in Business Administration must successfully complete the following required courses: Accounting 201-202, Economics 201, and Statistics 201.

Additionally, 12 hours of upper-division business electives must be taken at UTK. No more than three upper-division hours of accounting, economics, or statistics may be used for this minor. Students are responsible for meeting listed prerequisites of any upper-division courses taken in a particular concentration. Acceptance of the minor must have approval of the student's college of enrollment. Minors are unavailable to College of Business Administration students.

Course Load

The normal course load for a semester is 15-18 hours. In unusual circumstances permission to take a course load in excess of this maximum may be granted by the Associate Dean for Undergraduate Programs in Business Administration.

Satisfactory/No Credit

A maximum of 20 credit hours of satisf-
1. Must have followed a business curricu-
2. Must have earned a minimum 2.30 average, cumulative, over the courses specifically required in the lower-division of that curriculum, excluding non-business and non-departmental electives. Some majors may have differing average requirements.
3. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incom-
4. Progression standards are subject to change; current standards will be available in the Undergraduate Programs Office, Glocker 52.

Transfers From Other UTK Programs

Students in other colleges at UTK must apply for progression to a major in the College of Business Administration at the earliest possible date but definitely prior to 75 hours. As a minimum, all students must be admitted to a CBA major for at least the last 30 hours of work. Only in exceptional cases will application be considered after 75 hours of coursework (at UTK or elsewhere) have been attempted. It should not be sup-

posed that admission must be granted to those who accumulate a substantial number of hours in the CBA courses; on the contrary, an academic record reflecting substantial work which follows the CBA curriculum will be taken as prima facie evidence of an intent to evade this policy and will result in denial of admission.

Appeals

The College has established a Progression Appeals Committee to which those students who have been denied progression may address an appeal. Information on the appeals process may be obtained by calling the Undergraduate Programs Office, 974-5096, or contacting an advisor in that office.

Business Minor for Non-Business Students

Students in other colleges at UTK who wish to obtain a minor in Business Administration must successfully complete the following required courses: Accounting 201-202, Economics 201, and Statistics 201.

Additionally, 12 hours of upper-division business electives must be taken at UTK. No more than three upper-division hours of accounting, economics, or statistics may be used for this minor. Students are responsible for meeting listed prerequisites of any upper-division courses taken in a particular concentration. Acceptance of the minor must have approval of the student's college of enrollment. Minors are unavailable to College of Business Administration students.

Course Load

The normal course load for a semester is 15-18 hours. In unusual circumstances permission to take a course load in excess of this maximum may be granted by the Associate Dean for Undergraduate Programs in Business Administration.

Satisfactory/No Credit

A maximum of 20 credit hours of satisf-
1. Must have followed a business curricu-
2. Must have earned a minimum 2.30 average, cumulative, over the courses specifically required in the lower-division of that curriculum, excluding non-business and non-departmental electives. Some majors may have differing average requirements.
3. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incom-
4. Progression standards are subject to change; current standards will be available in the Undergraduate Programs Office, Glocker 52.

Transfers From Other UTK Programs

Students in other colleges at UTK must apply for progression to a major in the College of Business Administration at the earliest possible date but definitely prior to 75 hours. As a minimum, all students must be admitted to a CBA major for at least the last 30 hours of work. Only in exceptional cases will application be considered after 75 hours of coursework (at UTK or elsewhere) have been attempted. It should not be sup-
Off-Campus Study

Recognizing that learning is not restricted to formal class room situations, the college provides for students to earn credit toward graduation for approved off-campus study. Such study may be undertaken only with prior approval of the faculty member and the department of the student’s major. It may include certain kinds of work experiences, community involvements, etc. Students should register for credit under the Off-Campus Study number BA 492. Credit will be awarded only after completion of all agreed upon requirements.

Independent Study

Certain educational goals may best be met through independent study done by an individual under the direction of a faculty member. Students who wish to do such independent work should obtain the approval of the faculty members and the departments concerned prior to embarking upon their study. Students should register for credit under the Independent Study number BA 493, or the appropriate number in the department. Credit will be awarded only after completion of all agreed upon requirements.

Accounting and Business Law

Professors:

J. R. Williams (Head), Ph. D. Arkansas, C. P. A.; J. S. Costa (Emeritus), S. J. D.

George Washington; N. E. Dittrich, Ph. D. Ohio State; C. P. A.; B. D. Fisher, LL. M.


J. H. Scheiner, Ph. D. Ohio State;

K. S. Stanga, Ph. D. Louisiana State, C. P. A.;

M. L. Townsend (Emeritus), J. D. Tennesse.

Associate Professors:

H. C. Herring, III, Ph. D. Alabama, C. P. A.;

C. D. Izard, Ph. D. Mississippi, C. P. A.;

I. A. Posey, M. S. Tennessee, C. P. A.;

C. M. A.; J. M. Reeve, Ph. D. Kentucky State, C. P. A.;


Assistant Professors:

K. E. Anderson, Ph. D. Indiana, C. P. A.;


Distinguished Lecturer:

S. B. Wolfe, B. S. Virginia Polytechnic.

Lecturer:

H. N. Hugh, B. S. Tennessee.

Economics

Professors:

A. Mayhew (Head), Ph. D. Texas;

R. A. Bohm, Ph. D. Washington (St. Louis);

R. L. Bowlby, Ph. D. Texas; S. L. Carroll, Ph. D. Harvard;

H. S. Chang, Ph. D. Vanderbilt;

W. E. Cole, Ph. D. Texas;

P. Davidson (Distinguished Professor), Ph. D. Pennsylvania;

G. R. Feiwel (Alumni Distinguished Service Professor), Ph. D. McGill;

C. B. Garrison, Ph. D. Kentucky;

H. W. Herzog Jr., Ph. D. Maryland;

H. E. Jensen, Ph. D. Texas; F. Y. Lee, Ph. D. Michigan State; J. R. Moore (Associate Dean), Ph. D. Cornell, W. C. Neale, Ph. D. London School of Economics; K. E. Quindry (Emeritus), Ph. D. Kentucky;

A. M. Schloetter, Ph. D. Washington (St. Louis); A. Spiva, Jr., Ph. D. Texas;

Associate Professors:

D. P. Clark, Ph. D. Michigan State; W. F. Fox, Ph. D. Ohio State; E. Gustoff, Ph. D. Stanford; R. A. Hofler, Ph. D. North Carolina (Chapel Hill); K. E. Phillips, Ph. D. Washington (Seattle);

Assistant Professors:

J. A. Gauger, Ph. D. Iowa State; D. M. Mandy, Ph. D. Illinois; J. W. Mayo, Ph. D. Washington (St. Louis); M. N. Murray, Ph. D. Syracuse.

Finance

Professors:

H. A. Black (Head), Ph. D. Ohio State;

W. W. Derotter (William Voigt Professor of Insurance), Ph. D. Pennsylvania;

W. C. Godfrey, Ph. D. Wisconsin;

G. C. Philippat (Distinguished Chaired Professor of Banking and Finance), Ph. D. New York; R. E. Schries, Ph. D. California (Los Angeles); C. P. White (Emeritus), Ph. D. Pennsylvania;

Associate Professors:

A. L. Auxier, Ph. D. Iowa; T. P. Boehner, Ph. D. Washington; R. J. Clayton, Ph. D. Georgia;

J. M. Wachowicz, Jr., Ph. D. Illinois (Urbana), C. P. A.;

Assistant Professors:

M. C. Ehrhardt, Ph. D. Georgia Tech;

D. C. Ketcham, Ph. D. Pennsylvania;

J. P. Ogden, Ph. D. Purdue; J. L. Trumbull, Ph. D. Texas & A; A. L. Tucker, Ph. D. Florida State.

College of Business Administration 57
Marketing 301 ................................................................. 3
Finance 301 ................................................................. 3
Management 301, 303 ......................................................... 6
Finance Electives ............................................................. 6
Intermediate Economics (311 or 313) .................................. 3
Accounting 311 ............................................................. 3
Quantitative Elective* ....................................................... 3
Non-Business Elective ..................................................... 3
Senior
Business Law 301 .......................................................... 3
Management 401 .......................................................... 3
Finance Electives ............................................................ 12
Non-Business Electives ..................................................... 6
Business Electives .......................................................... 6

Total: 121 hours

*Consult an advisor in Glocker 52 for specific courses.

Marketing

Hours Credit

Freshman
English 101, 102 .......................................................... 6
Mathematics 121, 122 ...................................................... 6
Natural Science Electives .................................................. 8
Social Science Elective* ................................................... 3
Humanities Electives* ..................................................... 6
Computer Science 100 or 102 .......................................... 4

Sophomore
Accounting 201, 202 ..................................................... 6
Economics 201 ............................................................. 3
Statistics 201 .............................................................. 3
Communications Skills .................................................. 3
History Electives* ........................................................ 3
General Education* ...................................................... 6
Non-Business Elective .................................................... 3

Junior
Marketing 301 ............................................................ 3
Finance 301 ............................................................... 3
Management 301, 303 ...................................................... 6
Business Law 301 .......................................................... 3
Management Elective ..................................................... 3
Accounting Elective ....................................................... 3
Finance Elective .......................................................... 3
Business Elective .......................................................... 3
Humanities Electives* ..................................................... 3

Senior
Management 401 .......................................................... 3
Finance Electives .......................................................... 6
Statistics Electives ......................................................... 3
Economics Elective ....................................................... 3
Marketing/Transportation Elective ..................................... 3
Social Science Elective* .................................................. 3
Business Elective .......................................................... 3
Non-Business Elective ..................................................... 3

Total: 121 hours

*Consult an advisor in Glocker 52 for specific courses.

Sophomore
Accounting 201, 202 ..................................................... 6
Economics 201 ............................................................. 4
Statistics 201 .............................................................. 3
Communications ........................................................ 3
History* ................................................................. 3
General Education* ...................................................... 9

Junior
Marketing 301 ............................................................ 3
Finance 301 ............................................................... 3
Management 301, 303 ...................................................... 6
Business Law 301 .......................................................... 3
Statistics* ................................................................ 3
Management 321, 311, 341 .............................................. 9
General Education* ...................................................... 3

Senior
Management 401, 431, 421 .............................................. 9
Management Elective* ................................................... 3
General Education* ...................................................... 6

Total: 121 hours

Marketing, Logistics, and Transportation

Professors:
D. J. Barnaby (Head), Ph. D. Purdue;
E. R. Cadotte, Ph. D. Ohio State; F. W. Davis,
Jr., Ph. D. Michigan State; G. N. Dierer,
D. B. A. Indiana; E. D. Dilley (Emeritus), Ph. D.
Ohio State; J. L. Frye (Emeritus), Ph. D.
Florida; F. L. Hendrix (Emeritus), Ph. D. North
Carolina (Chapel Hill); R. L. Jenkins
(Associate Dean), Ph. D. Ohio State;
C. J. Langley, Jr., Ph. D. Pennsylvania State;
W. B. Locander (Emeritus), Ph. D. Illinois;
J. R. McMillan, Ph. D. Ohio State;
R. C. Reizenstein
(Chairperson), Ph. D. Colorado State;
J. O. Rentz, Ph. D. Auburn.

Assistant Professors:
S. F. Gardiel, Ph. D. Houston; T. J. Faults,
Ph. D. Iowa; D. W. Schumann, Ph. D.
Missouri (Columbia); P. S. Speck, Ph. D.
Auburn.

Management Science Programs

Professor:
J. K. Ho, Ph. D. Stanford.

Associate Professor:
K. C. Gilbert (Chairperson), Ph. D.
Tennessee.
Concentration and/or elective courses specified by the department.

**Public Administration**

### Hours Credit

**Freshman**
- English 101, 102 .................................................. 6
- Mathematics 121, 122 .............................................. 6
- Natural Science ...................................................... 8
- General Education ................................................... 9
- Computer Science 100 or 102 ..................................... 4

**Sophomore**
- Political Science 101 or 107 ................................. 3
- Accounting 201, 202 ............................................. 6
- Economics 201 ...................................................... 4
- Statistics 201 ....................................................... 3
- Communications ..................................................... 3
- History ................................................................. 6
- General Education ................................................... 3

**Junior**
- Mathematics 241 .................................................... 4
- Statistics 261 ....................................................... 3
- General Education ................................................... 3
- Statistics 251, 252 .................................................. 6

**Senior**
- Management 401 .................................................... 3
- Transportation and Logistics 401, 402 ......................... 6
- Transportation and Logistics Electives ......................... 3

Total: 121 hours

1 Consult an advisor in Glocker 52 for specific courses.
2 Electives approved by the department.

---

**Statistics**

### Hours Credit

**Freshman**
- English 101, 102 .................................................. 6
- Mathematics 141, 142 .............................................. 8
- History ................................................................. 6
- General Education ................................................... 9
- Computer Science 100 or 102 ..................................... 4

**Sophomore**
- Accounting 201, 202 ............................................. 6
- Economics 201 ...................................................... 4
- Communications ..................................................... 3
- Mathematics 241 .................................................... 4
- Statistics 261 ....................................................... 3
- General Education ................................................... 3
- Statistics 251, 252 .................................................. 6

**Statistics Concentration**
- Mathematics 251 .................................................... 3

**Industrial Statistics Concentration**
- Non-business elective ............................................. 3

**Junior**
- Natural Science ...................................................... 6
- Finance 301 ........................................................... 6
- Management 301, 303 ............................................. 6
- Business Law 301 ................................................... 3
- General Education ................................................... 3
- Marketing 301 ........................................................ 3

**Senior**
- Management 401 .................................................... 3
- Finance 301 ........................................................... 6
- Transportation and Logistics 401, 402 ......................... 6
- Transportation and Logistics Electives ......................... 3

Total: 121 hours

1 Technical electives will be determined by student's advisor.

---

**Transportation and Logistics**

### Hours Credit

**Freshman**
- English 101, 102 .................................................. 6

---

**Center for Business and Economic Research**

**Staff**
- D. A. Hake (Director), Research Associate Professor, Ph. D. Tennessee
- K. E. Quindry (Emeritus), Research Professor, Ph. D. Kentucky
- W. F. Fox, Associate Director, Research Associate Professor, Ph. D. Ohio State
- S. E. Bott, Research Assistant, B. S. Nebraska (Lincoln)
- J. W. Mayo, Research Assistant Professor, Ph. D. Washington (St. Louis)
- B. B. Vickers, Research Associate, B. A. Mary Washington
- P. A. Price, Research Associate, B. S. Tennessee
- M. J. Cornelius, Research Associate, M. S. Tennessee
- C. E. Schmidhammer, Research Associate, B. S. Pittsburgh
- V. C. Cunningham, Research Assistant
- M. Mandy, Research Assistant Professor
- M. E. Pratt, Research Assistant
- M. A. Wood, Research Assistant
- P. L. Bridgeman, Research Assistant
College of Communications

Kelly Leiter, Acting Dean
Herbert H. Howard, Assistant Dean for Graduate Studies and Research
Gail Palmer, Advisor

Communications media are a vital force in today's complex society. Specialization, gaps among segments of society and the nature of world conflict point to the need for more understanding of how people communicate. Educating young men and women in the perceptive understanding of the communications media is a necessity.

Programs in the College of Communications acquaint students with the nature of communications and prepare students for professional work in many fields. The College includes the School of Journalism and the Departments of Advertising and Broadcasting. The three academic divisions have a common core curriculum. That permits specialization at the junior and senior level.

The advertising, broadcasting, newseditorial, public relations and master's programs are accredited by the Accrediting Council on Education in Journalism and Mass Communications. The College is a member of the Broadcast Education Association, and of the Association of Schools of Journalism and Mass Communication.

Satisfactory/No Credit Option

This option applies only to general elective courses. No course that is a part of the specific requirements of the College of Communications or a student's major department can be taken under this option. For example, social science, humanities and speech electives required by the various departments cannot be taken as S/NC.

Courses evaluated as "satisfactory" will count as hours toward graduation but not for calculating the grade point average. A student who wishes to take a S/NC course must indicate this at the time of registration.

Under no circumstances may a student change from S/NC to regular credit or from regular credit to S/NC after the deadline for adding courses.

Course Load

The maximum number of hours an undergraduate may take without special permission is 18 hours. Permission to take 19 or more hours must be obtained from the dean, the assistant dean for undergraduate studies or the undergraduate advisor with the recommendation of the student's advisor and department chairman or school director.

Requirements For All Curricula

CORE COURSES
All students in the College take the following core courses:
- Communications 100 - Introduction to Mass Communications
- Communications 200 - Writing for Mass Communications
- Communications 300 - Mass Communications Research Methods
  or
- Advertising 340 - Advertising Research Methods
- Communications 400 - Mass Communications Law and Ethics

REQUIREMENTS FOR GRADUATION

The Bachelor of Science in Communications is awarded to majors who complete a program of 128 hours prescribed under departmental requirements listed below. At least 90 of those hours must be taken in courses other than the major or related communications fields. At least 18 of the hours in the major must be taken at The University of Tennessee, Knoxville. Normally no more than 14 transfer credits in the major will be applied to the 128 hours.

Progression Requirements

Entering freshmen are associated with the College as Pre-Majors. They may progress to a major in the School of Journalism or the Departments of Advertising or Broadcasting after they:

1. Pass a Qualifications Examination within the first 30 hours demonstrating proficiencies in spelling, grammar and typing. Students who have not passed the examination after three attempts must wait six months before attempting to pass the examination again, or present evidence of successful completion of specific remedial work. Subsequent attempts will not be permitted without the permission of the dean.
2. Complete at least 30 hours of prescribed coursework with a 2.3 cumulative GPA
3. Complete Communications 100 (Introduction to Mass Communications) with a least at "C" grade.
4. Submit an application form to the appropriate School or Department.

Students who have not met these standards may remain in the College as Pre-Majors. They may enroll in non-communications courses but may not enroll in courses in the College numbered 300 or above.

Students who do not progress to a major by the time they have accumulated 80 credit hours will be dismissed from the College. Students must earn at least a "C" grade in all College of Communications courses used to fulfill graduation requirements. During their last 32 hours prior to graduation, all students must have been accepted as majors in the College.

Transfer Students

Students from other colleges within the University are eligible to progress to a major in the College of Communications as soon
as they pass the Qualifications Examination, complete at least 30 hours of prescribed coursework with a 2.3 cumulative GPA and complete Communications 100 (Introduction to Mass Communications) with at least a "C" grade and make application to the appropriate Department or School.

**Communications**

**Professors:**

P. G. Ashdown, Ph. D. Bowling Green; J. A. Crook, Ph. D. Iowa State; G. A. Everett, Ph. D. Iowa; J. B. Haskins, Ph. D. Minnesota; D. W. Holt, Ph. D. Northwestern; H. H. Howard, Ph. D. Ohio; B. K. Leiter, Ph. D. Southern Illinois; N. R. Swan, Jr., Ph. D. Missouri.

**Associate Professors:**

M. Miller, Ph. D. Michigan State; M. W. Singletary, Ph. D. Southern Illinois; R. E. Taylor, Ph. D. Illinois.

**GRADUATE**

Consult the Graduate Catalog for listing of graduate level courses.

**Advertising**

**Professors:**

J. B. Haskins, Ph. D. Minnesota; R. Joel (Emeritus).

**Associate Professors:**

J. W. Frost, M. B. A. Harvard; D. Jackson, M. S. Tennessee; R. E. Taylor (Head); Ph. D.

**Assistant Professors:**


**Hours Credit**

**Freshman**

- English 101, 102 .............................................. 6
- Foreign Language (Intermediate Competency) ................. 6
- Communications 100 ........................................... 3
- Mathematics 110 ............................................. 3
- Natural Science1 .............................................. 3
- History 151, 152 ............................................ 6
- Sophomore
  - English Literature ........................................ 6
  - Political Science .......................................... 6
  - Advertising ................................................. 3
  - Statistics 201 ............................................. 3
  - Mathematics 121 ........................................... 3
  - Communications 200 .................................... 3
  - Economics 201 ............................................. 3
  - Anthropology 130 ......................................... 4
- Junior
  - Marketing Management 301 .................................. 3
  - Buyer Behavior 310 ........................................ 3
  - Advertising 340, 350 ..................................... 6
  - Psychology 110, 360 ..................................... 6
  - Advertising 360 ............................................ 3
  - Social Science Elective2 .................................. 3
  - Business and Professional Speech 240 .................... 3
  - General Elective .......................................... 3
  - Advertising 380 ............................................ 1
- Senior
  - Advertising 450, 470, 490 ................................ 9
  - Communications ........................................... 9
  - Communications Electives ................................ 6
  - Management 301 ............................................ 3
  - Business Elective ......................................... 3

**Sophomore**

- English 101, 102 .............................................. 6
- History 151, 152 ............................................ 6
- Foreign Language (Intermediate Competency) ................. 6
- Natural Science .............................................. 8
- Mathematics Elective ....................................... 3
- Communications 100 ........................................ 3
- Sophomore
  - English Literature ........................................ 6
  - Mathematics 115, Computer Science 110 or
    Foreign Language Electives .............................. 6
  - Economics 201 ............................................. 4
  - Psychology 110 ............................................ 3
  - Political Science 101 ................................... 3
  - Communications 200 .................................... 3
  - Broadcasting 275 ....................................... 3
  - Speech 210 ................................................. 3
  - Junior
  - Broadcasting 310, 320, 330 ................................ 9
  - Communications 300 .................................... 3
  - Professional Electives3 ................................ 3
  - General Electives ......................................... 12
- Senior
  - Communications 400 ...................................... 3
  - Broadcasting Electives (Broadcasting 410, 420,
    430, 480 or 493) ...................................... 9
  - Broadcasting 490, 492 .................................... 5
  - Professional Electives3 ................................ 3
  - General Electives ......................................... 9

**Total: 128 hours**

1Professional Electives will be determined in consultation with the student's advisor.

**School of Journalism**

**Professors:**

J. A. Crook (Director), Ph. D. Iowa State; P. G. Ashdown, Ph. D. Bowling Green;

G. A. Everett, Ph. D. Iowa; J. B. Haskins, Ph. D. Minnesota; B. K. Leiter, Ph. D. Southern Illinois (Meeman Distinguished Professor).

**Adjunct Professor:**

Alex Haley

**Associate Professors:**


**Assistant Professor:**

M. L. Kern-Foxworth, Ph. D. Wisconsin.

**Instructors:**

E. C. Caudill, M. A. Ohio State; B. L. Hufford, M. Ed. Bowling Green.

**News-Editorial Concentration**

**Hours Credit**

**Freshman**

- English 101, 102 .............................................. 6
- Natural Science .............................................. 8
- Foreign Language4 .......................................... 6
- History 151, 152 ............................................ 6
- Mathematics Elective ....................................... 3
- Communications 100 ...................................... 3
- Sophomore
  - Communications 200 .................................... 3
  - Journalism 203 ........................................... 3
  - Political Science5 ........................................ 3
  - Journalism Elective6 .................................... 3
  - Economics 201 ............................................ 4
  - Psychology 110 ........................................... 3
  - Speech 210 ................................................ 3
  - Philosophy 135 or Mathematics Elective7 .............. 3
  - Foreign Language5 ........................................ 6
- Junior
  - Journalism 290 ............................................ 3
  - Communications 300 ..................................... 3
  - Journalism 360 ........................................... 3
  - Humanities Electives .................................... 6
  - Political Science Elective ................................ 3
  - English Language ........................................ 6
  - Communications Elective ................................ 3
  - General Elective .......................................... 3
  - Mathematics Elective .................................... 3
- Senior
  - Journalism 420, 430, 460, 491 .......................... 11
  - Communications 400 ..................................... 3
  - Social Science Electives ................................. 3
  - General Elective .......................................... 3
  - Humanities Electives .................................... 3

**Total: 128 hours**

1Intermediate competence in Foreign Language required.
2Mathematics or Philosophy electives: Mathematics
  110, 115, 121; Philosophy 335; Accounting 201.
3Political Science electives: Political Science 315,
  320, 321.
4Journalism electives: Journalism 310, 412, 414,
  433.
# Public Relations Concentration

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Natural Science</td>
</tr>
<tr>
<td>Foreign Language</td>
</tr>
<tr>
<td>History 151, 152</td>
</tr>
<tr>
<td>Mathematics Elective</td>
</tr>
<tr>
<td>Communications 100</td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Communications 200</td>
</tr>
<tr>
<td>Journalism 203</td>
</tr>
<tr>
<td>Business and Professional Speech 240</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Journalism 290, 360</td>
</tr>
<tr>
<td>Communications 300</td>
</tr>
<tr>
<td>Journalism Elective</td>
</tr>
<tr>
<td>Marketing 301</td>
</tr>
<tr>
<td>English Literature</td>
</tr>
<tr>
<td>Political Science Elective</td>
</tr>
<tr>
<td>Humanities Electives</td>
</tr>
<tr>
<td>Business Administration Elective</td>
</tr>
<tr>
<td>General Elective</td>
</tr>
<tr>
<td>Senior</td>
</tr>
<tr>
<td>Journalism 390, 470, 491</td>
</tr>
<tr>
<td>Communications 400</td>
</tr>
<tr>
<td>Communications Elective</td>
</tr>
</tbody>
</table>

| Social Science Electives | 9 |
| Humanities Electives | 6 |
| General Elective | 3 |

Total: 128 hours

1. Intermediate competence in Foreign Language required.
2. Business Administration electives: Marketing 310; Management 301; Economics 325.
5. Communications electives: Must be approved by advisor.
6. Mathematics or Philosophy electives: Mathematics 110, 115, 121; Philosophy 335; Accounting 201.
College of Education

Richard Wisniewski, Dean
Thomas W. George, Associate Dean for Undergraduate Studies
Timothy J. Pettibone, Associate Dean for Research
C. Glennon Rowell, Associate Dean for Graduate Studies

Teacher education is historically a major function of The University of Tennessee. Beginning in 1903, when the first courses for teachers were offered, the University has increasingly fulfilled its responsibility to provide schools with competent teachers and service personnel and to improve the teaching profession by continually upgrading its membership. The College of Education was established in 1926, and all teacher preparation majors at The University of Tennessee are now coordinated within its eight departments. In 1984 the Institute for Teacher Education was established within the College of Education. The Institute has been responsible for implementing a series of reforms across all teacher education preparation majors. These reforms include increased admission standards, increased general education, redesigned professional education, and the creation of a mentoring team approach to undergraduate advising and progression through the major. In addition to teacher education majors, the College of Education has several non-teacher education majors. These majors include, but are not limited to, Dance, Industrial Education, Industrial Training, Physical Fitness, Public Health, Recreation, Sports Communication, Sports Management, and Human Services.

The College of Education holds membership in the American Association of Colleges for Teacher Education. All certification and degree programs through the doctoral level are fully accredited by the National Council for Accreditation of Teacher Education, the Southern Association of Colleges and Schools, and the Tennessee State Department of Education. The faculty of the College of Education is committed to performing three major functions: (1) to provide professional preparation for teachers, administrators, and school service personnel at undergraduate and graduate levels; (2) to collaborate with school personnel, educational agencies, professional groups, and others interested in the evaluation and improvement of educational opportunities, programs, and services; and (3) to promote and conduct experimental and research studies in education.

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

The Claxton Education Building and Claxton Addition contain many modern and functional facilities for the professional education of teachers including classrooms, laboratories, seminar rooms, faculty and administrative offices, the Instructional Services Center, the Reading Center, the Curriculum Laboratory, the Teacher Simulation Laboratory, and the Bureau of Educational Research and Service.

Satisfactory/No Credit Courses

For the Elementary and Secondary Education curricula only, a student may include a maximum of 30 hours in non-directed electives taken on a Satisfactory/No Credit basis in the total hours required for graduation. S/NC may not be used in required courses or controlled electives, except where the course is offered on an S/NC basis (such as teaching internship and field experiences). An area of concentration will be considered as non-directed electives except where specific courses or controlled electives are required.

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

Course Load

Permission to enroll in more than 19 hours during a semester must be obtained from the Coordinator of Undergraduate Student Services, 202 Claxton Addition. A normal course load in the College is 16-19 hours.

Course Substitutions

It is sometimes necessary and advisable for students to substitute other courses for those required in a particular curriculum. This is particularly true of students who transfer to The University of Tennessee College of Education from another college or university. The general test is whether the course content is similar or, perhaps, more appropriate to that individual's needs.

To initiate a substitution request, the student should first meet with his/her advisor. If the advisor and student agree that the substitution is an appropriate one, the substitution request form should be forwarded to the Office of the Associate Dean for Undergraduate Studies, 202 Claxton Addition. Approved petitions are forwarded to the Dean of Admissions for final approval and for filing in the Records Office.

Professional education courses taken at junior or community colleges may be substituted for lower division (100/200 level) courses or may be used as electives. These courses may not be substituted for upper division (300/400 level) professional education courses.
Optional Minors for College of Education Students

Education students may earn single or multiple minors either from a unit within the College of Education or from units of other colleges. The minor must be one which is officially approved and described in the General Catalog. Unofficial minors will not be recognized.

Courses taken to satisfy the minor will not necessarily meet certification requirements. Students are encouraged to seek the counsel of their advisors on matters pertaining to minors.

The intention to complete a minor must be declared at the time of application for a degree if the minor is to appear on the final transcript. (Degree applications are available in the Registrar's Office.) The following minors are available to teacher education students who are seeking baccalaureate degrees in the College of Education:

**Minor in Health Education**
- Health 300 (3), 310 (3), 325 (3), 375 (3), 400 (3), 465 (3), Nutrition 100 or Health 420 or 435 (3), Public Health 305 (3), 310 (3), Safety 452 (3) for a total of 30 hours.

**Minor in Driver and Traffic Safety**
- Health 310 (3), 405 (3), 435 (3), Safety 441 (3), 442 (3), 452 (3) for a total of 18 hours.

**Minor in Coaching**
- Physical Education 252 (2), 291 (3), 325 (3), 332 (3), 391 (2), 416 (1), 442 (2), Select two from 311 (1), 312 (1), 313 (1), 314 (1), 315 (1) for a total of 17 hours.

**Minor in General Special Education**
- Special Education 270 (1), 451/480 (6), 452/490 (6), 454 (3), 481 (3) for a total of 19 hours.

**Education Minor and Teaching Certification for Non-Education Students**

Teacher preparation, with the exception of programs in Business/Marketing and Industrial Education, is a five year program. Undergraduate, non-Education students who are interested in earning teacher certification may earn a minor in Education and complete specific prerequisite courses before beginning the Professional Year (fifth year) of teacher preparation. Interested students should inquire in the Advising Center, 214 Claxton Addition, for details regarding admission to the Teacher Education Program and fulfillment of possible additional General Education courses.

**Minor in Education**
- Educational Curricula and Instruction 302 (3), 303 (1), 304 (1), 305 (3), Educational and Counseling Psychology 210

### Requirements for All Teacher Education Curricula

The following professional core is required of students seeking teacher certification:
- Educational Curriculum and Instruction 302 (3), 303 (1), 304 (1), 402 (1)
- Educational and Counseling Psychology 315 (3), 325 (2), and Special Education 370 (2)

### Progression Toward Degree Completion and/or Certification in Teaching Fields

Progression toward completion of a degree and/or certification in a teaching field requires acceptance to the Teacher Education Program by a board of admissions. The admissions process begins at the time of matriculation to UTK. The student enters as a freshman, or transfer student. Applicants will be evaluated by a board of admissions upon attainment of the following minimum criteria:

1. **Academic Achievement**: Applicants will be required to earn a minimum 2.5 GPA in general education courses. Any professional education course, taken either before or after admission, must be passed with a minimum letter grade of "C". Otherwise such a course must be repeated. GPA computations will be made at the time other requirements, listed below, are completed but not before the completion of at least 45 hours of academic work (transfer hours included).

2. If this standard is not met: The applicant

---

1. **Community college students who anticipate transferring to the College should arrange to complete the admission to Teacher Education program prior to matriculating at UTK. Students who contact the Education Advising Center, 214 Claxton Addition, **

2. Students seeking admission to the following program areas, in addition, must complete specific courses before being granted a board review: (a) Mathematics Education - Mathematics 141-142; (b) Science Education - 8 semester hours of any laboratory nature course; (c) Music Education - at least one semester of applied study of music at the 200 level and Music Theory 210.
will improve his/her academic record by adding or repeating courses.
(2) Pre-Professional Skills Test: The applicant will obtain the minimum scores established by the State Board of Education on the Pre-Professional Skills Test. If this standard is not met: The applicant will retake the PPST until passed. (Note that it is not necessary to repeat subtests which were previously passed.)
(3) Hearing and Speech Evaluations*: The applicant will perform within normal limits on hearing and speech evaluations.
If this standard is not met: The applicant will participate in therapy, as specified by and provided through the University’s Hearing and Speech Center.
(4) Socio-Emotional Assessment (16PF): Applicants will perform within normal limits on a standardized personality instrument.
If this is not met: The applicant will be referred to the University’s Student Counseling Services Center for further evaluation and, possibly, therapy.
(5) Conduct Record: Each applicant will be screened by the University’s Conduct Office. Applicants who have established records of inappropriate conduct will be evaluated by the College’s Teacher Education Standards Committee.
If this standard is not met: The applicant’s disposition will be determined by the Teacher Education Standards Committee.
Applicants who successfully complete the minimal requirements will be interviewed by a board of admissions. During the interview particular attention will be given to applicants’ communications skills.
Certain boards will assess applicants in ways which are peculiar to their disciplines. For example, the Art Education Board requires applicants to submit portfolios. The Music Education Board requests a performance audition.
Applicants who are denied admission to the specific teaching field of their choice are eligible to seek admission to other teaching fields within the College. Some applicants may be encouraged to interview again with the same application.
Applicants who are admitted, thus, become eligible to enroll in upper division Professional Education courses.

Teacher Education Program and enrollment in student teaching or internship: (a) 2.5 GPA in general education and specific teaching field (major) courses; and (b) 2.8 GPA in professional education courses. It is important to note that letter grades of “D” and “F” in professional education courses must be repeated.
(2) Field Study: Each student’s performance in field study will be reviewed by College faculty and school-based professionals.
Students who progress is judged inadequate will be required to either repeat courses, participate in remedial activities, or change to a more appropriate major.
To facilitate communication and proper guidance, all students will be assigned to a mentoring team consisting of appropriate College faculty.

Progression to Student Teaching or Internship

Students seeking authorization to enroll in student teaching or internship must apply at least one calendar year prior to the term of intended student teaching or internship. For example, students desiring to student teach or intern during the Fall Term, 1989 must register for that experience not later than the beginning of Fall Term, 1988.
Student teaching or internship applications are completed in group sessions. Two group sessions are conducted each semester. Two application sessions are conducted during the summer. Schedules of the application sessions are available in the Office of Field Studies, 214 Claxton Addition.
Making application to enroll in student teaching or internship is not contingent upon admission to the Teacher Education Program. Students should apply at least one calendar year prior to the term of actual student teaching or internship regardless of their status in the Teacher Education Program.
The following are the general prerequisites for specific programs: (1) 2.5 GPA in the last 30 hours of coursework; grades must be repeated).
(2) National Teachers Examinations (NTE): All candidates for certification are required to attain the minimum scores, as determined by the State Board of Education, on the NTE: Core Battery (General Knowledge, Communications Skills, and Professional Knowledge) and the appropriate NTE: Specialty Area Test (or equivalent). Complete details regarding the NTE are available in the Education Advising Center, 214 Claxton Addition.
Additional certification requirements include the successful completion of: (a) a methods course in each area of endorsement; (b) at least one two-semester hour course concerning the learning and behavioral characteristics of handicapped students; (c) at least four semester hours in methods of teaching reading for applicants desiring certification to teach grades kindergarten through eight; grades nine through twelve language arts, English, and Social Studies; two semester hours in teaching reading in content areas for all other applicants; and (d) fulfillment of all special recommendations of the student’s mentoring team.
Applications for teacher certification should be completed early in the final semester before graduation. Application forms may be obtained in the Registrar’s Office, 215 Student Services Building, and in the Education Advising Center, 214 Claxton Addition.

Certification

Students must attain the following minimal requirements for the College’s recommendation for certification:
(1) Academic achievement: Only those students who perform satisfactorily in student teaching or internship will be recommended for certification. Students who perform unsatisfactorily may be provided another opportunity to succeed. (Such students may be required to participate in remedial courses and/or activities prior to enrollment in student teaching or internship.)
Additional academic requirements include attainment of the following minimal levels of academic achievement: (a) 2.5 GPA in general education and specific teaching field (major), and (b) 2.8 GPA in professional education courses (“D” and “F” course grades must be repeated).
(2) National Teachers Examinations (NTE): All candidates for certification are required to attain the minimum scores, as determined by the State Board of Education, on the NTE: Core Battery (General Knowledge, Communications Skills, and Professional Knowledge) and the appropriate NTE: Specialty Area Test (or equivalent). Complete details regarding the NTE are available in the Education Advising Center, 214 Claxton Addition.
Additional certification requirements include the successful completion of: (a) a methods course in each area of endorsement; (b) at least one two-semester hour course concerning the learning and behavioral characteristics of handicapped students; (c) at least four semester hours in methods of teaching reading for applicants desiring certification to teach grades kindergarten through eight; grades nine through twelve language arts, English, and Social Studies; two semester hours in teaching reading in content areas for all other applicants; and (d) fulfillment of all special recommendations of the student’s mentoring team.
Applications for teacher certification should be completed early in the final semester before graduation. Application forms may be obtained in the Registrar’s Office, 215 Student Services Building, and in the Education Advising Center, 214 Claxton Addition.

Program Progression

Each student’s progress will be reviewed each semester following admission to the Teacher Education Program and a determination will be made as to the student’s eligibility to advance to the next level of preparation.
Particular attention will be given to the following variables:
(1) Academic Achievement: The following minimum GPA’s function as guidelines during the period between admission to the
(2) Academic Achievement: The following minimum GPA’s function as guidelines during the period between admission to the
It is important to note that Tennessee regulations stipulate that applicants for initial teacher certification must be recommended by an approved teacher training institution.

Progression Toward Degree Completion and/or Certification in Non-Teaching Fields

PHYSICAL EDUCATION MAJORS: NON-TEACHING CONCENTRATIONS
Progression toward degree completion in non-teaching Physical Education concentrations (e.g., Physical Fitness Specialist, Movement Sciences, Sports Management, and Sports Communications) requires successful attainment of the same criteria which are required of teaching majors with the exception of completion of the socio-emotional assessment.

Students who are granted progression are, thereby, permitted to enroll in upper division professional courses.

Art and Music Education

Professors:

Associate Professors:
W. H. McDaniel, M. S. Tennessee;

Assistant Professors:
J. R. Sparks, M. S. Tennessee.

Curriculum and Instruction

Professors:

Associate Professors:

Assistant Professors:

Instructors:
M. A. Blank, M. S. Tennessee; F. L. Hagan, M. S. Tennessee.

Educational and Counseling Psychology

Professors:

Associate Professors:

Instructors:

Physical Education and Dance

Professors:
E. K. Capen (Emeritus), Ph. D. Iowa; B. D. Franks, Ph. D. Illinois; E. T. Howley, Ph. D. Wisconsin; A. J. Kozar (University Professor), Ph. D. Michigan; N. E. Lay, Ph. D. Florida State; W. P. Liemohn, Ph. D. Iowa; M. M. Phillips (Emeritus), Ph. D. Iowa; H. B. Watson (Emeritus), Ph. D. Michigan; H. G. Welch, Ph. D. Florida; C. A. Wrisberg, Ph. D. Michigan.

Associate Professors:
P. A. Beitel, Ed. D. North Carolina (Greensboro); R. J. Croskey, M. F. A.; D. Southern Methodist; E. J. Jones, Ph. D. Toledo; B. J. Mead, Ph. D. Purdue; W. J. Morgan, Ph. D. Minnesota.

Assistant Professors:

Adjunct Faculty:

Special Services Education

Professors:

Associate Professors:

Health, Leisure, and Safety

Professors:

Associate Professors:

Assistant Professors:

Lecturer:
M. Duffy, M. D. Pennsylvania.
ART EDUCATION

Curricula

ART EDUCATION

Freshman
English 101, 102 ........................................... 6
Art 101, 102, 171, 172 ................................. 10
Humanities electives ................................ 6
Studio Art electives ................................. 12

Sophomore
Natural Science electives.............. 8
History electives ................................ 6
Art 103, 173 ........................................... 5
Studio Art electives ................................. 11
Art History elective ................................. 3
Educational and Counseling Psychology 210 ................................. 3

Junior
Art Education 301, 302, 350 ................. 7

Studio Art electives ........................................... 21
Speech elective ........................................... 3
Health 300 ........................................... 3

Senior
Educational Curriculum and Instruction 302, 303, 304, 461 ........................................... 8
Educational and Counseling Psychology 315, 325 ........................................... 5
Special Education 370 ........................................... 2
Art Education 303, 304, 400, 410 ................. 10
Studio Art ................................. 3
Art History elective ........................................... 3

Professional Year
Art Education 481 ........................................... 1
Art Education 482 ........................................... 4
Educational Curriculum and Instruction 402 ........................................... 1
Art History elective ........................................... 3
Speech elective ........................................... 3
Social Science electives .............. 3
Mathematics electives .............. 6
University Studies ................................. 3

Total: 173 hours

Note: B.S. (Education) and B.F.A. (Liberal Arts) is granted at the successful completion of the Professional Year.

BUSINESS/MARKETING EDUCATION TEACHING CONCENTRATION

Hours Credit

Freshman
English 101, 102 ........................................... 6
Mathematics 121, 122 ........................................... 6
Natural Science electives .............. 8
Humanities elective ........................................... 3
Health 300 ........................................... 3
Physical Education elective ................................. 2
Computer Science 141 ........................................... 3
Speech 320 ........................................... 3

Sophomore
History elective ........................................... 3
English Literature elective .............. 3
Accounting 201, Accounting 202 or Business electives ........................................................................... 3
Economics 201, Economics elective ........................................... 3
Humanities electives .............. 9
Statistics elective ........................................... 3
Technical elective ................................. 3

Physical Education elective ................................. 1

Junior
Technological and Adult Education 336, 415, 420, 422, 430, 432 ........................................... 18
Marketing 301 ........................................... 1
Finance 301 ........................................... 3
Business elective ........................................... 3
Computer Science electives ........................................... 3
Business Law 301 ........................................... 3
Educational Curriculum and Instruction 302 ........................................... 3

Senior
Technological and Adult Education 436, 439, 440 ........................................... 15

Technical electives ........................................... 12

Total: 134 hours

Includes courses in Business Administration, Textiles and Apparel, Communications, etc. Consult advisor for specific requirement.

DANCE

Hours Credit

Freshman
English 101, 102 ........................................... 6
Dance Technique (Principal Area) ........................................... 4
Dance Technique (Secondary Area) ........................................... 4
French (Int.) or Humanities electives ........................................... 6
Sociology 100 ........................................... 3
Sociology elective ........................................... 3
Mathematics 110, 115 ........................................... 6
Dance 101 ........................................... 2

Sophomore
Dance Technique (Principal Area) ........................................... 4
Dance Technique (Secondary Area) ........................................... 4
Dance 460 ........................................... 3
Music electives ........................................... 6
Dance 340 ........................................... 2
Physical Education 332 ........................................... 3
History 151, 152 ........................................... 6
Dance 465 ........................................... 3
University Studies elective ........................................... 3

Junior
Dance Technique (Principal Area) ........................................... 4
Dance 250 ........................................... 3
Dance 350 ........................................... 3
Dance 480 ........................................... 3
Dance 481 ........................................... 3
Theatre electives ........................................... 6
Dance 201 ........................................... 4
Dance 461, 462, 463 ........................................... 15

Theatre electives ........................................... 6

Music electives ........................................... 3

Senior
Dance 450 ........................................... 3
Dance 490 ........................................... 3
Theatre electives ........................................... 6
Dance 201 ........................................... 4
Dance 461, 462, 463 ........................................... 15

Theatre electives ........................................... 6

Music electives ........................................... 3

Total: 128-129 hours

The specific dance technique (ballet, modern, jazz, musical/theatre) and skill level will be determined through advising and/or placement audition.

ELEMENTARY EDUCATION

Hours Credit

Freshman
English 101, 102 ........................................... 6
Foreign Language (Intermediate); Foreign Language (Intermediate); or Humanities electives ........................................... 6
Mathematics 110, 115 ........................................... 6
Physical Education Activities elective ........................................... 2

College of Education 67
### HEALTH EDUCATION: COMMUNITY CONCENTRATION

<table>
<thead>
<tr>
<th></th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td>6</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 110, 115</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 100, 110</td>
<td>8</td>
</tr>
<tr>
<td>Nutrition elective</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 110</td>
<td>3</td>
</tr>
<tr>
<td>University Studies or Foreign Language (Intermediate)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td>8</td>
</tr>
<tr>
<td>Zoology 230, 240</td>
<td>8</td>
</tr>
<tr>
<td>Anthropology 130</td>
<td>3</td>
</tr>
<tr>
<td>Economics 251</td>
<td>3</td>
</tr>
<tr>
<td>Sociology or Psychology elective</td>
<td>3</td>
</tr>
<tr>
<td>University Studies or Foreign Language (Intermediate)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td>6</td>
</tr>
<tr>
<td>Humanities elective</td>
<td>6</td>
</tr>
<tr>
<td>Health 300, 310, 325, 375</td>
<td>12</td>
</tr>
<tr>
<td>Public Health 305, 310</td>
<td>6</td>
</tr>
<tr>
<td>Safety 452</td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td>5</td>
</tr>
<tr>
<td>Health 483</td>
<td>8</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 303, 304, 310</td>
<td>12</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 325, 402</td>
<td>4</td>
</tr>
<tr>
<td>History 300</td>
<td>6</td>
</tr>
<tr>
<td>History electives</td>
<td>6</td>
</tr>
<tr>
<td>Sociology 152</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>122</td>
</tr>
</tbody>
</table>

**HEALTH EDUCATION: HEALTH CARE CONCENTRATION**

<table>
<thead>
<tr>
<th></th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td>6</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 110, 115</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 100, 110</td>
<td>8</td>
</tr>
<tr>
<td>Nutrition elective</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 110</td>
<td>3</td>
</tr>
<tr>
<td>University Studies or Foreign Language (Intermediate)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td>8</td>
</tr>
<tr>
<td>Zoology 230, 240</td>
<td>8</td>
</tr>
<tr>
<td>Anthropology 130</td>
<td>3</td>
</tr>
<tr>
<td>Economics 251</td>
<td>3</td>
</tr>
<tr>
<td>Sociology or Psychology elective</td>
<td>3</td>
</tr>
<tr>
<td>University Studies or Foreign Language (Intermediate)</td>
<td>3</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td>8</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 303, 304, 461</td>
<td>12</td>
</tr>
<tr>
<td>Educational and Counseling Psychology 325</td>
<td>2</td>
</tr>
<tr>
<td>Physical Education 414</td>
<td>2</td>
</tr>
<tr>
<td>Safety 452</td>
<td>3</td>
</tr>
<tr>
<td>Health 410</td>
<td>1</td>
</tr>
<tr>
<td>Health elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td>12</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 402</td>
<td>1</td>
</tr>
<tr>
<td>Educational and Counseling Psychology 325</td>
<td>2</td>
</tr>
<tr>
<td>Physical Education 414</td>
<td>2</td>
</tr>
<tr>
<td>Safety 452</td>
<td>3</td>
</tr>
<tr>
<td>Health 410</td>
<td>1</td>
</tr>
<tr>
<td>Health elective</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>147</td>
</tr>
</tbody>
</table>

**INDUSTRIAL EDUCATION: INDUSTRIAL ARTS CONCENTRATION**

<table>
<thead>
<tr>
<th></th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td>6</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics electives</td>
<td>8</td>
</tr>
<tr>
<td>Natural Science electives</td>
<td>8</td>
</tr>
<tr>
<td>Psychology elective</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education elective</td>
<td>2</td>
</tr>
<tr>
<td>Educational and Adult Education 161, 165, 251, 265</td>
<td>12</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td>8</td>
</tr>
<tr>
<td>Zoology 230, 240</td>
<td>8</td>
</tr>
<tr>
<td>Anthropology 130</td>
<td>3</td>
</tr>
<tr>
<td>Sociology or Psychology elective</td>
<td>3</td>
</tr>
<tr>
<td>Sociology elective</td>
<td>3</td>
</tr>
<tr>
<td>University Studies or Foreign Language (Intermediate)</td>
<td>6</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td>6</td>
</tr>
<tr>
<td>Humanities elective</td>
<td>6</td>
</tr>
<tr>
<td>Speech elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td>12</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 303, 310</td>
<td>12</td>
</tr>
<tr>
<td>Educational and Adult Education 163, 166, 201, 209</td>
<td>11</td>
</tr>
<tr>
<td>Health 330</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology elective</td>
<td>3</td>
</tr>
<tr>
<td>Physical Education elective</td>
<td>1</td>
</tr>
<tr>
<td>Educational and Counseling Psychology 210</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>136</td>
</tr>
</tbody>
</table>

**INDUSTRIAL EDUCATION: INDUSTRIAL TRAINING CONCENTRATION**

<table>
<thead>
<tr>
<th></th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td>6</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics electives</td>
<td>8</td>
</tr>
<tr>
<td>Natural Science electives</td>
<td>8</td>
</tr>
<tr>
<td>Psychology elective</td>
<td>3</td>
</tr>
<tr>
<td>Educational and Adult Education 350, 351</td>
<td>12</td>
</tr>
<tr>
<td>Mathematics electives</td>
<td>6</td>
</tr>
<tr>
<td>Health 330</td>
<td>3</td>
</tr>
<tr>
<td>Sociology elective</td>
<td>3</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 303, 304, 402, 402</td>
<td>15</td>
</tr>
<tr>
<td>Educational and Adult Education 356, 357, 410, 464, 466, 481</td>
<td>23</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>135</td>
</tr>
</tbody>
</table>

**INDUSTRIAL EDUCATION: TRADES AND INDUSTRIES CONCENTRATION**

<table>
<thead>
<tr>
<th></th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td>6</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics electives</td>
<td>8</td>
</tr>
<tr>
<td>Technological and Adult Education 355, 372, 373, 420, 421, 471</td>
<td>21</td>
</tr>
<tr>
<td>Psychology elective</td>
<td>3</td>
</tr>
<tr>
<td>Educational and Adult Education 350, 351</td>
<td>18</td>
</tr>
<tr>
<td>Philosophy or Religious Studies elective</td>
<td>3</td>
</tr>
<tr>
<td>History elective</td>
<td>3</td>
</tr>
<tr>
<td>Speech elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td>6</td>
</tr>
<tr>
<td>Literature elective</td>
<td>3</td>
</tr>
<tr>
<td>Geography elective</td>
<td>3</td>
</tr>
<tr>
<td>History elective</td>
<td>3</td>
</tr>
<tr>
<td>Anthropology elective</td>
<td>3</td>
</tr>
<tr>
<td>Educational and Adult Education 355, 372, 373, 420, 421, 471</td>
<td>21</td>
</tr>
<tr>
<td>Health elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td>6</td>
</tr>
<tr>
<td>Educational and Adult Education 422, 454, 455, 470, 479</td>
<td>22</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>135</td>
</tr>
</tbody>
</table>
### MUSIC EDUCATION: VOCAL MUSIC (PIANO OR ORGAN PRINCIPAL) CONCENTRATION

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Music Theory 110, 120, 130, 140</td>
</tr>
<tr>
<td>Music Voice</td>
</tr>
<tr>
<td>Music Piano</td>
</tr>
<tr>
<td>Music General 200</td>
</tr>
<tr>
<td>Music Ensemble</td>
</tr>
<tr>
<td>Social Science electives</td>
</tr>
<tr>
<td>Mathematics electives</td>
</tr>
<tr>
<td>Music History 210, 220, 230, 240</td>
</tr>
<tr>
<td>Music Keyboard</td>
</tr>
<tr>
<td>Music Voice</td>
</tr>
<tr>
<td>Music General 200</td>
</tr>
<tr>
<td>Music Ensembles</td>
</tr>
<tr>
<td>Music Education Graduate electives</td>
</tr>
<tr>
<td>Total: 172 hours</td>
</tr>
</tbody>
</table>

### MUSIC EDUCATION: VOCAL MUSIC (VOICE PRINCIPAL) CONCENTRATION

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Music Theory 110, 120, 130, 140</td>
</tr>
<tr>
<td>Music Voice</td>
</tr>
<tr>
<td>Music Piano</td>
</tr>
<tr>
<td>Music General 200</td>
</tr>
<tr>
<td>Music Ensemble</td>
</tr>
<tr>
<td>Social Science electives</td>
</tr>
<tr>
<td>Mathematics electives</td>
</tr>
<tr>
<td>Music History 210, 220, 230, 240</td>
</tr>
<tr>
<td>Music Keyboard</td>
</tr>
<tr>
<td>Music Voice</td>
</tr>
<tr>
<td>Music General 200</td>
</tr>
<tr>
<td>Music Ensemble</td>
</tr>
<tr>
<td>Music Education Graduate electives</td>
</tr>
<tr>
<td>Total: 174 hours</td>
</tr>
</tbody>
</table>
### College of Education

**Sophomore**
- Computer Science 102, 403 ........................................... 6
- Social Science elective .............................................. 3
- History electives ....................................................... 6
- Physical Education 290, 291 .......................................... 6
- Chemistry 100, 110 ..................................................... 8
- Humanities elective ..................................................... 3
- University Studies electives ....................................... 6

**Junior**
- Computer Science 200, 321, 325, 332, 356, 372, 422 .......... 18
- Physics 131, 132 ......................................................... 8
- Zoology 230 ............................................................... 5
- English 459 ............................................................... 3
- Professional electives ............................................... 12
- Physical Education 380, 411, 412, 414 .......................... 8
- Health 310 ................................................................ 3
- Zoology 480 ............................................................... 3
- Statistics 201 .............................................................. 3

Total: 128 hours

### PHYSICAL EDUCATION: MOVEMENT SCIENCES CONCENTRATION (Motor Behavior /Sport Psychology Option)

#### Hours Credit
- **Freshman**
  - English 101, 102 ......................................................... 6
  - Mathematics 110 ........................................................ 3
  - Chemistry 100, 110 ..................................................... 8
  - Physical Education 100 ............................................... 2
  - Physical Education Major Activities electives ............... 6
  - Humanities electives ............................................... 5
  - Social Science elective ............................................. 3
- **Sophomore**
  - Mathematics 121 ....................................................... 3
  - Zoology 230 ............................................................... 5
  - Social Science elective ............................................. 3
  - Physical Education Major Activities electives ............. 6
  - History electives ..................................................... 6
  - Humanities elective ................................................ 3
  - Physical Education 290 ............................................. 3
  - Psychology 110 ......................................................... 3
  - University Studies electives ..................................... 3
- **Junior**
  - Physical Education 291, 321, 332, 356, 372, 391, 409, 414, 422, 432, 491 ........................................... 25
  - University Studies electives ..................................... 6
- **Senior**
  - Physical Education 493 ............................................. 6
  - University Studies elective ....................................... 3
  - Statistics 201, 411, 412 ............................................ 6
  - English 459 ............................................................... 3
  - Psychology 210, 360, 395 .......................................... 3
  - Professional electives (Psychology 310, 410, 461, 220, 445, 400, 450, 434, 300, and Educational Counseling and Psychology 410) ........................................... 6

Total: 133 hours

### PHYSICAL EDUCATION: SPOT COMMUNICATIONS CONCENTRATION

#### Hours Credit
- **Freshman**
  - English 101, 102 ......................................................... 6
  - Mathematics 121, 122 or 141, 142 ................................. 6
  - Physical Education 109 ............................................... 2
  - Physical Education Major Activities electives ............... 6
  - Humanities elective ................................................ 1
  - Philosophy 100, 111, 130 ........................................... 9
- **Sophomore**
  - Physical Education 414, 493 ..................................... 8
  - Philosophy 135, 200, 320, 322, 324, 326, 328, 329  .......... 18
  - Electives .................................................................. 6

Total: 134 hours

### PHYSICAL EDUCATION: SPORT MANAGEMENT CONCENTRATION

#### Hours Credit
- **Freshman**
  - English 101, 102 ......................................................... 6
  - Mathematics 121, 122 or 141, 142 ................................. 6
  - Physical Education 100 or Recreation 110 ................. 2-3
  - Physical Education or Recreation Activities electives . 4
  - Humanities electives .............................................. 5
  - Social Science elective ........................................... 4
  - Computer Science 100 or 102 .................................... 4
  - **Sophomore**
    - History elective .................................................. 3
    - Communications 100 .............................................. 3
    - Economics 201 ...................................................... 3
    - Natural Science electives ..................................... 8
    - Physical Education 290, 291 .................................... 3
    - Accounting 201, 202 ............................................. 6
    - Statistics 201 ....................................................... 6
    - Physical Education or Recreation Activities elective . 3

Total: 136 hours

---

1. Choose at least 12 hours/4 courses from the following to complete the Business Minor: Business Law 301, 491, Finance 301, 470, Management 301, 321, 431, Marketing 301, 310, 420.

### PHYSICAL EDUCATION: TEACHING CONCENTRATION

#### Hours Credit
- **Freshman**
  - English 101, 102 ......................................................... 6
  - Mathematics 110 ........................................................ 3
  - Chemistry 100, 110 ..................................................... 8
  - Speech 210 ............................................................... 3
  - Physical Education 100, 102, 104, 105, 271, 274 ...... 15-16
  - **Sophomore**
    - Humanities elective (choose one): Literature, Foreign Language (Intermediate), Art, Music, Philosophy, Religious Studies .......................... 3
    - Zoology 230 .............................................................. 5
    - Mathematics or Sociology elective .......................... 3
    - Physical Education 103, 272, 273, 290 or 466, 106, 202 or 232, 275, 291, 292 ........................................... 15-16
    - **Junior**
      - Educational and Counseling Psychology 210 ........... 3
      - Physical Education 229, 240, or 241 ................... 2
      - History electives ................................................ 6
      - Physical Education electives (from required or optional) ........................................... 6
      - Accounting 201, 202 ............................................. 6
      - Educational and Counseling Psychology 315 ........... 3
      - Educational and Counseling Psychology 325 ........... 3
      - Special Education 370 .......................................... 2
      - Physical Education 356, 391, 409, 410, 411, 420, 422, 424, 445, 450, 490 ........................................... 23
      - Educational Curriculum and Instruction 302, 303, 304 ........................................... 5
      - Zoology 480 ............................................................ 3
      - **Professional Year**
        - Physical Education 481 ....................................... 4
        - Physical Education 482 ....................................... 4
        - Educational Curriculum and Instruction 402, 461, 471 ........................................... 4
        - Electives ................................................................ 17

Total: 169-170 hours

### RECREATION: SPOT MANAGEMENT CONCENTRATION

#### Hours Credit
- **Freshman**
  - English 101, 102 ......................................................... 6
  - Mathematics 121, 122 or 141, 142 ................................. 6
  - Physical Education 100 or Recreation 110 ................. 2-3
  - Physical Education or Recreation Activities electives . 4
  - Humanities electives .............................................. 6
  - Social Science elective ........................................... 3
  - Computer Science 100 or 102 .................................... 4
  - History elective ..................................................... 3

Total: 133 hours
### RECREATION: PRIVATE/COMMERCIAL CONCENTRATION

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>History</td>
</tr>
<tr>
<td>Mathematics 110</td>
</tr>
<tr>
<td>Recreation 110, 210</td>
</tr>
<tr>
<td>Computer Science 100</td>
</tr>
<tr>
<td>Humanities electives</td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Recreation 220, 250, 290, 320</td>
</tr>
<tr>
<td>Elective</td>
</tr>
<tr>
<td>Speech 240</td>
</tr>
<tr>
<td>Economics 201</td>
</tr>
<tr>
<td>Natural Science electives</td>
</tr>
<tr>
<td>University Studies electives</td>
</tr>
<tr>
<td>Junior</td>
</tr>
<tr>
<td>Recreation 410, 430, 450</td>
</tr>
<tr>
<td>Administration/Management elective</td>
</tr>
<tr>
<td>Total: 128-131 hours</td>
</tr>
</tbody>
</table>

### SPECIAL EDUCATION: GENERAL SPECIAL EDUCATION CONCENTRATION

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Biology 110, 120</td>
</tr>
<tr>
<td>Human Services 220, 230, or 330</td>
</tr>
<tr>
<td>Art, Music, or Theatre elective</td>
</tr>
<tr>
<td>Psychology 110</td>
</tr>
<tr>
<td>Physical Education Activity elective</td>
</tr>
<tr>
<td>General Education elective</td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Mathematics 110, 115, 121, or 122</td>
</tr>
<tr>
<td>Chemistry 100, Physics 141, Geology 100, or</td>
</tr>
<tr>
<td>Astronomy 151</td>
</tr>
<tr>
<td>History 251, 252</td>
</tr>
<tr>
<td>University Studies electives</td>
</tr>
<tr>
<td>Junior</td>
</tr>
<tr>
<td>Recreation 310, 390, 420</td>
</tr>
<tr>
<td>Humanities electives</td>
</tr>
<tr>
<td>University Studies electives</td>
</tr>
<tr>
<td>Business Administration or Management elective</td>
</tr>
<tr>
<td>Electives</td>
</tr>
<tr>
<td>Senior</td>
</tr>
<tr>
<td>Recreation 410, 430, 440, 450</td>
</tr>
<tr>
<td>Recreation 490</td>
</tr>
<tr>
<td>Business Administration or Management elective</td>
</tr>
<tr>
<td>Elective</td>
</tr>
<tr>
<td>Total: 128-131 hours</td>
</tr>
</tbody>
</table>

### SPECIAL EDUCATION: SPEECH AND HEARING CONCENTRATION

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Psychology 110</td>
</tr>
<tr>
<td>Biology 110, 120</td>
</tr>
<tr>
<td>History 251 or 252</td>
</tr>
<tr>
<td>Mathematics 110 and 115 or 121 and 122</td>
</tr>
<tr>
<td>Social Science elective</td>
</tr>
<tr>
<td>Physical Education Activity elective</td>
</tr>
<tr>
<td>University Studies elective</td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Humanities (English Literature)</td>
</tr>
<tr>
<td>Physical Science elective</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
</tr>
<tr>
<td>University Studies elective</td>
</tr>
<tr>
<td>Health elective</td>
</tr>
<tr>
<td>Fine Arts elective</td>
</tr>
<tr>
<td>Humanities elective</td>
</tr>
<tr>
<td>History elective</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 304, 305</td>
</tr>
<tr>
<td>Special Education 371</td>
</tr>
<tr>
<td>Junior</td>
</tr>
<tr>
<td>Educational and Counseling Psychology 315</td>
</tr>
<tr>
<td>Special Education 331, 404, 433</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 320, 306, 411</td>
</tr>
<tr>
<td>Psychology 385</td>
</tr>
<tr>
<td>Special Education 370, 482</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 302</td>
</tr>
<tr>
<td>Social Science elective</td>
</tr>
<tr>
<td>Senior</td>
</tr>
<tr>
<td>Special Education 434, 473</td>
</tr>
<tr>
<td>Non-Education elective</td>
</tr>
<tr>
<td>Educational and Counseling Psychology 325</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 303, 304</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 428, 430,</td>
</tr>
<tr>
<td>or 461</td>
</tr>
<tr>
<td>Special Education 483</td>
</tr>
<tr>
<td>Humanities elective</td>
</tr>
<tr>
<td>Major elective (choose two): Special Education 440,</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 431, 465, 494</td>
</tr>
<tr>
<td>Professional Year</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 506, 511, 517</td>
</tr>
<tr>
<td>520, 522, 531, 540, 554, 579</td>
</tr>
<tr>
<td>Major elective (choose two): Special Education 440,</td>
</tr>
<tr>
<td>Audiology and Speech Pathology 431, 465, 494</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 402</td>
</tr>
<tr>
<td>Total: 159-160 hours</td>
</tr>
</tbody>
</table>
The engineer applies mathematical and scientific knowledge in planning economical ways of providing materials and energy in forms that are useful to humankind. In today’s technology-based society, everyone feels the effects of the engineer’s plans and decisions. Hence, there is a continuing and urgent need for engineering graduates who possess a thorough understanding of mathematical and scientific principles, who apply these principles to the solution of practical and high technology problems, and who can view the solutions in their overall social perspective so that the actions that they recommend will have long term benefits. It is the purpose of the College of Engineering to educate men and women to the high levels of technical competence and social understanding that will enable them to fulfill their responsibilities as professional engineers.

Graduates of the B.S. curricula offered by the college may enter directly into a position in industry, government, or private practice, or may pursue advanced study in graduate school. Their professional activities include research, development, design, operations analysis, construction, production supervision, and technical sales. Many practice their profession in Tennessee, but engineering knows no geographical bounds, and graduates of the college serve throughout the nation and in other countries as well.

The Cooperative Engineering Program was established in 1926. The University of Tennessee was one of the early pioneers in this valuable type of education, which originated at the University of Cincinnati in 1905. The cooperative program is open to all students in good standing in the college.

The college, in cooperation with industrial sponsors, established the Minority Engineering Scholarship Program in 1973. The program goal is to increase significantly the number of qualified black engineering graduates.

The Engineering Experiment Station was established in 1922.

The college has ten major undergraduate curricula in which a student may specialize: aerospace, chemical, civil, electrical and computer, industrial, mechanical, metallurgical, and nuclear engineering; engineering physics, and engineering science.

Agricultural engineering is based in the College of Agriculture with facilities located on the Agricultural Campus. The agricultural engineering curriculum is offered cooperatively by the College of Agriculture and the College of Engineering. Details of the curriculum may be found in the College of Agriculture section of this catalog.

Facilities

The College of Engineering is housed in Ferris, Estabrook, Perkins, Dougherty, and Berry Halls, and in the Nuclear Engineering Building and East Stadium, all located on the southeastern end of the campus, and the Alumni Memorial Auditorium-Gymnasium.

Tau Beta Pi National Headquarters

The college is honored to have the National Headquarters of Tau Beta Pi, the National Engineering Honor Society, housed on our campus. This honor was earned in part through the unerring efforts of R. C. “Red” Matthews, who served as secretary-treasurer for the organization from 1906 to 1947. The suite of offices, located in Dougherty Hall, is occupied by Mr. J. D. Froula, secretary-treasurer, and his staff.

Cooperative Engineering Program

The five-year Cooperative Engineering Program is offered in order to provide an augmented engineering education that includes significant experience in industry as well as superior academic preparation.
The UT Space Institute
offered in civil, electrical, and industrial engineering, a Master of Engineering degree focusing on engineering, metallurgical engineering, nuclear engineering, engineering science, mechanical engineering, engineering management, and mathematics and physics. All programs lead to the M.S. degree. Also, Ph.D. degrees are available in many of these fields. Information may be obtained from the Registrar, The University of Tennessee Space Institute, Tullahoma, TN 37388.

Curricula in Engineering

NATIONAL ACCREDITATION
Since 1936, engineering programs at institutions of higher learning have been accredited by an organization formed by engineers and engineering societies and known as the Accreditation Board for Engineering and Technology (ABET). Currently accredited engineering programs at UTK include aerospace, agricultural, chemical, civil, electrical, engineering science, industrial, mechanical, metallurgical, and nuclear. Co-op programs in the above areas are presently ABET accredited.

DESIGNATION OF A MINOR
An engineering undergraduate may declare a minor in a non-engineering subject area and have the minor listed on the permanent record under the following conditions:

1. Only one minor may be declared and officially listed.
2. The minor must be one officially approved and described in the UTK catalog.
3. Courses taken to satisfy the minor may be used to satisfy the minimum requirement for a degree up to 8 semester hours. In no case will the minimum requirement be less than so semester credits. The prevailing University regulations shall apply (see page xxx).
4. A student should notify his or her advisor and major department office when beginning work on a minor. The intention to complete a minor must be declared at the time of application for a degree if the minor is to appear on the final transcript. Degree applications are handled by the UTK Records Office.

COURSE LOAD
The maximum number of hours which can be taken by an undergraduate engineering student without special permission is 19. The Associate Dean for Academic Affairs must give permission to take 20 hours or more. In general, this decision is based on the student's previous performance at UTK.

DROP DEADLINE
The drop and add deadline for all undergraduate courses administered by any department or engineering is the end of the tenth calendar day of each semester counted from the beginning day of classes. Any drop action after this date on the part of any student (regardless of major) is subject to late drop regulations. Late drop requests which may be approved for reasons other than academic difficulties, are handled by the Office of Academic Affairs, 118 Perkins Hall. For other procedures refer to "Changes in Registration" in the general section of this catalog.

GENERAL REQUIREMENTS
Students are advised to consult the University's degree requirements as stated in the front section of this catalog as well as departmental requirements.

Inspection Trip
Each candidate for graduation majoring in aerospace, mechanical, chemical, or metallurgical engineering must participate in inspection trips scheduled by the major department.

Transfer Credit
Every attempt will be made to give maximum credit for courses taken elsewhere and transferred to the college. Discussions concerning the evaluation of transfer credits should be conducted with the head of the department (or designee) into which the student proposed to transfer but only after full review of the transfer credits by the Admissions Office.

Program for Second B.S. Degree
Upon approval by the Dean of Engineering and the Committee on Degrees of a program of study recommended by the major engineering department, a student who already holds a bachelor's degree may obtain the appropriate first degree in engineering upon meeting all of the course requirements of the selected engineering program. In no case will the minimum requirement be less than 30 semester credits. The prevailing University regulations shall apply (see page xxx).

Elective Courses
An undergraduate engineering student may count towards a degree up to 8 semester hours obtained by Satisfactory/No Credit (S/NC) grading. Such hours must be used for humanities/social sciences elective credit in engineering. Certain engineering courses carry only S/NC grading do not count in this limit.

Correspondence Courses
A student should check with the head of the department to see what restrictions there are, if any, on the use of correspondence course credit to meet the minimum degree requirements.

Humanities and Social Science Electives
The college assumes an obligation to include in each of the engineering curricula a means whereby students gain greater insight into their interaction with society, both personally and professionally. For this purpose, a part of each engineering curriculum is devoted to humanities and social science electives. These electives serve a three-fold need: to provide an expanded sensitivity to the human aspects of the practice of engineering, to enrich the student's knowledge of the world in which he or she lives - its culture, behavior patterns, history, and governance; and to provide a basis for the appreciation of and the ability to deal with complex interactions between technology and society in the contemporary world. Engineers are now working with new constraints that demand a consciousness of the social and political implications of their work. They are interacting with the public in
explaining their work as the public demands greater participation in the decision-making process concerning the utilization of technology. Because of the significance of this technology-society interaction, engineering students are encouraged to seriously consider their selection of required electives in this area.

Students are urged to plan their Humanities/Social Science elective program in consultation with their advisor. The program should enhance their own interests and objectives. It is recognized that, just as engineers show individual preference for concentration in one of the areas of engineering, they differ in their interests in the many areas of the humanities and social sciences. However, these subjects should be pursued with sufficient depth in terms of courses to permit a reasonable level of comprehension of the selected areas. In order to increase the effectiveness of this interest and to meet ABET accreditation guidelines, the Humanities and Social Sciences Committee of the college provides a list of approved courses in the form of 13 coherent groups of courses identified in three broad areas as follows:

**AREA I. HUMAN, ECONOMIC, AND POLITICAL RELATIONSHIPS TO ENGINEERING**
- Governance and Political Science
- Economics
- Sociology and Psychology
- Human Values

**AREA II. SOCIETY - ITS CULTURE, HISTORY, AND LITERATURE**
- Fine Arts
- American Culture
- History
- Literature
- Anthropology

**AREA III. TECHNOLOGY AND SOCIETY**
- Technology Assessment
- Communication
- Resources

The College maintains a list of acceptable Humanities/Social Science electives. The list is not all inclusive, and it is recognized that individual students may desire to take courses not on the approved list. Those students should discuss their interests and desires with their academic advisor prior to registering for elective courses if such courses are to be used to satisfy degree requirements. In addition there may be prerequisites for upper-division courses on the list. In such cases, students are encouraged to consult the instructor of the particular course. For student record keeping purposes the lists are modified by means of a substitution sheet which originates with the advisor. Courses which are primarily skill development courses, involve mathematics or science, are intended for specialists in another field (such as education), or which are very elementary in nature are usually not approved as humanities/social science electives in an engineering curriculum. A minimum of 18 hours of acceptable humanities/social science electives are required in all programs. Students should consult their departments for any restrictions on humanities/social science electives and technical electives.

**American History Requirements**

Engineering students, regardless of natural origin, must fulfill the American history requirement described on page xxx of this catalog. Those students who have not had the required year of American history in high school may choose the required six semester hours from History 251 and 252, or other courses deemed suitable by the Department of History. These hours may be counted as part of the required block of humanities and social science electives.

**Technical Electives**

Technical electives are to be selected with the advice and approval of the student’s major department. In some of the curricula tabulation a choice of such electives is indicated, and regulations in regard to their selection are stated.

**The Voluntary ROTC Program**

Engineering students may participate in the ROTC Program. Advanced ROTC courses (300 and 400 series) may be counted as technical elective credit toward an engineering degree up to a total of six (6) semester hours. Normally, Military Science courses cannot be used as humanities/social science electives. Individual departments determine the appropriate substitutions.

**Approval of Electives and Substitutions.**

Each student shall discuss with an advisor the status of the program of study no later than the beginning of the second semester prior to anticipated graduation. Any necessary additions to or substitutions in the program, or electives requiring special approval, must be cleared in writing at that time, and it is each student’s responsibility to see that all necessary approvals are secured. Inattention to such matters will most likely delay graduation.

## Agricultural Engineering

(See College of Agriculture)

## Chemical Engineering

**Professors:**
- J. J. Perona (Head), Ph. D. Northwestern, PE; D. C. Bogue, Ph. D. Delaware; E. S. Clark, Ph.D. California (Berkley); L. W. Crawford (Space Institute, Tullahoma), Ph. D. Cincinnati; O. L. Culberson (Emeritus), Ph. D., Texas; J. F. Feilers, Ph. D. Akron;
- G. C. Frazier, Jr., Eng. Johns Hopkins; J. M. Holmes, Ph. D. Tennessee; H. W. Hsu, Ph. D. Wisconsin; H. F. Johnson (Emeritus), Ph. D. Yale; C. F. Moore, Ph. D. Louisiana State; J. W. Prados (Vice President for Academic Affairs), Ph. D. Tennessee;

**Associate Professors:**
- P. R. Bienkowski, Ph. D. Purdue; D. D. Bruns, Ph. D. Houston; C. H. Byers (Adjunct Status), Ph. D. California (Berkley); R. M. Counce, Ph. D. Tennessee;
- T. L. Donaldson (Adjunct Status); Ph. D. Pennsylvania; A. C. Sheth (Space Institute, Tullahoma), Ph. D. Northwestern.

**Assistant Professors:**
- T. W. Wang, Ph. D. Massachusetts Institute of Technology; F. E. Weber, Ph. D. Minnesota.

**Lecturer:**
- D. W. Lane (Adjunct Status), Ph. D. Tennessee.

## Bachelor of Science Program

Chemical engineering is a discipline dedicated to the development, design, operation and management of plants and processes for economical conversion of chemical raw materials to useful products. It is a broadly based discipline, with heavy emphasis on chemistry and mathematics, and also including physics, materials and the humanities. Graduates of the program are quite versatile, with careers in fields such as food and pharmaceutical processing, biochemical engineering, fuels production and conversion, polymers and plastics, process control and instrumentation.

The curriculum provides a central core of required courses with flexibility in the upper-division years to permit emphasis on preparation for graduate school or professional employment. A minimum grade point average of 2.0 for all departmental courses is required for graduation.

A minimum of 18 semester hours of humanities-social science courses are required, which are to be selected from the list under “Curricula in Engineering.” A minimum of 9 hours must be taken from a single sub-group (i.e., under one of the three major headings).

## Progression to Upper-Division

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

**UPPER-DIVISION STATUS:** A Lower-Division student may apply for progression to Upper-Division Status after completing 50 semester hours of Lower-Division engineering curriculum course work with an overall GPA of at least 2.4. This must include Chemical Engineering 200.

**PROVISIONAL STATUS:** Students who have completed 50 semester hours of Lower-Division engineering curriculum course work with an overall GPA between 2.0 and 2.4 may apply for provisional status. The granting of Provisional Upper-Division Status is based on the availability of space in the departmental programs after Upper-Division Status students have been accommodated. Provisional students are required to demon-
Bachelor of Science Program

The curriculum in civil engineering is designed to provide training in fundamental engineering sciences and in certain basic subjects in various civil engineering fields to serve as a basis for entrance into civil engineering practice and/or for graduate study. By use of technical electives a student can emphasize areas of study in construction, environmental engineering, geotechnical/materials, structures, transportation, or water resources.

Students are required to maintain a cumulative grade point average of at least 2.00 in all civil engineering and environmental engineering courses taken at The University of Tennessee, Knoxville, and to use the graduation requirements.

ELECTIVES

The department maintains lists of acceptable technical electives and humanities/social science electives at the departmental office. Students must consult these lists prior to registering for elective courses.

Master of Science and Master of Engineering Programs

Graduate programs in civil engineering and environmental engineering leading to the degrees of Master of Science and Master of Engineering are offered to graduates of recognized undergraduate curricula. The general requirements for the masters' degrees are stated in the Graduate Catalog.

Doctoral Program

Graduate work leading to the degree of Doctor of Philosophy with a major in civil engineering is offered. Major fields of study include environmental engineering, geotechnical/materials, structural engineering, transportation, and water resources. The general requirements for the doctoral degree are stated in the Graduate Catalog.

Electrical and Computer Engineering

Professors:

W. L. Green (Head), Ph. D. Texas A&M; I. Alexeff, Ph. D. Wisconsin, P. E.; J. M. Bailey, Ph. D. Georgia Institute of Technology; A. O. Bishop, Ph. D. Clemson; T. V. Blalock (Haliburton Professor), Ph. D. Tennessee; R. E. Bodenheimer (IBM Professorship), Ph. D. Northwestern; D. W. Boulind (IBM Professorship), Ph. D. Vanderbilt, P. E.; R. C. Gonzales (IBM Professorship; Distinguished Professor), Ph. D. Florida; J. M. Googe, Ph. D. Georgia Institute of Technology, P. E.; G. W. Hoffman, Ph. D. Harvard; J. C. Hung (Distinguished Professor), Ph. D. New York, P. E.; E. J. Kennedy (Weston Fulton Professorship), Ph. D. Tennessee, P. E.; W. O. Leffel (Emeritus), M. S. Tennessee, H. P. Neff, Ph. D. Auburn, P. E.; M. O. Pace, Ph. D. Georgia Institute of Technology, P. E.; J. F. Pierce (Distinguished Professor), Ph. D. Pittsburgh, P. E.; R. W. Rochelle, Ph. D. Maryland; J. R. Roth, Ph. D. Cornell; B. Smith, Jr. (Emeritus), M. S. Illinois, P. E.; F. W. Symonds, Ph. D. Nottingham (UK); J. D. Tillman, Ph. D. Auburn; C. H. Weaver (Emeritus), Ph. D. Wisconsin, P. E.

Associate Professors:

J. D. Birdwell (John Fisher Young Professorship), Ph. D. Massachusetts Institute of Technology; R. D. Joseph (Space Institute, Tullahoma), Ph. D. Case Institute of Technology; J. S. Lawler (Tennecco, Inc. Professor), Ph. D. Michigan State; A. Pujol (Space Institute, Tullahoma), Ph. D. Vanderbilk, M. J. Roberts, Ph. D. Tennessee; D. Rosenberg, Ph. D. New York; J. M. Rochelle, Ph. D. Tennessee; M. M. Trivedi, Ph. D. Utah State; J. W. Waller, Ph. D. Tennessee.

Assistant Professors:

B. W. Bomar (Space Institute, Tullahoma), Ph. D. Tennessee; D. Brazkovic, Ph. D. Florida.

Faculty Associates:


Courses required in the Electrical and Computer Engineering undergraduate curriculum cannot be used in either the M.S. or the Ph.D. programs.

Bachelor of Science Program

The Bachelor of Science in Electrical Engineering is planned to provide a foundation in both the basic sciences and specialized areas of modern engineering. The curriculum contains a suitable amount of cultural work to enhance the growth of the student toward the goal of becoming a professional person with strong social awareness. In the senior year, the student may elect to take courses focused in any one of the areas of electrical engineering; computer engineering, electromagnetic fields and communications, electronics and instrumentation, energy conversion and power systems, plasma and electro-optics engineering, and systems and networks. All of these areas are continued through the M.S. and Ph.D. programs. The senior curriculum is sufficiently flexible to allow a student to take several courses outside the chosen area of focus. A student must take at least one senior elective that is a designated design course.

Generally, all sophomore and junior course work is offered every semester and the senior work is scheduled so that the student may enter at the beginning of any semester. This arrangement allows maximum flexibility, since the student may elect the normal four-year schedule, may choose...
an accelerated schedule, or may participate in the Cooperative Engineering Program. In addition to the usual research and teaching facilities in machinery, electronics, microwaves, solid state devices, and control equipment, the department has microcomputer, minicomputer, and personal computer facilities.

Progression to Upper-Division Status

Progression of electrical engineering majors to the upper-division programs of the department is based on the completion of all freshman courses prior to entering the sophomore level. Students applying for ECE 201 must have completed all courses listed in the freshman year of the ECE curriculum. Students applying for ECE 202 must have completed Mathematics 200, 231, 241 and Physics 231, 232 before enrolling in junior level (300) courses in ECE. Prerequisites and corequisites as stated in the catalog are strictly enforced.

Students are evaluated during the second semester of the freshman year for enrollment in ECE 201, during the first semester of the sophomore year for ECE 202, and during the second semester of the sophomore year for enrollment in the junior level courses. Students must pre-register in the Department the previous semester to be evaluated for enrollment.

Passing grades in Circuits I, II and all of their corequisites and prerequisites are required for enrollment in upper division electrical engineering courses.

Those not accepted into the junior level courses of the department will not be permitted to register for any upper division courses within the department. Students failing to satisfy the departmental requirements for course enrollment will be counseled and advised of educational alternatives. In the junior year, students may select any 4 of 6 electives during the second semester. These elective courses include electronics, energy, communications, computers, systems, and plasma. Students must maintain an overall GPA of 2.00 on all ECE courses before obtaining a Bachelor of Science Degree.

Graduate

Comprehensive course and research programs for the degrees of Master of Science, Master of Engineering, and Doctor of Philosophy in Electrical Engineering are offered for students with career goals such as advanced design, research and teaching. Students admitted to the graduate program are expected to have a minimum point average of 3.0 for both all undergraduate study and for the senior year. Students with a B.S. or B.A. degree in a field other than Electrical Engineering are required to take certain ECE undergraduate courses before beginning the graduate program. See the Graduate Catalog for complete details on the graduate program.

Engineering Physics

Professor W. M. Bugg (Head); Physics staff as show on page 112.

The curriculum in engineering physics is designed to fulfill the educational requirements for professional work in various fields of applied science which are based upon a thorough knowledge of physics. The first two years are concerned with fundamental courses in engineering, science, and mathematics. In the upper division, the curriculum allows some choice of courses in engineering and in physics depending upon the interest of the student. The undergraduate program is a complete, professional program, equipping the student for entry into a variety of work in industry and research. The program also leads to graduate work in either physics or engineering.

Engineering Science and Mechanics

Professors:

J. E. Stoneking (Head), Ph. D. Illinois, P. E.;
B. Antar (Space Institute, Tullahoma), Ph. D. Texas; A. J. Baker, Ph. D. New York, P. E.;
T. G. Carley, Ph. D. Illinois, P. E.;
J. H. Forrester, Ph. D. Iowa State, P. E.;
R. J. Jendrucko, Ph. D. Virginia, P. E.;
D. R. Keefer (Space Institute, Tullahoma), Ph. D. Florida; H. K. Kim, Ph. D. North Carolina State; J. D. Landes, Ph. D. Lehigh, P. E.; C. W. Lee, Ph. D. Illinois Institute of Technology; T. D. McCay (Space Institute, Tullahoma), Ph. D. Auburn; C. A. Newton (Emeritus), M. S. Syracuse; H. Pih, Ph. D. Illinois Institute of Technology, P. E.;
C. J. Remenyik, Ph. D. Johns Hopkins;
R. M. Roberds (Associate Dean and Space Institute, Tullahoma), Ph. D. Air Force Institute of Technology; F. Shahroki (Space Institute, Tullahoma), Ph. D. Oklahoma; L. R. Shobe (Emeritus), M. S. Kansas State, P. E.; W. T. Snyder (Dean), Ph. D. North Western; W. W. Thomas, Jr. (Emeritus), B. S. Tennessee, J. Wasserman, Ph. D. Cincinnati, P. E.

Research Professor:

T. F. Moriarty, Ph. D. Illinois, P. E.

Associate Professors:

E. K. Boyce, M. S. Tennessee;
J. E. Caruthers (Space Institute, Tullahoma), Ph. D. Georgia Institute of Technology;
R. C. Engals (Space Institute, Tullahoma), Ph. D. Virginia Polytechnic Institute;
W. A. Lyday, Jr., M. S. Tennessee;
A. Mathews, Ph. D. Illinois, P. E.;
M. H. McCay (Space Institute, Tullahoma), Ph. D. Florida; C. J. Myers (Space Institute, Tullahoma), Ph. D. Indiana University;
G. H. Parham, Jr. (Emeritus), B. S. Cincinnati;
W. E. Scott, Ph. D. Johns Hopkins;
M. O. Soliman, Ph. D. Tennessee, P. E.;
J. S. Steinhoff (Space Institute, Tullahoma), Ph. D. University of Chicago.

Assistant Professor:

J. A. M. Boulet, Ph. D. Stanford.

Bachelor of Science Program

The curriculum in engineering science provides students an opportunity for education with breadth in engineering science, mathematics, and physical or biological science. The program prepares students for a career in engineering development, research or additional graduate study leading to the master's or the doctoral degrees. The curriculum provides students a broad engineering education which permits a strong emphasis on engineering principles and basic science.

In the first two years students in the engineering science program study engineering, science, and mathematics. The engineering science program in the upper-division years contains a sufficient number of electives to provide for those special interests of students that cannot be accommodated in other programs. Examples of special interest elective groups available are engineering mechanics, biomedical engineering, environmental sciences, engineering materials, and non-destructive evaluation. Other elective groups are currently being developed and will be available in the future.

The engineering science elective group focuses on analytical, computational and experimental methods used in investigating practical engineering problems. It is designed especially to develop engineers capable of engaging in research and development in industrial and governmental research laboratories. Because such preparation involves emphasis on the link between the basic sciences and engineering fundamentals, the engineering mechanics elective group provides a good background for students wishing to pursue engineering graduate studies.

The biomedical engineering elective group provides the basic background for an engineer to contribute to the fields of biology and medicine in technical areas as the design of research and diagnostic equipment, the development of artificial organs, and the application of the biomedical sciences to further the basic understanding of biological systems. With some modifications, the program can emphasize other areas such as the use of computer systems to automate hospital operations, analyze medical data, and contribute to the broad area of health care delivery systems. Interested and qualified students may choose to use this program as a background for graduate study in engineering or the life sciences. The program includes the courses required for entrance into most medical schools, including The University of Tennessee Center for the Health Science in Memphis.

The environmental sciences elective group provides the opportunity for the student to apply engineering principles to the solution of environmental and ecological problems. This program gives the necessary background to achieve a high level of competence in professional practice or graduate study.

The engineering materials elective group provides background in the use of materials
for various engineering applications including the selection of the proper materials to support the anticipated loads during the design life of the industrial need for individuals with a combined background in both structural analysis and materials properties. 

The non-destructive evaluation elective group offers the student an opportunity to study the application of techniques for evaluation material properties and determining material flaws. Demand for this background is increasing in high technology industries. Techniques studied include ultrasonics, X-rays, dye penetration, photoelasticity.

The basic engineering sciences curriculum provides an opportunity to study those engineering science areas recognized by the American Society for Engineering Education such as (1) mechanics; (2) electrical science, electric and magnetic fields, circuits, and electronics; (3) thermodynamics and statistical mechanics; (4) materials and momentum transfer; and (5) information science; (6) transfer and rate processes such as heat, mass, and momentum transfer; and (7) environmental sciences. No student will study all the engineering sciences but must structure a core plan to provide depth in some of the engineering sciences. Because of the large number of elective courses to be selected in the engineering science degree program, faculty advising plays an essential role in the process of developing the student's course of study. Before the end of the sophomore year, students in the engineering science program are required to develop, in concert with a faculty advisor, a statement of objective and a course plan for the upper-division years. For students with more than 70 semester hours, this course plan must be filed with the office of Admissions and Records before they can register for additional courses, and before a senior standing sheet can be prepared.

**Master of Science and Doctoral Programs**

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy with a major in engineering science are available to graduates of recognized curricula in engineering, mathematics, or one of the physical or biological sciences. Program options include solid mechanics, fluid mechanics, biomedical engineering, and other engineering sciences. In the biomedical and engineering science option, interdisciplinary programs are arranged to meet individual needs or interests. Each applicant is advised as to any prerequisite courses before entering a program. The student must meet the departmental, college, and university requirements. Admission requirements include a degree of Bachelor's or Master's from an accredited institution.

**Industrial Engineering**

**Professors:**

J. N. Snider (Head), Ph. D. Ohio State, P. E.;

W. W. Claycombe, Ph. D. Virginia Polytechnic Institute, P. E.;

E. L. DePorter (IBM Professor), Ph. D. Virginia Polytechnic Institute;

D. C. Doulet, M. S. Tennessee, P. E.;

H. P. Emerson (Emeritus),

S. B. Massachusetts Institute of Technology, P. E.;

G. Garrison (Part-time, Space Institute, Tullahoma), Ph. D. North Carolina State;

R. M. LaForge (Emeritus), M. S. Georgia Institute of Technology, P. E.;

H. L. Loveless, M. S. North Carolina State, P. E.;

W. G. Sullivan, Ph. D. Georgia Institute of Technology, P. E.;

J. D. Westbrook, Ph. D. Virginia Polytechnic Institute, P. E.

**Associate Professors:**

D. H. Hutchinson, Ph. D. Georgia Institute of Technology, K. E. Kirby, Ph. D. Tennessee.

**Assistant Professors:**

C. H. Aiken III, Ph. D. Tennessee, P. E.;

M. K. Goodman, M. S. Tennessee, P. E.;

J. C. Hungerford, Ph. D. Ohio State.

**Instructor:**

D. F. Jackson, M. S. Tennessee.

**Lecturers:**

J. A. Bontadelli (Part-time), Ph. D. Ohio State;

S. Douglass (Part-time), Ph. D. Tennessee,

J. C. Mitchell (Part-time, Space Institute, Tullahoma), Ph. D. Vanderbilt.

The undergraduate curriculum in industrial engineering provides a strong background in both fundamental engineering principles and the analytic methods necessary for solving the multi-faceted problems associated with the production, maintenance, and delivery of goods and services. In particular, this curriculum emphasizes the knowledge and skills necessary to design integrated systems of people, materials, equipment, and energy wherever they are found, such that the overall system functions at an optimal level and such that the needs of the human components of the system are adequately met.

This curriculum, which is built upon a strong foundation in mathematics and statistics, includes fundamental course work in all of the engineering sciences, introductory economics and accounting, training in fundamental human factors which influence engineering design, the economic analysis of alternative design choices, quality control, reliability and quality control and traditional design and control, material handling systems and facilities design, the mathematical modeling and simulation of complex systems, and the design and installation of information acquisition and control systems. The technical and non-technical electives further allow the students to specialize in an area(s) which meets particular needs.

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

**Master of Science Program**

A graduate program leading to the degree of Master of Science is open to graduates of A. B. E. T.-accredited undergraduate curricula in Industrial Engineering or to graduates of other technical curricula who take an approved list of prerequisite course work. A non-thesis option with 30 hours of course work plus a 3-hour project is available.

Graduate work in Industrial Engineering provides for concentrations in operations research, engineering management, manufacturing and production systems, human factors engineering, information systems, reliability and quality control and traditional industrial engineering. Either one or two minors can be elected in Engineering, Mathematics, Psychology, Business, Computer Science, Statistics or Economics.

**Master of Engineering Program**

This professional degree program is intended as a culminating year in a five-year baccalaurate—bachelor program with an emphasis in engineering design and professional practice. Admission requirements include those presented above plus the requirement of a Bachelor's degree from an A. B. E. T.-accredited Industrial Engineering program. This 30-semester hour program requires 12 hours of course work in an industrial engineering core, 6 hours of technical methods electives, 6 hours of industrial engineering design electives and 6-hour thesis or design project.

**Materials Science and Engineering**

**Professors:**

J. E. Spruiell (Head), Ph. D. Tennessee;
students to departmental Upper-Division courses is competitive. Factors considered include overall grade point average, performance in selected lower-division courses and evidence of satisfactory and orderly through the prescribed curriculum.

UPPER-DIVISION STATUS: A Lower-Division student formally applies for Upper-Division Status after completing 50 semester hours of Lower-Division engineering curriculum course work with an overall GPA of at least 2.4. This must include Materials Science and Engineering 201.

PROVISIONAL STATUS: Students who have completed 50 semester hours of Lower-Division engineering curriculum course work with an overall GPA between 2.0 and 2.4 may apply for provisional status. The granting of Provisional Upper-Division Status is based on the availability of space in the departmental programs after Upper-Division Status students have been accommodated. Provisional students are required to demonstrate their ability to perform satisfactorily in upper-division courses by attaining a minimum GPA of 2.0 in at least 8 hours of 300-level required courses specified by the department. Further progress to upper-division courses is dependent upon this minimum level of performance.

TRANSFER STUDENTS: At the Upper-Division level students are admitted on a Provisional Status basis only. Any student presenting more than 28 hours of Lower-Division engineering curriculum course work by transfer credit is considered to be a transfer student.

Graduate Study Programs

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy with a major in metallurgical engineering or polymer engineering are offered. Detailed information about graduate programs in materials science and engineering and the requirements for either M.S. or Ph.D. degrees are given in the Graduate Catalog.

Mechanical and Aerospace Engineering

Professors: D. R. Pitts (Head), Ph. D. Georgia Institute of Technology; J. F. Bailey (Emeritus), Ph. D. Lehigh, P. E.; G. W. Braun (Emeritus, Space Institute, Tullahoma), Ph. D. Gottingen; F. G. Collins (Space Institute, Tullahoma), Ph. D. California (Berkeley), P. E.; A. J. Edmondson, (Associate Head), Ph. D. North Carolina State; B. H. Goethert (Emeritus, Space Institute, Tullahoma), Ph. D. Berlin (Germany); K. C. Harwell (Space Institute, Tullahoma), Ph. D. California Institute of Technology; W. H. Heiser (Space Institute, Tullahoma), Ph. D. Massachusetts Institute of Technology; J. W. Hudson, Ph. D. Georgia Institute of Technology, P. E.; R. W. Holland, M.S. Tennessee, P. E.; W. S. Johnson, Ph. D. Clemson, P. E.; E. G. Keshock, Ph. D. Oklahoma State, P. E.; R. J. Krane, Ph. D. Oklahoma; M. Kurosaka (Space Institute, Tullahoma), Ph. D. California Institute of Technology; D. C. Columbus, P. E.; C. Peters (Space Institute, Tullahoma), D. Applied Science Brussels; F. Shahrokhi (Space Institute, Tullahoma), Ph. D. Oklahoma; G. V. Smith, Ph. D. Pennsylvania State, P. E.; F. H. Speckhart (IBM Professor), Ph. D. Georgia Institute of Technology, P. E.; W. K. Stair (Emeritus), M.S. Tennessee; J. M. Tucker (Emeritus), M. S. Illinois; J. W. White, Ph. D. Stanford; H. J. Wilkerson, Ph. D. Tennessee, P. E.; J. M. Wu (Space Institute, Tullahoma), Ph. D. California Institute of Technology; Y. L. C. Wu (Space Institute, Tullahoma), Ph. D. California Institute of Technology; R. L. Young (Space Institute, Tullahoma), Ph. D. Tennessee, P. E.

Assistant Professors: R. V. Arimilli, Ph. D. Virginia Polytechnic Institute and State University; S. E. Becker, Ph. D. North Carolina State, P. E.; R. A. Crawford (Space Institute, Tullahoma), Ph. D. Tennessee; J. A. Euler, Ph. D. Purdue, P. E.; T. H. Moulden (Space Institute, Tullahoma), Ph. D. Tennessee; M. Parang, Ph. D. Oklahoma, P. E.; J. R. Parrens, Jr., Ph. D. North Carolina State, P. E.; R. J. Schulz (Space Institute, Tullahoma), Ph. D. Tennessee, P. E.

Assistant Professor: M. Keyhani, Ph. D. Ohio State.

Bachelor of Science Program

Separate curricula are offered in aerospace engineering and mechanical engineering; however, the first two years of these curricula are identical. During the first two years, the curricula provide for training and study in the basic sciences of physics, mathematics, chemistry, and engineering common to these fields. The third year of both programs continues with the development of the particular engineering sciences of the aerospace and mechanical engineering fields. In the senior year an opportunity is provided for the student to apply this fundamental knowledge to mechanical and aerospace engineering problems. Both curricula are arranged to prepare the student for graduate study or technical employment.

Aerospace engineering has scientific foundations close to those of mechanical engineering. The aerospace engineer, however, devotes attention particularly to the research, development, design, testing, and production of aerospace vehicles - aircraft, spacecraft, missiles; auxiliary systems - heating, cooling, guidance, control, and propulsion systems - piston engines, turbojets, ramjets, rockets. Emphasis in the senior year
is directed toward these topics and the program culminates in a major aerospace design project.

Mechanical engineering, the most versatile engineering discipline, has its foundation in the basic sciences and requires an understanding of such areas of applied science as solid and fluid mechanics, thermodynamics, heat transfer, structures, vibrations, mechanical design, manufacturing processes, and instrumentation in order to resolve the complex engineering problems of the real world.

A major design project in the senior year builds upon this background in a capstone experience.

Progression to Upper-Division Programs

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

FULL STATUS: A Lower Division student in the department may apply for progression to Upper Division Programs after completing 52 semester hours of Lower Division engineering curriculum course work with an overall GPA of at least 2.4.

PROVISIONAL STATUS: Students who have completed 52 semester hours of Lower Division engineering curriculum course work with an overall GPA between 2.0 and 2.4 may apply for provisional status. The granting of Provisional Status is based on the availability of space in departmental programs after Full status students have been accommodated. Provisional Status students are required to demonstrate their abilities to perform satisfactorily in Upper Division courses by attaining a minimum GPA of 2.0 in at least 11 semester hours of 300 level required engineering courses (included 8 specified hours in the department). Further progression to upper division courses is dependent upon this minimum level of performance.

Any student with an overall GPA below 2.0 will not be admitted to mechanical or aerospace engineering courses. Students who have not been progressed to an Upper Division Program will be dropped from departmental class rolls.

TRANSFER STUDENTS: At the Upper Division level students are admitted on a Provisional Status basis only. Any student presenting more than 28 semester is considered a Transfer Student.

LOSS OF FULL STATUS: Students who progress to Upper Division Programs are expected to maintain an overall GPA of at least 2.0 and a concurrent GPA of at least 2.0 in departmental courses. Failure to maintain these minimum levels of performance will result in a review of the overall progress of the student through the prescribed curriculum and probable loss of Full Status.

Graduate Study Programs

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy with specialization in mechanical engineering. Aerospace engineering are available to graduates of recognized undergraduate curricula in mechanical or aerospace engineering and to graduates of the curricula who satisfy the necessary prerequisite courses. The general requirements for advanced degrees are summarized in the Graduate Catalog.

Nuclear Engineering

Distinguished Professor:
R. E. Uhrig, Ph. D. Iowa State, P. E.

Professors:

Associate Professors:
E. M. Katz, Ph. D. Tennessee, P. E.; L. F. Miller, Ph. D. Texas A&M, P. E.; B. R. Upadhyaya, Ph. D. California, P. E.

Bachelor of Science Program

The curriculum in nuclear engineering is designed to provide basic training in many of the fields encountered in the applications of nuclear and radioactive materials. The first two years are concerned with the fundamental courses in engineering, physics, mathematics, chemistry, and English. The last two years encompass scientific and engineering courses equipping the student for entry into a variety of work in industry, research, or graduate studies.

Master of Science Program

Graduate program leading to a degree of Master of Science is available to graduates of recognized undergraduate curricula in engineering and physics. Each applicant will be advised as to the necessary prerequisite courses before entering the program. The general requirements of the masters' degree are summarized in the Graduate Catalog.

Doctoral Program

A program leading to the Ph. D. degree is available in nuclear engineering. For details, see the Graduate Catalog.

Curricula

Course requirements for the various engineering curricula are listed on the following pages. The numbers in the columns indicate the number of semester hours of credit for each course. Individual course prerequisites should be strictly adhered to, even if courses are not taken in the semester indicated. Although the requirements for each degree can be completed in four academic years (five for the cooperative program), the quality of the learning experience is much more important than the speed with which the curricula are completed. Questions about individual courses should be directed to the department responsible for the course; questions about a particular curriculum should be directed to the major department.

Provisions.

Before registering for any engineering course, a student should take certain that any necessary background work has been completed. In addition to specific prerequisites listed, it is assumed that a student taking sophomore engineering courses has completed all freshman courses, whether specifically listed as a prerequisite or not. When this is not the case, a student should seek advice from the advisor or department responsible for the course in question before registration so as to minimize the chances of academic difficulty.

Students who do not have prescribed prerequisites may be admitted to a course at any time during a semester when the lack of prerequisites is discovered.

FRESHMAN YEAR

The freshman year is common to all engineering programs, except for engineering physics. (See curriculum display which follows.)

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Chemistry 120, 130</td>
</tr>
<tr>
<td>Mathematics 141, 142</td>
</tr>
<tr>
<td>Basic Engineering 111, 101</td>
</tr>
<tr>
<td>Basic Engineering 121, 131</td>
</tr>
<tr>
<td>Basic Engineering 100</td>
</tr>
<tr>
<td>Total: 35 hours</td>
</tr>
</tbody>
</table>

AEROSPACE ENGINEERING

Hours Credit

<table>
<thead>
<tr>
<th>Sophomore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 241</td>
</tr>
<tr>
<td>Mathematics 260</td>
</tr>
<tr>
<td>Physics 231, 232</td>
</tr>
<tr>
<td>Engineering Science and Mechanics 231, 321</td>
</tr>
<tr>
<td>Basic Engineering 201</td>
</tr>
<tr>
<td>Material Science and Engineering 201</td>
</tr>
<tr>
<td>Mechanical Engineering 331</td>
</tr>
<tr>
<td>Humanities/Social Sciences Electives 1</td>
</tr>
<tr>
<td>Junior</td>
</tr>
<tr>
<td>Aerospace Engineering 362, 363</td>
</tr>
<tr>
<td>Mechanical Engineering 332, 341, 381</td>
</tr>
<tr>
<td>Aerospace Engineering 354, 351, 370</td>
</tr>
<tr>
<td>Electrical Engineering 301, 302</td>
</tr>
<tr>
<td>Humanities/Social Sciences Electives 1</td>
</tr>
</tbody>
</table>
Senior

Mechanical Engineering 344, 451 ........................................ 6
Aerospace Engineering 426, 429 ........................................ 6
Aerospace Engineering 422, 425 ........................................ 6
Aerospace Engineering 431, 449 ........................................ 4
Technical Elective .......................................................... 3

Humanities/Social Sciences Elective1 ................................ 6

Total: 136 hours

*Humanities/social science electives: minimum of 18 hours required; electives must be chosen from at least two of the three areas under the “Elective Courses in Humanities and Social Sciences” with a minimum of 9 hours being chosen from one group in one area. (See College of Engineering General Requirements.)

CHEMICAL ENGINEERING

Hours Credit

Sophomore

Chemical Engineering 200, 240 ........................................ 7
Chemistry 310-319, 371 .................................................. 7
Mathematics 200, 231, 241 .............................................. 8
Physics 231 ............................................................... 3
Humanities/Social Science ............................................... 6

Electrical Engineering 301 .............................................. 3

Junior

Chemical Engineering 330, 340, 310, 360, 380 .................. 14
Chemistry 350, 381 ....................................................... 6
Material Science and Engineering 201 ............................ 3
Chemistry Option ......................................................... 3
Humanities/Social Science ............................................... 6

Senior

Chemical Engineering 450, 440, 480, 410, 490 .................. 16
Technical Electives ....................................................... 9
Humanities/Social Science ............................................... 6

Total: 132 hours

CIVIL ENGINEERING

Hours Credit

Sophomore

Mathematics 241, 231, 200 .............................................. 8
Physics 231 ............................................................... 3
English 494 ............................................................... 3
Geology 210 ............................................................... 2

Engineering Science and Mechanics 231 .......................... 3

Engineering Science and Mechanics 210, 251, 291 .......... 9

Mechanical Engineering 331 ........................................... 3

Humanities/Social Science1 ............................................ 3

Junior

Electrical Engineering 301 .............................................. 3

Civil Engineering 330, 381, 352, 395, 392 .................. 12

Civil Engineering 321, 335, 380, 340, 395 .................. 15

Humanities/Social Science2 ........................................... 3

Senior

Civil Engineering 440, 461, 480, 400, 405 .................. 14

Engineering Electives .................................................. 6

Civil Engineering Electives .......................................... 6

Humanities/Social Science1 ............................................ 12

Total: 137 hours

*See Departmental list of approved courses.

ELECTRICAL ENGINEERING

Hours Credit

Sophomore

Mathematics 231, 200, 241 .............................................. 8
Physics 231, 232 .......................................................... 7

Electrical and Computer Engineering 201, 202, 209 ........ 7

Material Science and Engineering 201 ............................ 3

Basic Engineering 201 .................................................. 2

Humanities/Social Science Electives ................................ 6

Junior

Electrical and Computer Engineering 311, 321, 331, 341, 351 .. 15

*Electrical and Computer Engineering 312, 319, 322, 329 ... 8

*Electrical and Computer Engineering 332, 339, 342, 349 ... 8

*Electrical and Computer Engineering 352, 359, 361, 369 ... 8

Humanities/Social Science Electives ................................ 3

Senior

Electrical and Computer Engineering Senior Electives ........ 16

Humanities/Social Science Electives ................................ 9

Mechanical Engineering 331 ........................................... 3

Mechanical Engineering Electives ................................. 3

Total: 135 hours

*Must take 4 of these 6 courses which are 3-hour lectures plus 1 hour lab each.

ENGINEERING PHYSICS

Hours Credit

Freshman

Physics 137 (131), 138 (132) ........................................... 8
Mathematics 141, 142 ................................................... 8
Chemistry 120, 130 ...................................................... 8
English 101, 102 .......................................................... 6

Basic Engineering 100, 111 .......................................... 4

Sophomore

Physics 237 (231), 238 (232) ........................................... 7-8

Mathematics 241, 231 ................................................... 7-8

*Engineering/Technical Electives .................................... 6

Humanities/Social Science Electives ............................... 12

Junior

Physics 311, 321, 322, 421 ........................................... 13

*Physics Lab Elective ................................................... 6

*Engineering/Technical Elective ..................................... 6

*Humanities/Social Science Elective ............................... 6

Senior

Physics 431, 432, 412 .................................................. 9

*Physics 411 ............................................................... 3

Engineering/Technical Elective ....................................... 9

Total: 128 hours

*Honors courses (137-38, 237-38) are recommended to qualified students. Transfer students from other engineering departments may substitute Basic Engineering 121-131 for Physics 137, but must show training in heat and thermodynamics or take Physics 138 (132).

*At a total of 12 hours of engineering electives plus 9 hours of technical electives are required. Engineering electives should form a coherent group of courses taken in the College of Engineering. Technical electives may be taken in physics, engineering, math, other physical sciences, or astronomy.

*Non-technical electives are to be taken in the College of Liberal Arts from departments not included in the technical electives, with at least 10 hours taken in the humanities.

*From Physics 361-362 or Physics 461-462-463.

*Students not planning to pursue graduate studies may substitute Physics 340 and either 341 or 342.

ENGINEERING SCIENCE

Hours Credit

Sophomore

Mathematics 241, 231, 200 .............................................. 8

Physics 231, 232 .......................................................... 7

Material Science and Engineering 201 ............................ 3

Basic Engineering 201 .................................................. 2

Humanities/Social Science Electives ................................ 6

Junior

Basic Engineering 201 .................................................. 2

Electrical Engineering 301 ............................................. 3

Engineering Science and Mechanics 322 or 443 ............ 3

Engineering Science and Mechanics 301, 351 .................. 4

Material Science and Engineering 201 .......................... 3

Mechanical Engineering 331 ........................................... 3

Industrial Engineering 405 .......................................... 2

Technical Electives ..................................................... 6

Mathematics, Physics, or Life Science Elective ............... 3

Humanities/Social Science Electives ............................... 6

Senior

Engineering Science and Mechanics 431, 453, 465 ............ 9

Mechanical Engineering 344 ........................................... 3

Technical Electives ..................................................... 9

Humanities/Social Science Electives ............................... 12

Total: 136 hours

*Courses (including biomedical engineering courses) approved by the student’s advisor and the department which, when taken together, form a biomedical engineering emphasis. Pre-med, pre-vet, and pre-dentistry programs include biology and organic chemistry courses as part of these electives.

*Appropriate course approved by the department.

*Humanities/Social Science courses approved by the department.

INDUSTRIAL ENGINEERING

Hours Credit

Sophomore

English Elective .......................................................... 6

Mathematics 241, 231, 200 .............................................. 8

Physics 231, 232 .......................................................... 7

Engineering Science and Mechanics 321 .......................... 3

Industrial Engineering 200 .......................................... 3

Engineering Science and Mechanics 231 .......................... 3

Statistics 252 ............................................................. 3

Junior

Electrical Engineering 301, 302 ...................................... 6

Industrial Engineering 405, 302, 300, 400 .................... 12

Industrial Engineering 301, 304 .................................... 6

Nuclear Engineering 310, 311 ....................................... 6

Total: 136 hours

*Humanities/Social Science electives approved by the department.

*Appropriate course approved by the department.

*Humanities/Social Science courses approved by the department.
### Economics
- Economics 251: 3
- Accounting 201: 3

### Humanities/Social Science Electives
- Humanities/Social Science Electives: 9

### Technical Elective
- Industrial Engineering 492, 401, 407, 403, 406, 408: 18
- Industrial Engineering Elective: 3

**Total: 137 hours**

### MECHANICAL ENGINEERING

#### Hours Credit

**Sophomore**
- Mathematics 231, 241, 200: 8
- Physics 231, 232: 7
- Engineering Science and Mechanics 231, 321: 6
- Basic Engineering 201: 2
- Material Science and Engineering 201: 3
- Mechanical Engineering 331: 3
- Humanities/Social Sciences Elective: 6

**Junior**
- Electrical Engineering 301, 302: 6
- Humanities/Social Sciences Elective: 6

**Senior**
- Mechanical Engineering 451, 466, 475, 449, 431: 13
- Mechanical Engineering 455 and 469 or 456 and 479: 6

**Total: 135 hours**

### METALLURGICAL ENGINEERING

#### Hours Credit

**Sophomore**
- Material Science and Engineering 201, 202, 203: 8
- Physics 231, 232: 7
- Mathematics 231, 200, 241: 8
- Chemistry 371: 3
- Humanities/Social Science elective: 6

**Junior**
- Metallurgical Engineering 301, 303, 302: 8
- Mechanical Engineering 344 or Chemical Engineering 240: 3
- Material Science and Engineering 313, 414, 331: 9
- Electrical Engineering 301: 3
- Humanities/Social Science elective: 6
- Engineering Science and Mechanics 321: 3
- Electrical Engineering 302 or Chemistry 381: 3

**Senior**
- Metallurgical Engineering 431, 421, 411, 432, 412, 422: 18
- Polymer Engineering 491: 3
- Technical Elective: 6
- Humanities/Social Science elective: 6

**Total: 135 hours**

### NUCLEAR ENGINEERING

#### Hours Credit

**Sophomore**
- Mathematics 200, 231, 241: 8
- Physics 231, 232: 7
- Basic Engineering 201: 2
- Nuclear Engineering 201, 203, 202, 204: 8
- Electrical Engineering 311: 3
- Humanities/Social Science electives: 6

**Junior**
- Mathematics 435: 3
- Electrical Engineering 312: 3
- Nuclear Engineering 301, 305, 306, 302, 304: 15
- Engineering Science and Mechanics 321: 3
- Industrial Engineering 405: 2
- Material Science and Engineering 201: 3
- Humanities/Social Science electives: 6

**Senior**
- Nuclear Engineering 401, 403, 405, 402, 404, 406: 20
- Technical Electives: 6
- Humanities/Social Science electives: 6

**Total: 136 hours**
Jacquelyn DeJonge, Acting Dean  
Frances Andrews, Associate Dean,  
Undergraduate Studies  
Kermit Duckett, Associate Dean, Graduate  
Studies and Research  
Joan Watts, Coordinator, Undergraduate  
Services

The College of Human Ecology ranks among the top five U.S. colleges of its kind in student enrollment, and in the number of master's and doctoral degrees granted. All undergraduate programs of the College are accredited by The American Home Economics Association and the Interior Design program is accredited by the Foundation for Interior Design Education Research (FIDER).

Students in the College are prepared as specialists within the integrated professional field of Human Ecology, which is focused on investigating the interactions between individuals and families, and their near environments. The faculty are not content with studying and teaching "what is"; they make the College's programs relevant to career goals and aspirations of today's students by promoting "what can and should be."

Human Ecology graduates are employed in professional positions that serve individuals, families, and consumers by helping them predict and solve future-oriented problems. The College's undergraduate programs prepare individuals to work as career professionals in fields like merchandising, interior design, hospitality management, textile science, applied child development, and dietetics.

All departments of the College conduct basic and applied research supported by grants and contracts, and by the Agricultural Experiment Station. The diverse instructional and research facilities feature state-of-the-art equipment: closed-circuit television for observing children in Child Development Labs; an accredited small animal laboratory for nutrition research; a quantity foods demonstration facility for tourism, food and lodging; the only non-woven textile processing laboratory with a melt-blown line on a college campus in the world and a newly renovated microcomputer laboratory.

Fifty full-time faculty staff three departments in Child and Family Studies; Nutrition and Food Sciences; and Textiles, Merchandising and Design. Curricula lead to a Bachelor of Science degree in Human Ecology, Tourism, Food and Lodging Administration, or Interior Design.

Teacher Certification in Vocational Home Economics Education and Educational Programs for Home Economics Extension Education

A certification program for secondary home economics teachers is available within the College. The Extension and Community Services program in Home Economics is also available for individuals interested in community-based home economics programs. Both programs include comprehensive study in all areas of home economics as well as in educational principles, and are housed in the Child and Family Studies Department.

Undergraduate Study in Human Ecology

Curricula in the following majors lead to a Bachelor of Science degree in Human Ecology:  
Child and Family Studies with concentrations in Child Development and:  
Family Science  
Nutrition and Food Sciences  
Textiles, Merchandising, and Design with concentrations in Merchandising, Textile Science, and Apparel  
Home Economics Education leads to a Bachelor of Science in Home Economics

Interior Design leads to a Bachelor of Science in Interior Design  
Tourism, Food and Lodging Administration leads to a Bachelor of Science in Tourism, Food and Lodging Administration

College Policies

Students working toward degrees must complete the last 30 hours of work (two semesters) at UTK, in a degree program within the College of Human Ecology. Forty-eight hours must be earned in 300-400 level courses. Usual course loads of College majors are 15-16 hours; course loads over 19 hours must be approved by the Dean's Office at the time of registration. Prospective transfer students are advised to plan a total college program before starting any college-level work to achieve maximum use of credit and sequence of course work. All students whose majors require chemistry must enroll in the freshman chemistry sequence until requirements are completed. Transfer students are advised to complete freshman chemistry requirements before transferring to the College.

Students wishing to transfer to the College must have at least a 2.0 grade point average on a 4.0 scale. Progression requirements for each program must be met also. All freshmen are advised by Dean's Office staff; other students are assigned an advisor in the specific program areas. New transfer students are advised initially by Dean's Office staff and then are assigned departmental program advisors. Students meet with academic advisors each semester. These conferences are designed to help students define choices to achieve academic success; identify career choices available; attain a balance between general education and professional studies; and, identify problems and potential solutions early in the academic program.
Requirements for All Curricula

All students take Human Ecology 200 Professional Orientation (3) and Human Ecology 400 Professional Environments (3). These undergraduate core courses emphasize an interdisciplinary, ecological philosophy of the professional field. The primary elements of the core in Human Ecology are the central place given to the interdependent nature of social relationships; the reciprocal nature of the relationship between social beings and their environments; and a focus on these relationships to search for implications of and predictions for individuals and family well-being. Professional within the field have translated these key elements into the practical application of knowledge to manage human and material resources to help families maximize the potential for their members, individually and corporately.

Progression Requirements

All programs in the College have specific requirements for progression.

CHILD AND FAMILY STUDIES MAJOR

For progression into student teaching (CFS 470) students must meet the following criteria:
1. Cumulative grade point average 2.0 or greater
2. Completion of CFS 110, 350, 351, 450 or 451
3. Grade of "C" or better in each required CFS prefix course
4. Submit complete student teaching application one year prior to taking CFS 470; attend student teaching workshops during semester prior to taking CFS 470.

For progression into Field Work (CFS 480) students must meet the following criteria:
1. Cumulative grade point average 2.0
2. Completion of 15 hours in courses with CFS prefix
3. Grade of "C" or better in each required CFS prefix course
4. Submit completed field work application; attend field work workshops during the semester prior to taking CFS 480.

For graduation: students must meet the following criteria:
1. Grade of "S" in CFS 470 or 480
2. Grade of "C" or better in each required CFS prefix course

HOME ECONOMICS EDUCATION MAJORS

Home Economics Education major with Extension, Community Services Specialization must meet the following criteria:
For progression into Field Work (HEED 445) students must meet the following criteria:
1. Cumulative grade point average 2.0 or greater
2. A grade of "C" or better in CHE courses (CFS, HE, HEED, ID, NFS, TA prefixes) prior to progression into HEED 445
3. Senior standing
4. Many potential employment opportunities require a minimum CGPA 2.0 or greater (e.g., Cooperative Extension Service requires a CGPA 2.5 or greater), Students with Teacher Education Specialization must meet College of Education progression requirements.

For graduation: Home Economics Education Major with Extension, Community Services Specialization must meet the following criteria:
1. Grade of "S" in HEED 445
2. Grade of "C" or better in all required course work in CHE (CFS, HE, HEED, ID, NFS, TA prefixes)

Students with Teacher Education Specialization should consult the College of Education.

NUTRITION AND FOOD SCIENCE MAJORS

Students should apply for progression after completing NFS 201 with a grade of "C" or better and before NFS 313.

For progression into major, students must meet the following criteria:
1. Cumulative grade point average 2.0 or greater
2. Grade of "C" or better in each required NFS prefix course

For retention, students must meet the following criteria:
1. Grade of "C" or better in each required NFS course
2. Cumulative grade point average 2.0 prior to first semester of senior year

TOURISM, FOOD AND LODGING ADMINISTRATION MAJORS

Students must apply for progression after completing NFS 100 or 107; 101, 120, 220, English 101, 102, Mathematics 110, 121, PH 310 or Micro 210

For progression, students must meet the following criteria:
1. Cumulative grade point average 2.5 or greater
2. Grade of "C" or better in NFS 100 or 107, 101, 120, 220, English 101, 102, Mathematics 110, 121, PH 310 or Micro 210
3. Written application

For retention, students must meet the following criteria:
1. Cumulative grade point average 2.5 or greater
2. Grade of "C" or better in each required NFS course
3. Grade of "C" or better in each prerequisite course to a required NFS course: Micro 210 or PH 310, Accounting 202, Economics 201, Marketing 310, Business Law 310, Statistics 201

TEXTILES AND APPAREL MAJORS

Students should apply for progression after successful completion of 64 hours.

For progression into major, students must meet the following criteria:
1. Cumulative grade point average 2.0 or greater
2. Grade of "C" or better in each required NFS course
3. Written application
4. Recommendation of faculty committee

INTERIOR DESIGN MAJORS

Upon admission to UTK students may begin the ID major. Progression into third year occurs after completion of ID 250.

For progression into third year, students must meet the following criteria:
1. Cumulative grade point average 2.3 or greater
2. Portfolio review
3. Interview following completion of ID 250

For retention, students must meet the following criteria:
1. Grade of "C" or better in each required ID prefix course
2. Grade of "I" must be removed before registration for next ID course
3. Course GPA and competency deficiencies must be removed before 85 hours are completed

Optional Minors

With the approval of their advisor and the Dean, students may earn a minor in one or more areas in this College or another college. To earn a minor, students must satisfy the requirements prescribed by the department offering the minor (see below). In addition, at least one-half of the hours required must be completed at UTK (and all courses must be taken for a letter grade unless otherwise specified). It is assumed that prerequisite courses will be taken and will not apply toward the minor. A student seeking a minor in the College must declare this intention with the Dean’s Office by completion of the Declaration of a Minor Form prior to completion of more than one-half of the total hours required. The intention to receive a minor in the College of Human Ecology is designed upon application for graduation. Minors are recorded on the student’s transcript without regard to overlap between major and minor course requirements.

INTRODUCTION TO FAMILY STUDIES

A minor in Family Studies consists of 12 credit hours: 210 Human Development (3); 220 Marriage and Family: Roles and Relationships (3); 320 Parent-Child Relationships (3); 352 Family, School, and Community Relations (3); 350 Family Stress (3); and 3 credit hours selected from: 211 Development in Infancy (3); 212 Development in Childhood (3); 240 Human Sexuality (3); 311 Development in Adolescence (3); 312 Adulthood and Aging (3); 345 Family Resource Management (3); 420 Families: Ethnicity, Race, Class, and Culture (3).

A minor in Child and Family Studies consists of 18 credit hours: 210 Human Development (3); 220 Marriage and Family: Roles and Relationships (3); 320 Parent-Child Relationships (3); 352 Family, School, and Community Relations (3); 350 Family Stress (3); and 3 credit hours selected from: 211 Development in Infancy (3); 212 Development in Childhood (3); 311 Development in Adolescence (3); 320 Parent-Child Relationships (3); 312 Adulthood and Aging (3); 345 Family Resource Management (3); 420 Families: Ethnicity, Race, Class, and Culture (3).

College of Human Ecology
Nutrition and Food Sciences: A minor in Nutrition and Food Sciences consists of 18 credit hours: 300 Fundamentals of Nutrition (3) or 313 Advanced Nutrition (4); 311-312 Science of Food (4,4); and 4-6 hours from: 411 Nutrition in Disease (3); 412 Food and Nutrition Resources Management (3); 413 Experimental Food Science (3); 414 Nutrient-Drug Interactions (2); 450 Special Topics: Nutrition and Food Sciences (1-3); 493 Directed Study: Nutrition and Food Sciences (1-3).

Textiles, Merchandising and Design: A minor in Merchandising consists of 18 credit hours: 120 Textiles I (3); 340 Cultural and Functional Aspects of Apparel (3); 345 Fashion in History (3); 410 Retail Management (3); 415 Fashion Promotion (3); Textiles and Apparel Elective (3).

A minor in Textile Science consists of 18 credit hours: 120 Textiles (3); 320 Textiles II (3); 420 Textile Microscopy and Physical Testing (3); 422 Textile Fiber Chemistry (3); 450 Textiles and Apparel Economics (3); Textiles and Apparel Economics (3); Textile Science Elective (3).

Child and Family Studies

Professors:
M. L. Bishop (Emerita), Ph. D. Cornell; J. L. Cunningham, Ph. D. Michigan State; G. L. Fox, Ph. D. Michigan; C. E. Gilbert (Emerita), Ed. D. Cornell; R. L. Hiebherger (Emerita), Ph. D. Iowa; N. P. Logan (Emerita), Ed. D. Tennessee; V. M. Nordquest (Interim Head), Ph. D. Tennessee; E. L. Speer (Emerita), M. A. Columbia; S. Twardosz, Ph. D. Kansas; P. N. White, Ed. D. Tennessee.

Associate Professor:
J. H. McNinnis, Ph. D. Florida State; Ph. D. Washington State.

Assistant Professors:
J. E. Allen, Ph. D.; Purdue; B. Barber, Ph. D. Brigham Young; L. Blinn, Ph. D. Ohio State; C. A. Buehler, Ph. D. Minnesota; C. Catron, Ed. D. Vanderbilt; R. Hallstock, Ph. D. Ohio State; G. Pettis, Ph. D. Indiana; D. Tegano, Ph. D. Virginia Tech.

The Department of Child and Family Studies is concerned with the creation/discovery and dissemination of knowledge related to human development and family studies. The focus is on integrative approaches to the study of child development, educational environments for people of all ages in both formal and informal settings, and family processes that facilitate effective interactions between individuals and society. In teaching, research, and service activities, efforts include facilitating individual and family development, strengthening family relationships, designing social and learning environments in which people can function more effectively and improving resource management and decision-making in families. Building on a basic understanding of normal development and the behavior of individuals, families, and institutions, attention is directed to the study of challenges faced by families.

Through a combination of classroom instruction and field-based experience, the department prepares undergraduate students for entry-level positions in diverse occupations and for advanced education. The largest career specialization is work in day care centers as teachers or directors. Students also are prepared as family life educators/interventionists in social agencies, child life/child development specialists, and professional home economics educators in schools, Extension and business.

Within the curriculum of each undergraduate major, students meet three objectives: they enhance their foundation for learning; they obtain a broad, general education; and they prepare to enter a specialized career field within the profession or graduate study. Each concentration has been constructed to provide a series of educational experiences from broad survey courses to advanced courses of specialized knowledge and from early applied experiences, such as observation and participation, to the professional practicum and internship settings. All curricula have been structured by a sequencing of courses in which prerequisites have been established in a logical manner. Through faculty advise, each student develops an individualized set of specific courses, framed by the curriculum of the career specialization, to meet his/her educational goals. The curricula have been designed also to facilitate students' integration of knowledge and applied experience and to unify the work of study that will prepare competent professionals for their career roles and socially responsible citizens for life in a complex and changing culture.

CHILD AND FAMILY STUDIES: CHILD DEVELOPMENT CONCENTRATION

This concentration is designed to meet the educational needs of undergraduates whose career plans are focused on entry level positions in early childhood education programs, agencies delivering services to young children and their families, early childhood education programs that include children with special needs, hospital programs that provide child life services to particular needs of young children, and similar career fields that recognize distinct developmental needs and opportunities for children, or whose plans include graduate education. Specializations within the Child Development concentration include Early Childhood Education (Health 310, Electives), Early Childhood Education Administration (Health 310, Business Electives), and Business Education (Business Electives). This concentration is designed to meet the educational needs of undergraduates whose career plans are focused on entry level positions in agencies that deliver services to families and family members, intervening in family systems to offer skills, training, counsel, or other aid to help families deal with crises or to enhance family functioning, or whose post-baccalaureate plans include graduate education. Specializations within the Family Science concentration include Family Science (CFS 121, 212, 311 and Electives in CFS, Psychology, and Sociology) for a total of 21 hours) and Family Life Intervention (CFS 211, 212, or 311; CFS 440, HRS 380 and 430 for a total of 12 hours).

1See Advisor for list of departmentally approved courses.

1See Advisor for list of courses approved in this category.
Home Economics Education

Education meets the professional needs of students who seek certification for teaching consumer and homemaking programs in junior high, secondary and post-secondary schools; teaching in adult and continuing education. The specialization in Home Economics Extension, Business, and Community Education is for students whose career plans include work in community-based home economics programs offering family, information and/or services related to Home Economics subject matter (family economics, home management, consumer education, child development, family relations, parenting skills, foods, nutrition, clothing and textiles).

**Home Economics Education**

**Freshman**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Natural Science Electives</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 110, 115</td>
<td>6</td>
</tr>
<tr>
<td>Humanities and the Arts Electives</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Electives</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Ecology 200</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition and Foods Sciences Elective</td>
<td>3</td>
</tr>
<tr>
<td>History Electives</td>
<td>6</td>
</tr>
<tr>
<td>Interpretation</td>
<td></td>
</tr>
<tr>
<td>Child and Family Studies 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Computer Science Elective</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interior Design 150 or 310, or Textiles and Apparel 232</td>
<td>3</td>
</tr>
</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Science Electives</td>
<td>6</td>
</tr>
<tr>
<td>Child and Family Studies 240, 312, 320, 345, 352</td>
<td>15</td>
</tr>
<tr>
<td>Child and Family Studies Specialization</td>
<td>9</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child and Family Studies 360, 370, 420</td>
<td>9</td>
</tr>
<tr>
<td>Child and Family Studies Specialization</td>
<td>3-12</td>
</tr>
<tr>
<td>Child and Family Studies 480</td>
<td>6-15</td>
</tr>
<tr>
<td>Human Ecology 400</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 125 hours

**Nutrition and Food Sciences**

Professors: R. E. Beauchene, Ph. D., Kansas State; B. R. Carruth (Head), Ph. D., Missouri; H. W. Quinton, Ed.D., Duke; D. S. Sachan, Ph. D., Illinois; J. T. Smith, Ph. D., Missouri; M. A. Smith (Memphis), Ph. D. Tennessee.

**Associate Professors:** W. C. Morris, Ph. D., Iowa State; J. D. Skinner, Ph. D., Oregon State; M. N. Taylor, M. S., Georgia; M. P. H., Berkeley.

**Assistant Professors:** M. D. Brooks (Memphis), M. S., Alabama; C. Costello, Ph. D., Tennessee; B. Haughton, Ed. D., Columbia; J. Powell (Memphis), MPH, North Carolina (Chapel Hill); P. Redlinger, Ph. D., Kansas State; J. Sneed, Ph. D., Ohio State.

**Instructors:** K. Jones, MBA East Texas State; M. McGrath, M. S., Purdue.

The Department of Nutrition and Food Sciences provides individuals with concepts and skills required in a changing society. The philosophy of the department fosters an intensive familiarity with a main field of interest and the recognition of one's responsibility to society. This philosophy is reflected in fields of study which integrate basic and applied sciences, humanities and social sciences. Students learn about properties of foods; nutritional needs from the smallest unit of the cell to the individual's needs throughout the life cycle; the ways that attitudes, and beliefs influence food patterns; and the management of resources in food-service and lodging systems. Thus, Departmental programs service society through its graduates who are able to interpret and contribute to social needs in regard to foods, nutrition and wellness, lodging, food-service and the related management areas, both as professionals and as responsible citizens.
The professional disciplines of Nutrition and Food Sciences and Tourism, Food and Lodging Administration are rooted firmly in general education and provide a clearly defined base of professional knowledge. The foundation for the Nutrition and Food Sciences major includes basic sciences, i.e., chemistry, microbiology, physiology, psychology, and sociology. The natural sciences provide a base for understanding food, its functions in the body and the social sciences to better understand cultural aspects of food and food related consumer needs. The study of basic business and management tools enables students in Tourism, Food and Lodging Administration to understand managerial, marketing, technological and computer principles appropriate to the diversity of positions available to graduates entering the marketplace.

In addition, students with a strong research interest may prepare for research-oriented careers in clinical laboratories and with food companies, or graduate students in nutrition and food sciences. Also, the Tourism, Food and Lodging Administration program provides a good background for Master's programs emphasizing food systems administration.

### Nutrition and Food Sciences

This major is designed for students interested in basic and applied sciences. Students are expected to acquire advanced education in chemistry, biology, food science, and behavioral sciences. The Nutrition and Food Sciences (dietetic) major is a course of study approved by The American Dietetic Association to meet Minimum Academic Requirements (Plan IV). These requirements are regarded as the basic education component for the preparation of persons entering the dietetic profession and there are stated competencies in several knowledge areas. The generalist emphasis of this program prepares individuals to enter the dietetic profession in general dietetics and includes health and food systems management, management theory and principles and communication sciences including computer and statistical applications. Graduates are prepared to enter internships with a generalist emphasis. An internship, or an approved pre-professional practice experience or a graduate degree combined with an approved experience beyond the baccalaureate degree, is the requirement for eligibility as a member of The American Dietetic Association and qualifies the graduate to apply for the Registration Examination to become a Registered Dietitian (R.D.). Students may receive more information from the department about R.D. requirements. R.D.s work as members of health care teams in acute care hospitals and community-based settings, coordinate the programs, college and university foodservice facilities, wellness clinics and private practice. Extension service and food companies are also avenues of employment.

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>Chemistry 100, 110</td>
</tr>
</tbody>
</table>

| English 101, 102 | 6 |
| Nutrition and Food Sciences 100 or 107 | 3 |
| Mathematics 110 | 3 |
| Psychology 101 | 3 |
| Anthropology 130 | 3 |
| Speech 240 | 3 |
| 1Humanities and the Arts Elective | 3 |

<table>
<thead>
<tr>
<th>Sophomore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition and Food Sciences 200, 201</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 220</td>
</tr>
<tr>
<td>Human Ecology 130</td>
</tr>
<tr>
<td>Accounting 201</td>
</tr>
<tr>
<td>Microbiology 210</td>
</tr>
<tr>
<td>Human Ecology 210</td>
</tr>
<tr>
<td>Zoology 230</td>
</tr>
<tr>
<td>2History Elective</td>
</tr>
<tr>
<td>1Humanities and the Arts Elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition and Food Sciences 311, 312, 313</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 320, 321, 423</td>
</tr>
<tr>
<td>Economics 201</td>
</tr>
<tr>
<td>Plant and Soil Science 471</td>
</tr>
<tr>
<td>4History Elective</td>
</tr>
<tr>
<td>2Child and Family Studies Elective</td>
</tr>
<tr>
<td>3Nutrition and Food Sciences 326, 410, 411, 412</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 413, 422</td>
</tr>
<tr>
<td>Human Ecology 400</td>
</tr>
<tr>
<td>Textiles, Merchandising and Design Elective</td>
</tr>
<tr>
<td>Educational Curriculum and Instruction 475 or Home Economics Education 503</td>
</tr>
<tr>
<td>2Upperdivision Electives</td>
</tr>
</tbody>
</table>

Total: 126 hours

### Tourism, Food and Lodging Administration

The Tourism, Food and Lodging Administration major focuses on meeting the middle and upper-level management needs of the food and lodging industry. It is a program that assists students in getting the breadth of knowledge, responsibility and creativity to meet the changing environment of complex management problems in industry. Students who want more emphasis in business may complete a business minor by taking courses established by the College of Business Administration.

The two specializations are foodservice administration and lodging systems. The foodservice area emphasizes quantity food service in a variety of settings, including sanitation, all phases of food quality and cost control theory and practice. The lodging area emphasizes lodging administration, marketing of hospitality services, personnel management and lodging law. Both specializations incorporate knowledge about basic nutrition and the public's concern with wellness.

Both specializations offer extensive field experience in food and lodging properties in Tennessee and in the Southeast. The major requires 9 semesters to integrate knowledge and practice. The curriculum provides a strong base in management, foodservice administration, computation, social sciences, and nutrition. The general education electives help students to sharpen their analytical, conceptual and communication abilities. Graduates of these specializations may start as management trainees in large hotels, and in lodging and restaurant programs with subsequent upward mobility into property management, personnel or purchasing positions. The field experiences in the junior and senior years provide a combination of classroom instruction and field-based experiences, which give the graduate a competitive edge in attaining career positions.

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Mathematics 110, 121</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 100 or 107</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 101, 120</td>
</tr>
<tr>
<td>1Natural Science Electives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sophomore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychology 110</td>
</tr>
<tr>
<td>Human Ecology 200</td>
</tr>
<tr>
<td>Economics 201</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 220, 320</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 321 or 322</td>
</tr>
<tr>
<td>Public Health 310</td>
</tr>
<tr>
<td>Statistics 101</td>
</tr>
<tr>
<td>Speech 240</td>
</tr>
<tr>
<td>1Humanities and the Arts Elective</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition and Food Sciences 323, 326</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 324, 325</td>
</tr>
<tr>
<td>Human Ecology 210</td>
</tr>
<tr>
<td>Accounting 201, 202</td>
</tr>
<tr>
<td>Marketing 301</td>
</tr>
<tr>
<td>Business Law 301</td>
</tr>
<tr>
<td>Child and Family Studies Elective</td>
</tr>
<tr>
<td>2Electives</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer Before Senior Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nutrition and Food Sciences 420</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 422, 424</td>
</tr>
<tr>
<td>Nutrition and Food Sciences 425, 429</td>
</tr>
<tr>
<td>Human Ecology 400</td>
</tr>
<tr>
<td>Interior Design 310 or 315</td>
</tr>
<tr>
<td>3History Electives</td>
</tr>
<tr>
<td>2Electives</td>
</tr>
</tbody>
</table>

Total: 128 hours

1Courses must be selected from one of the following sequences: Biology 110-120; Chemistry 100-110; Physics 121-122.
2Students interested in hotel/motel management should select Nutrition and Food Sciences 126 and 426 for 6 of their elective hours.
3At least 48 hours in 300-400 level courses are required.
4Students interested in hotel/motel management should select Nutrition and Food Sciences 322.
5Courses must be selected from art, music, literature, speech, oral interpretation, philosophy, religious studies, Textiles and Apparel 232.
6Credit for these courses must be earned at The University of Tennessee, Knoxville.
7Courses used to meet this requirement must focus on fundamental historical processes and the roles of individuals in them or the connections and interactions between different aspects of the human experience through political, social, economics, intellectual and cultural developments. Courses in which the evolution of artifacts is traced will not satisfy this requirement.
Textiles, Merchandising and Design

Professors:

Associate Professors:
R. Bressee, Ph. D. Florida State; C. L. Dyer, Ph. D. North Carolina State.

Assistant Professors:
J. L. Crouse, Ph. D. North Carolina State; S. J. Dillard, M. S. Tennessee; J. B. Havasy, Ph. D. Ohio State.

The Department is dedicated to providing quality undergraduate and graduate teaching, research and public service in the areas of Apparel, Interior Design, Merchandising and Textile Science around the focus of individual needs in the near environment, and is concerned with the design-through-merchandising phases of products in the home and work environments. Physical scientists, designers, social and economic scientists and historians combine their knowledge with the overriding concern of human interaction in the environment.

Through a combination of classroom instruction and field-based experience, students prepare for entry-level positions in diverse occupations and for advanced education. The largest career concentration in the department is Merchandising, which is one of the largest programs of this type in the Southeast. Retailing is one of the fastest growing segments of our economy, and opportunities for employment will be excellent through the 1990's.

The Interior Design program is accredited by the Foundation for Interior Design Education Research (FIDER), and is the only five-year accredited Interior Design program in the State of Tennessee. Career opportunities are excellent wherever living and working spaces are being planned.

The Textile Science career concentration affords students with an interest in science a career application of technology in textile product development and evaluation.

The Apparel career concentration will qualify graduates for a wide range of management opportunities in the apparel industry in both production and distribution. All of these programs offer opportunities for field study experiences where students are guided by faculty in the selection of locations for on-the-job experiences related to their career area as a part of their education-al program. Professional contacts made in field study experiences often lead to opportunities for career placement upon graduation.

Interior Design

This five-year major is designed for students whose career plans are focused on designing interior environments for living and work spaces. Through coursework and field study experiences, students develop specialized problem-solving skills and knowledge for the analysis, planning and design of interior architectural environments. They apply the use of lighting, color and mechanical systems as they plan spaces for both residential and commercial settings. The program emphasizes human well-being and the behavioral aspects of people in their environments. Students will gain experience in a state-of-the-art computer aided design laboratory, as well as in Interior Design studios. Graduates can expect careers as interior designers for architectural firms or as representatives for hotel or retail chains, in addition to opportunities as product representatives for contract furniture manufacturers or in private practice handling residential or commercial design needs.

Hours Credit

First Year
English 101, 102 ........................................... 6
Mathematics 110 ............................................ 3
Architecture 101, 102, 171, 172 ......................... 12
Interior Design 140, 150 ................................. 5
Textiles and Apparel 120 ................................ 3
Second Year
Interior Design 200, 240, 250, 270, 280 ............... 17
Art 172, 173, 192 ........................................... 8
Economics 201 ................................................. 4
Human Ecology 200 ...................................... 3
Third Year
Interior Design 340, 350, 370, 430, 460 ............... 17
Child and Family Studies 210 .......................... 3
Nutrition and Food Sciences 100 ......................... 3
Natural Science Electives ............................... 8
Social Science Elective ................................. 3
Fourth Year
Interior Design 360, 420, 440, 470 ..................... 25
Human Ecology 400 ...................................... 3
History Elective ............................................. 3
Fifth Year
Interior Design 400 or 410 or 475 ....................... 3
Interior Design 450, 480 ................................. 8
Interior Design 485 ......................................... 4-6
Art 474 ...................................................... 3
Literature elective ...................................... 3-11
*Electives ................................................... 7-11

Total: 159 hours

*Select 8 hours from the following: Biology 110-120; Chemistry 100-110; Mathematics 110-120; English 101-120.

Textiles and Apparel: MERCHANDISING CONCENTRATION

This concentration is designed for students whose career plans are focused on management and marketing opportunities in the world of retailing. A career path can be charted at any point in the sales and marketing process from product design and production to the promotion and delivery of apparel furnishings and household goods.

Graduates can become merchandise managers, buyers for a retail chain, or product representatives for a regional mart. A business emphasis is developed through related courses in accounting, computer applications, economics and communications. By selecting appropriate courses during the junior and senior years, a business minor may be obtained.

Hours Credit

Freshman
Textiles and Apparel 120 ................................ 3
English 101, 102 ........................................... 6
Mathematics 110, 115 ..................................... 6
Psychology 110 ............................................. 3
Sociology 100 ................................................. 3
Human Ecology 210 ...................................... 3
*History elective ........................................... 3
*Elective ...................................................... 3
Sophomore
Textiles and Apparel 230 ................................ 3
Human Ecology 200 ...................................... 3
Accounting 201 ............................................ 3
Chemistry 100, 110 ........................................ 8
Anthropology 130 ........................................... 3
Economics 201 ................................................. 4
Child and Family Studies Elective ...................... 3
*Humanities Electives ................................. 6
Junior
Textiles and Apparel 310, 320, 330, 340, 350, 390, 395, 399 .................................................. 19
Speech 210 or 240 ......................................... 3
Marketing 301, 310 ........................................ 8
Nutrition and Food Sciences Elective ................. 3
Senior
Textiles and Apparel 410, 415, 450, 490, 492 ........ 24
Human Ecology 400 ...................................... 3
Marketing Elective ........................................ 3
*Elective ...................................................... 4

Total: 128 hours

Minor in business requires in addition: Accounting 202, Statistics 201, 3 hours upper division Business Elective.

Courses used to meet this requirement focus on fundamental historical processes and the roles of individuals in them or the connections and interactions between different aspects of the human experience through political, social, economic, intellectual and cultural developments. Courses in which the evolution of artifacts is traced will not satisfy this requirement.

Courses must be selected from art, music, literature, speech, oral interpretation, philosophy, religious studies, Interior Design 150 or 310 or Textiles and Apparel 232.

At least 48 hours in 300-400 level courses are required.

Textiles and Apparel: TEXTILE SCIENCE CONCENTRATION

This concentration is designed for students whose career plans are focused on entry level positions in textile related industries. Students with a strong base in math and the natural sciences apply these areas to a study of the physical and chemical properties of fibers, yarns and finishes. The department's research facilities provide unique opportunities for undergraduate students to be exposed to opportunities in industry and the technological advances. Graduates have career opportunities in companies that produce and market textile chemicals, fibers and fabrics and supply
apparel, home furnishings and other textile related products to the consumer. A graduate may expect a career as a textile technologist who tests fabric specifications for a major textile manufacturer or as a research assistant who develops product specifications and acts as a liaison between manufacturing of textiles and their applications in apparel.

**Textiles and Apparel:**

**APPAREL CONCENTRATION**

This concentration is designed for students whose career plans are focused on entry level positions in the apparel production and management area. Students gain an appreciation for costume design's historic roots and a sense of tomorrow's fashion trends. The curriculum includes business courses for management of personnel and company resources, and the basis of the apparel production process from fabric selection to garment shipping. The use of the department's computer-aided-design laboratory for apparel production allows students to design and grade patterns and develop pattern layouts which interface with the rapidly expanding computer applications in the apparel industry. Students selecting this concentration may expect to take positions in apparel plants as supervisors securing fabrics, planning production procedures and evaluating garment sample operations, or in establishing quality control standards and managing human resources to assure worker satisfaction.

**Courses used to meet this requirement must focus on fundamental historical processes and the roles of individuals in them or the connections and interactions between different aspects of the human experience through political, social, economic, intellectual and cultural developments. Courses in which the evolution of artifacts is traced will not satisfy this requirement.**

**At least 48 hours in 300-400 level courses are required.**

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Textile and Apparel 120</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Textiles and Apparel 120</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Chemistry 120, 130</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Mathematics 141, 142</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Economics 201</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Textiles and Apparel 320</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Human Ecology 200</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Physics 131, 132</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Psychology 110</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Sociology 100</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Child and Family Studies Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Communications Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1 Humanities and Arts Electives</td>
<td>6</td>
</tr>
<tr>
<td>Junior</td>
<td>Textiles and Apparel 230, 345, 350, 420</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Chemistry 350, 390</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Chemistry 369</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Human Ecology 210</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Anthropology 130</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>History Elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Nutrition and Food Sciences elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td>Senior</td>
<td>Textiles and Apparel 330, 422, 450, 495</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>Human Ecology 400</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Statistics 201</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>3 Electives</td>
<td>11</td>
</tr>
</tbody>
</table>

**Total: 128 hours**

1Courses must be selected from art, music, literature, speech, oral interpretation, philosophy, religious studies, Interior Design 150 or 310 or Textiles and Apparel 232.

2Courses used to meet this requirement must focus on fundamental historical processes and the roles of individuals in them or the connections and interactions between different aspects of the human experience through political, social, economic, intellectual and cultural developments. Courses in which the evolution of artifacts is traced will not satisfy this requirement.

3At least 48 hours in 300-400 level courses are required.
The College of Liberal Arts is home to a wide array of academic disciplines and interdisciplinary programs. Such diverse areas of study as Computer Science and Classics, Anthropology and Zoology, as well as Women's Studies and Latin American Studies, are among the programs organized into twenty-six departments and twelve special programs that comprise the College.

The faculty of these diverse disciplines and inter-disciplinary programs have a commitment to provide a comprehensive general education to all students enrolled at The University of Tennessee, Knoxville. Liberal education provides each student who attends this University the opportunity to master those basic learning skills necessary to gain an understanding of that area of study in which the student specializes, and is essential for the continuation of learning throughout life.

Beyond the teaching of general education, Liberal Arts faculty are committed to educating students in a discipline. That education will prepare students for further study at the graduate level, for careers in business, public service, or any other endeavor. As our world becomes both more specialized and more changeable the need to find the right balance between general and specialized knowledge becomes essential. Students must be educated rather than just trained.

The central purposes of a liberal education includes the encouragement of intellectual tolerance, 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 enable one to develop 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 talent 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.

The great universities of the world are so labeled because their faculties have earned the reputation of being renowned scholars. The University of Tennessee, Knoxville has earned such a reputation because of the quality of the research and creative activity of its faculty. The student who studies in the College of Liberal Arts has joined a community of scholars. To study with such a talented faculty is to experience the best education possible.

The faculty of the College of Liberal Arts provide to all students a general education and to thousands of students a year a more specialized education in any one of twenty-six disciplines and a dozen or more inter-disciplinary programs. The College's faculty help their students prepare for any and all careers. Faculty research and creative activity is the foundation on which education in this College is built. As a result of that faculty endeavor the lives of students are enriched and the world's body of knowledge grows. That is the basic mission of the College of Liberal Arts faculty in a research University.

Programs of Study

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

Degrees Offered

(1) BACHELOR OF ARTS

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

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

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

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

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

(2) BACHELOR OF SCIENCE

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

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

Bachelor of Science in Chemistry - (See Department of Chemistry.)

(3) Bachelor of Fine Arts
(See Department of Art.)

(4) Bachelor of Music
(See Department of Music.)

Requirements for Degrees
Bachelor of Arts and Bachelor of Science

Basic Programs

Each student seeking a Bachelor of Arts or Bachelor of Science degree must develop a program which includes the following:

1. All University degree requirements as stated in the front section of the Undergraduate Catalog (including, at least one unit of American history on the high school level or 6 semester hours on the college level as mandated by the General Assembly of the State of Tennessee);
2. A minimum of 124 credit hours;
3. At least 40 credit hours in courses numbered 300 or above;
4. Appropriate work to satisfy basic skills, and distribution requirements, counting no course in more than one area (not required in the College Scholars Program);
5. Completion of at least one major (24-40 credits at 200 level or above for B. S. majors and 24-37 credits at 200 level or above for B. A. majors) (up to 6 hours in the major may be used, where listed, to satisfy basic skills or distribution requirements);
6. Students may choose to develop one or more minors (minimum 15 hours at the 200 level and above) and may take up to 20 hours of courses Satisfactory/No Credit in any area outside the major or minor, basic skills or distribution requirements.

Programs Leading to Bachelor of Arts and Bachelor of Science Degrees

The Bachelor of Arts and the Bachelor of Science Degrees share the same program of Basic Skills and Distribution Requirements (except where noted otherwise).

Basic Skills

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

Requirement:
Students may meet this requirement in one of the following four ways: (0-6 credits)
1. By completing six credits in English writing courses in one of the following series: (a) English 101 and 102 (English Composition), (b) English 118 (Honors: English Composition) and English 102 (English Composition). Students who obtain a grade of A or B in 118 will complete their freshman requirement by choosing 102, a sophomore literature course in the English Department, or Advanced Composition 361. (c) 131 and 132 (Composition for Non-Native Speakers of English).
2. By earning a score of 4 or 5 on the College Board Advanced Placement Test in English.
3. By earning a score of 25 or above on the English ACT exam and a composite ACT score of 25 or above and by passing a proficiency examination in writing administered by the Department of English.
4. By obtaining CLEP credit for English composition. (Details available from the English Department.) NOTE: A student must complete the English Composition requirement prior to enrolling in 200 level (or above) English courses.

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

Requirement:
Completion of the intermediate level sequence of a foreign language or demonstration of competence on a waiver or proficiency examination. A student who has taken two or more years of a foreign language in high school and takes the introductory level sequence in the same language (usually the 100-level sequence) may not use such coursework for graduation (0-12 credits). However, if students elect to take a foreign language in which they have had no previous training, both the elementary and intermediate level sequences may be counted for graduation. Students whose native language is not English may meet this requirement by passing English 131 and 132 and by passing two English language literature courses at the 200-level. These literature courses may also be counted toward the Humanities distribution requirements. (Beginning Fall 1987, no credit for coursework completed in order to satisfy an association deficiency in foreign language may be used to satisfy graduation requirements.)


Greek (Classics) 261 Intermediate Greek:


German 201-202 Intermediate German;

Italian 211-212 Intermediate Italian;

Portuguese 211-212 Intermediate Portuguese.

Russian 201-202 Intermediate Russian.


Mathematics, Computer Science, or Logic
Purpose:
1. To develop the basic calculation skills necessary to fully appreciate the course of study at the university.
2. To understand the logical processes involved in mathematics, inductive or deductive reasoning, or computing.
3. To acquire the skills that will aid in the process of critical analysis, problem solving, and decision making.

Requirement:
One three-credit course chosen from those listed below.

Students with a Mathematics ACT score of 24 or above, or who pass a waiver or proficiency examination on material equivalent to any of these courses, will be exempted from this requirement (0-3 credits). Standards for waiver or proficiency examinations will be set by the appropriate department. Exemption from this requirement will also be granted to students who complete a two-course mathematics package under Divisional Distribution.

Computer Science 100 Introduction to Computing; 102 Introduction to Programming;

Mathematics 110 Algebraic Reasoning;

130 Precalculus.

Philosophy 135 Formal Logic.

DISTRIBUTION

1. Divisional Distribution

a. Non-United States History

Purpose:
1. To acquire an appreciation for the richness of the past as a statement of human capability, aspiration, and achievement.
2. To develop an historical perspective on a civilization that differs from or serves as the foundation for studying one's own.
3. To develop the ability to explore continuity and change among historical events and movements, and to be able to assess them critically.
4. To develop the ability to explore continuity and change among historical events and movements, and to be able to assess them critically.
5. To develop the ability to explore continuity and change among historical events and movements, and to be able to assess them critically.
6. To learn to keep one's own place and time in proper perspective, and to appreciate it more fully because of an awareness of human creativity as revealed through a study of the past of civilizations.
7. To further develop writing skills.

Requirement:
Completion of a six-credit two-course, writing emphasis, lower-division sequence in non-United States History (0 credits).

International students may fulfill this requirement by

Writing Emphasis Courses shall require out-of-class writing assignments of at least 3000 words plus at least one in-class essay examination.
ment with a United States History sequence. The following sequences satisfy this requirement:


b. Natural Science

Purpose:

a. To know and understand the basic vocabulary of at least one scientific discipline.

b. To learn the basic discoveries and their importance in one scientific discipline.

c. To be able to use the tools (i.e., mathematics, laboratory equipment, computers, etc.) of one scientific discipline.

d. To understand how to devise hypothesis and how to devise and perform experiments to test them.

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

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

Requirement:

a. Part I: A two-course physical or biological science sequence that includes laboratory work. The following sequences satisfy Part I of this requirement:

- Astronomy 161-162 Introductory Astronomy with Laboratory; 217-218 Honors: Introductory Astronomy.
- Chemistry 100 Principles of Chemistry; 110 Introduction to Organic and Biochemistry; 120-130 General Chemistry; 121-131 General Chemistry; 128-138 Honors: General Chemistry.
- Geography 131-132 Geography of the Natural Environment.
- Geological Sciences 101-102 General Geology I, II.
- Statistics 117-118 Honors: Fundamentals of Zoology. b. Part II: A two-course package in science, mathematics, and/or computer science. The following course packages or any sequence listed in Part I will satisfy this requirement:

- Anthropology 110 Human Origins (package with 210); 210 Principles of Biological Anthropology (package with 110).
- Astronomy 151-152 Introductory Astronomy (mon-lab).
- Botany 306 Genetics and Society (package with 309) (Same as Anthropology 306); 309 Biology of Human Affairs (package with 306); 310-320 Plants: An Evolutionary Survey I, II; 330 Field Botany (can be taken as a package with 310 or 320).
- Computer Science 111 Computer Organization (package with 112); 112 Data Structure (package with 111).
- Mathematics 115 Statistical Reasoning (package with 121); 121 Calculus A (package with 115 or 122 or Statistics 201); 122 Calculus B (package with 115 or 121); 141-142 Calculus I, II (for 147-148 Honors); 151-152 Biocalculus I, II.

Microbiology 210 General Microbiology (package with Zoology 230).

- Physics 121-122 Introductory Physics; 141-142 Nature of the Physical World.
- Statistics 201 Introduction to Statistics (package with Mathematics 121.)
- Zoology 210-220 Human Biology; 230 Human Physiology (package with Micro 210).

c. Social Science

Purpose:

a. To promote understanding of society and individual relationships.

b. To develop a critical understanding of one or more approaches, perspectives, or methodologies used in the social sciences.

c. To develop analytical skills relevant to current social, economic, or political problems, their origins in society and individuals, and possible perspectives for their resolution.

Requirement:

a. Bachelor of Arts students must complete a minimum of 12 credits from at least two departments or programmatic areas indicated below.

b. Bachelor of Science students must complete a minimum of 6 credits from at least two departments or programmatic areas indicated below.

- Afro-American Studies 201-202 Introduction to Afro-American Studies.
- Anthropology 120 Prehistoric Archaeology; 150 Cultural Anthropology; 230 American Cultures; 382 Principles of Archaeology.
- Botany 305 Socio-Economic Impact of Plants.
- Economics 100 Survey of Economic Ideas; 201 Introductory Economics: A Survey Course; 207 Honors: Introductory Economics.
- Geography 101-102 World Geography; 320 Cultural Geography: Core Concepts; 323 Behavioral Geography.
- Human Services 220 Introduction to Human Services.
- Music History 310 Introduction to Afro-American Music (Same as Afro-American Studies 310); History 390 World Music.
- Political Science 101 United States Government and Politics; 310 Political Community.
- Psychology 110 General Psychology; 117 Honors: General Psychology; 220d Behavior and Experience; Humanistic Psychology; 390 Social Psychology.
- Religious Studies 232 Varieties of Religious Community (Same as Sociology 232); 301 Religious Myth, Symbol, and Ritual.
- Sociology 100 General Sociology; 110 Social Problems and Social Change; 344 Power in Society; 370 Social Psychology.
- Speech Communication 100 Introduction to Speech Communication; 220 Interpersonal Communication; 300 Nonverbal Communication; 330 Group Communication.
- Women's Studies 220 Women in Society; 375 Gender in Society. (Same as Sociology 375).

- Humanities

Purpose:

a. To learn to appreciate and interpret significant literary, philosophical, or religious texts by study and application of selected methods or traditions of thought.

b. To develop further abilities to reason critically, to construct arguments, to think creatively, to analyze objectively, to assess evidence, to perceive assumptions, and to respond to and appreciate values.

c. To develop further writing skills.

d. To learn to manipulate symbols (i.e., words, sounds, images, body movements) in various ways, and to employ these symbols critically, affectively, and evaluatively.

e. To develop abilities to participate as an enlightened observer or as an artist in a discipline within the visual, spatial, musical, theatrical, rhetorical, or written arts.

Requirement:

a. Bachelor of Arts students:

1. Part I: Literature or Philosophical Perspectives. A two-semester course package in either literature or a philosophical perspective. Writing Emphasis Courses.

2. Part II: Arts, Literature or Philosophical Perspectives. Either one course in the study of practical arts, one course in literature if a philosophical perspectives if a literature package is chosen for Part I. Writing Emphasis Courses, except for hands-on practice of the arts courses. Part I and Part II will be satisfied by at least two courses from the following four lists in accordance with the instructions above.

b. Bachelor of Science students must complete a minimum of 6 credits from the courses listed below and not more than 3 credits may be taken in the Arts.

1. The following course packages are designated literature packages:

- Classics 253-254 Greek and Roman Literature in English Translation.
- Comparative Literature 202-203 Cross-cultural Perspectives in World Literature.
- English 201 British Literature I: Beowulf through Johnson; 202 British Literature II: Wordsworth to the Present; 221 Literature of the Western World I: Ancient, Medieval and Renaissance; 222 Literature of the Western World II: Enlightenment, Romantic and Modern.

- (two of three) 231 American Literature I: Colonial Era to the Civil War; 232 American Literature II: Civil War to the Present; 233 Major Black Writers.

- (two of three) 251 Introduction to Poetry; 252 Introduction to Drama; 253 Introduction to Fiction.

- French 291-292 French Literature in English Translation.
- German 221-222 German Literature in English Translation.

- Medieval Studies 261 Medieval Culture: Readings from the Early Middle Ages, 500-1000; 262 Medieval Culture: Readings from the Later Middle Ages, 1000-1500.


- Russian 221-222 Russian Literature in English Translation.

- Spanish 291 Spanish Literature in English Translation; 292 Spanish American Literature in English Translation.

*Writing Emphasis Courses shall require out-of-class writing assignments of at least 3000 words plus at least one in-class essay examination."

2. The following course packages are designated philosophical perspectives packages:

Classics 221 Early Greek Mythology; 222 Classical Greek and Roman Mythology.

Philosophy 110 The Human Condition: Value and Reality; 111 The Human Condition: Knowledge and Reality.

120 Foundations of Western Thought: Antiquity through 1500; 121 Foundations of Western Thought: 1500 through Early Twentieth Century.

240 Ethics; 344 Professional Responsibility (Same as Religious Studies 344).

380 The Concept of Woman; 382 Philosophy of Feminism.

Religious Studies 101 World Religions in History; 102 The Comparison of World Religions.

211 Ways of Understanding Religion; 212 Criticism of Religion.


Women's Studies 380 The Concept of Woman; 382 Philosophy of Feminism.

3. The following courses are designated practice of the Arts courses:

Art 191 Introduction to Studio Art: Various Media.

English 263 Introduction to Creative Writing.


Theatre 220-221 Acting; 260 Fundamentals of Lighting and Sound Production.

4. The following courses are designated Study of the Arts courses:

Art 172 Western Art I; 173 Western Art II; 183 Asian Art.

Classics 232 Archaeology and Art of Ancient Greece; 233 Archaeology and Art of Etruria and Rome.

Music General 100 Fundamentals of Music; General 110 Music Appreciation; General 120 History of Rock.

Theatre 100 Introduction to Theatre; 210-211 Survey of World Drama.

Women's Studies 330 Women in Music. (Same as Music History 330.)

Upper Level Distribution

Bachelor of Arts students must complete a minimum of 6 credits in one of the following areas indicated below and 3 credits from one of the remaining two areas (total 9 credits for this requirement).

Writing Emphasis Courses:

Bachelor of Science students must complete a minimum of 6 credits in two of the three areas indicated below: (total 6 credits for this requirement).

Writing Emphasis Courses:

Bachelor of Science students must complete a minimum of 6 credits in two of the three areas indicated below (total 6 credits for this requirement): Writing Emphasis Courses:

- United States Studies
- Foreign Studies
- Capstone Experience

United States Studies

Purpose:

a. To develop an appreciation and knowledge of United States culture and civilization.

b. To provide a basis from which to compare foreign cultures and civilizations.

c. To develop a critical understanding of the sources of values and traditions that constitute contemporary United States civilization.

d. To develop an understanding of the relationship between individual and societal behavior.

e. To further develop writing skills.

The following courses are designated United States Studies courses:

- Afro-American Studies 384 Contemporary Issues in Afro-American Education (Same as Ed. C&I 364); 429 History and Philosophy of Afro-American Education (Same as Ed. C&I 429); 480 Black Communities in Urban America; 483 Afro-American Women in American Society (Same as Women's Studies 483).

- American Studies 310 Introduction to American Culture: Voices of Dissent. Anthropology 310 North American Indians; 312 Appalachian Culture; 315 Afro-American Anthropology (Same as Afro-American Studies 315); 360 North American Prehistory.

- Economics 331 Government and Business.

- English 332 Women in American Literature (Same as Women's Studies 332); 333 Black American Literature and Aesthetics; 334 Film and American Culture (Same as American Studies 334).

- Geography 361 Regional Geography of the United States and Canada; 363 Geography of the American South; 365 Geography of Appalachia; 425 Historical Geography of the United States.


- Philosophy 390 Philosophical Foundations of Democracy; 425 American Philosophy.

- Political Science 311 Contemporary Issues in American Public Policy; 312 Popular Culture and American Politics; 330 Law in American Society; 374 American Political Thought.


- Sociology 310 American Society; 340 Class Structure; 343 Race and Ethnicity (Same as Afro-American Studies 343); 455 Society and Law.

- Speech Communication 466 Rhetoric of the Women's Rights Movement.

Theatre 312-313 History of the American Theatre.

Women's Studies 310 Emergence of the Modern American Woman; 434 Psychology of Gender (Same as Psychology 434); 453 Women in American History; 466 Rhetoric of the Women's Rights Movement (Same as Speech Communication 466).

Foreign Studies

Purpose:

a. To develop an appreciation and knowledge of a foreign culture and civilization.

b. To provide a basis from which a student can analyze her or his own culture.

c. To develop a critical understanding of the sources of values and traditions that constitute a foreign culture and civilization.

d. To develop an understanding of the relationship between individual and societal behavior.

Writing Emphasis Courses:

- Asian, African, Latin American, and Middle Eastern Studies.

- Anthropology 314 Peoples and Cultures of Africa (Same as Afro-American Studies 314); 461 African Prehistory (Same as Afro-American Studies 461).

- Geography 379 Geography of Africa (Same as Afro-American Studies 379).

- Political Science 452 Black African Politics (Same as Afro-American 452).

- Religious Studies 373 African Religions (Same as Afro-American Studies 373 and Anthropology 373).

Asia

Art 385 Chinese Art; 386 Japanese Art; 486 Art of Indian Asia.

Economics 424 Political Economy of World Development (when topic is Asia).

History 362-363 History of East Asia.

Political Science 454 Government and Politics of China and Japan.

Religious Studies 374 Philosophy and Religion in India (Same as Philosophy 374); 376 Buddhist Philosophy and Religion (Same as Philosophy 376); 379 Religion and Philosophy in China (Same as Philosophy 379); 385 Religion in Japan.

Europe and the Soviet Union

Anthropology 462 Early European Prehistory.

Classics 331 Archaeology of the Aegean Bronze Age and Early Greece; 334 Cities and Sanctuaries of the Ancient Greek World; 381 Greek Civilization; 382 Roman Civilization.

Economics 395 Economic History of the North Atlantic Community.

English 301 British Culture to 1660; 302 British Culture to 1660: To Present; 401 Medieval Literature.

French 420 French Cinema; 431 Highlights of French Civilization; 432 Contemporary French Culture.

Geography 375 Geography of the Soviet Union.

German 363 Modern German Culture. History 319 Modern Europe, 1750-1914; 320 Contemporary Europe, 1900-present. Medieval Studies 403 Seminar in Medieval Studies.

Philosophy 320 Ancient Western Philosophy; 322 Medieval Philosophy; 324 Seventeenth- and Eighteenth-Century Philosophy; 326 Nineteenth- and Twentieth-Century Philosophy.

Political Science 361 Politics in Western
Democrats; 459 Government and Politics of the Soviet Union; 469 Soviet Foreign Policy.

Russian 371-372 Background and Main Currents of Russian Culture.

Russian and East European Studies 410 Selected Topics in Russian and East European Studies.

Spanish 431 Spanish Civilization.

Women's Studies 324 Women in French Culture (Same as French 324); 383 Women in the Greek and Roman World (Same as Classics 383); 452 Women in European History (Same as History 432).

Latin America Anthropology 313 Peoples and Cultures of Mesoamerica (Same as Latin American Studies 313).

Economics 424 Political Economy of World Development (when topic is Latin American).

Geography 372 Geography of Middle America (Same as Latin American Studies 372); 373 Geography of South America (Same as Latin American Studies 373).

History 360-361 History of Latin America (Same as Latin American Studies 360-361). Latin American Studies 401 Cultural Plurality and Institutional Changes in Latin America.

Political Science 355 Latin American Government and Politics I (Same as Latin American Studies 355); 455 Latin American Government and Politics II (Same as Latin American Studies 455).

Spanish 471 Latin American Civilization (Same as Latin American Studies 471).

Middle East Anthropology 463 Rise of Complex Civilizations.

History 369-370 History of the Middle East.

Religious Studies 311 Ancient Hebraic Religious Traditions; 332 Islam.

Critical Issues in Foreign Studies Economics 323 Economic Development (Third World); 324 Comparative Economic Systems.

History 374 The West and the Third World Since 1870; 375 Revolutions in Historical Perspective.

Political Science 350 Political Change in Developing Areas; 365 Introduction to International Relations.


c. Capstone Experience Purpose:

a. To offer an intensive integrative experience which will substantially broaden the student's comprehension of the major.

b. To increase significantly an understanding of the ways in which the ideas, methods, and achievements in a major area of study have affected modern society.

c. To examine a major field of study from a value-oriented perspective.

d. To enhance student's mastery of prose communication within the professional context of their major.

b. To follow courses are designated Capstone Courses: NOTE: Consult with major department for additional approved courses. Course credits must be taken in the major area unless otherwise approved by the department. It is recommended that this option be satisfied during the senior year.

Areas of Concentration

(1) Required Major

Requirements for specific majors vary by program and are discussed under each department or program. A major consists of at least 24-40 credit hours in courses numbered 200 or above as specified by the department or program. Up to 6 credit hours taken in the major may also be used to satisfy basic skills or distribution requirements where listed. A minimum grade of C must be earned in every 496 Senior Seminar. Students transferring from other institutions must complete at least 9 credit hours at UTK in each major awarded on this campus. Students may elect as many courses as desired in any department or program. In lieu of a major, students may develop an Individualized Program (described below). Majors available in the Basic Program for a B.A. or B.S. include: Anthropology, Art, Art History, Audiology, Biochemistry, Biology, Botany, Chemistry, Classics, Computer Science, Cultural Studies, Economics, English, French, Geography, Geology, German, History, Human Services, Italian, Mathematics, Microbiology, Music, Philosophy, Physics, Political Science, Psychology, Religious Studies, Russian, Sociology, Spanish, Speech and Theatre, Statistics, and Zoology.

(2) Optional Multiple Majors

After the general requirements of basic skills, distribution and a major have been satisfied, additional majors may be recorded on the transcript without regard to course overlap among majors or, among the additional majors and Basic Skills and Distribution requirements. Students developing multiple majors must declare this intent at the time of application for graduation. Once a student has graduated, the establishment of additional majors becomes subject to University second degree requirements. Students who satisfy the requirements of a degree in a college other than Liberal Arts may also major inside the College of Liberal Arts with the approval of the degree granting unit. These students need complete only the major requirements and Basic Skills or Distribution requirements for Liberal Arts degrees. The Liberal Arts major may also be listed on the student's transcript.

(3) Optional Minors

At the time of application for graduation, single or multiple minors may be recorded on the academic record without regard to course overlap among minors and major or among minors and Basic Skills and Distribution requirements. Students who satisfy the requirements of a degree in a college other than Liberal Arts may also minor inside the College of Liberal Arts with the approval of the degree granting unit. The minimum requirement for a minor is 15 credit hours in courses numbered 200 or above. Minors are available in most departments or programs in which majors are offered, and also in Portuguese. Minors may be developed in other colleges or schools of the University, but must be approved by the department head in which the minor is proposed and by the Associate Dean for Student Academic Affairs in Liberal Arts. At least 6 of the 15 credit hours required for a minor must be completed at The University of Tennessee, Knoxville.

Business Minor for Non-Business Students: Requirements include the following courses: Accounting 201-202, Economics 201, Statistics 201, and 12 hours of upper-division Business electives at UTK. No more than 3 upper-division hours of Accounting, Economics, or Statistics may be used for the minor. Students are responsible for meeting all prerequisites for upper-division courses taken in a particular concentration.

(4) Supplementary Elective Courses

At least one-fourth of each student's curriculum in the Basic Program will be made up of courses selected according to the individual interests to supplement and support the work being done in the major and Basic Skills and Distribution requirement. This dimension of the student's experience in the University represents that freedom within which total educational may be carried out and enriched. Elective courses should be chosen with care so that they will truly enhance the student's total program and help in the achievement of well thought-out educational objectives. Some of the choices which the student might make in selecting the elective courses are: (1) Additional courses in the major field; (2) A related minor; (3) An area in the arts; (4) An off-campus semester.

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

Individualized Program

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

Students in the individualized Program will satisfy all the Basic Skills and Distribution requirements, just as do those in the Basic Program. The point at which the greatest degree of individualization takes place, however, is in the area of concentration. Although the quantitative aspect of the area of concentration is the same as for the major in the Basic Program (i.e., a minimum of 24 hours in courses numbered above 200), there is no restriction in principle on the choice of courses of which it is composed. The student may design a program in consultation with an advisor, and submit it for consideration to the Committee on the Individualized Program. The proposed courses of study must have some clear central purpose, usually implemented through intensive work in two or three departments; an undirected scattering of courses will not be approved. For further information contact the Liberal Arts Advising Center.

College Scholars Program

A limited number of freshmen, entering transfer students with fewer than 42 credit hours, and resident students with fewer than 62 credit hours are invited each year to enter this distinguished honors curriculum. Selection is based on previous academic record, test scores, recommendations, a written essay, and a personal interview. Admission is provisional for two semesters; 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 students will be heavily involved in independent study or research required of all College Scholars. When College Scholars fulfills departmental requirements for additional majors or minors, these will be recorded on the Scholars' transcripts. Scholars will not be required to meet Basic Skills or Distribution requirements in order to have such majors or minor officially recognized.

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

Pre-Dental Program

The college offers both a three-year program leading to a Bachelor of Arts degree and a four-year program leading to a Bachelor of Arts or Science degree for students preparing for the study of dentistry. Both programs are based upon the curriculum outlined below. In the three-year program the student must complete at least 93 credit hours while enrolled in the college, and the B. A. degree is granted upon satisfactory completion of the first year of study at UT-Memphis. In the four-year program the degree is granted upon completion of 124 or more credit hours while enrolled in the college, including a major of 24 or more hours in addition to the courses listed below. The requirements for a major are waived for those completing their fourth year at UT-Memphis. Students in either the three- or four-year program must complete the last 31 hours of credit in residence at the University of Tennessee, Knoxville, before entering UT-Memphis.

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

### Pre-Medical Program

The college offers a three-year program leading to a B. A. degree and a four-year program leading to a B. A. or B. S. degree 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 93 credit hours while enrolled in the college, and the B. A. degree is granted upon satisfactory completion of the first year of study at UT-Memphis. In the four-year program the degree is granted upon completion of 124 or more credit hours while enrolled in the college, including a major of 24 or more hours in addition to the courses listed below. The requirements for a major are waived for those taking their fourth year at UT-Memphis. Students in either the three- or four-year program must complete the last 31 hours of credit in residence at UTK before entering UT-Memphis.

Although the B. A./B.S. 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.

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>English 101, 102 or equivalent</td>
<td>Chemistry 120-130</td>
<td>Mathematics</td>
<td>Completion of major program and B. A./B. S. requirements or completion of one year at UT-Memphis.</td>
</tr>
<tr>
<td>8</td>
<td>Biology 110-120 or Zoology 117-127</td>
<td>Physics 221-222</td>
<td>Divisional Distribution Humanities (D) Part II... 3-6</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>Chemistry 120-130</td>
<td>Divisional Distribution (A) Non U.S. History</td>
<td>Divisional Distribution (A) U.S. Studies (B)</td>
<td>Total: 89-105 hours</td>
</tr>
<tr>
<td>6</td>
<td>Mathematics</td>
<td>Electives</td>
<td>Electives</td>
<td>Total: 124 Minimum hours</td>
</tr>
<tr>
<td>6</td>
<td>Basic Skills (B) Foreign Language (Intermediate Level Sequence)</td>
<td>Divisional Distribution Humanities (D) Part II... 3-6</td>
<td>Electives</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>Divisional Distribution Social Sciences</td>
<td>Upper Level Distribution (C) U.S. Studies (B)</td>
<td>Electives</td>
<td>6-9</td>
</tr>
<tr>
<td>6</td>
<td>Foreign Studies or (C) Capstone Experience</td>
<td>Foreign Studies or (C) Capstone Experience</td>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

**Minimum hours: 6 credits from the four lists under the Humanities requirement; not more than 3 credits may be taken in the Arts.**

**BA students must complete a minimum of 12 credits from at least two areas; BS students must complete a minimum of 6 credits from at least two areas for the Social Science requirement.**

**BA students must complete a minimum of 6 credits in one of the three areas and 3 credits from one of the remaining two areas. BS students must complete a minimum of 6 credits in two of the three areas.**

**Upper level Distribution:**

Recommended courses in biology and zoology are genetics, cell biology, and comparative vertebrate anatomy.
Students who have had considerable background in biology in high school (e.g., two years of biology or an unusually good one-year course) and have completed general chemistry may be eligible to go directly into Biology 210 or 220. Consult the coordinator of the biology program for more information. Such students must include at least eight hours in biological science in their electives to satisfy the requirement for admission to the medical school course of study.

This requirement assumes a student has had enough language background in high school to begin an intermediate language sequence at UTK. Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. A math handout is available in the Liberal Arts Advising Center, 220 Ayres Hall. All students must complete the Math Basic Skills requirement as outlined in the Liberal Arts curriculum. Mathematics 115-121 or Mathematics 121-122 are required for pre-medical technology students.

6Students having completed the 350-360 Organic series may substitute it for Biochemistry 310.

**Pre-Pharmacy Programs**

The college offers three programs preparing students for the study of pharmacy at UT-Memphis. The Doctor of Pharmacy (Pharm.D.) degree is conferred by UT-Memphis upon completion of four years of professional study at Memphis following any of the three programs. Bulletins describing the three pre-pharmacy programs in detail may be obtained from the Health Professions Office, 220 Ayres Hall.

The two-year program prepares students to be admitted to the College of Pharmacy upon completion of 60 hours of a prescribed course of study in the College of Liberal Arts. Further information may be obtained from the Health Professions Office, 220 Ayres Hall.

The three-year program leading to a B. A. degree and the four-year program leading to either a B. A. or B. S. degree from The University of Tennessee, Knoxville, as well as to the professional degree in pharmacy from UT-Memphis, are based upon the program outlined below. In the three-year program, the student must complete at least 93 credit hours while enrolled in the College of Liberal Arts, and the B. A. degree is granted upon satisfactory completion of the first year of study in Memphis. In the four-year program the B. A. or B. S. degree is granted upon completion of 124 or more credit hours while enrolled in the college, including a major of 24 or more hours in addition to the courses outlined below. The requirement for a major is waived for those taking their fourth year at UT-Memphis. Students in either the three- or four-year program must complete the last 30 hours of credit in residence at the University of Tennessee, Knoxville, before enrolling in the College of Pharmacy.

**Pre-Veterinary Medicine Program**

The following program is designed for students who wish to pursue a Liberal Arts degree while preparing for the study of Veterinary Medicine. Students in this program must complete at least 93 credit hours while enrolled in the College of Liberal Arts, must satisfy the Basic Skills and Distribution requirements, and must complete the last 31 hours in residence at UT before entering the College of Veterinary Medicine. A departmental major is not required. Upon successful completion of the first year (two semesters) of the professional veterinary medicine curriculum, the Bachelor of Arts degree will be conferred by the College of Liberal Arts.

*Note: Admission to the College of Veterinary Medicine is at the discretion of the Admissions Committee of that College.*
admission to and successful completion of this program does not assure admission to the College of Veterinary Medicine.

### Hours Credit

#### Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101-102</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120-120</td>
<td>6</td>
</tr>
<tr>
<td>Biology 110-120</td>
<td>6</td>
</tr>
<tr>
<td>Basic Skills (B) Foreign Language (Intermediate Level Sequence)</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics</td>
<td>6</td>
</tr>
</tbody>
</table>

#### Sophomore

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biology 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 350, 369, 390</td>
<td>6</td>
</tr>
<tr>
<td>Physics 221-222</td>
<td>8</td>
</tr>
<tr>
<td>Divisional Distribution (A) Non U.S. History</td>
<td>6</td>
</tr>
<tr>
<td><em>Divisional Distribution (C) Social Sciences</em></td>
<td>3-6</td>
</tr>
<tr>
<td><em>Mathematics</em></td>
<td>6</td>
</tr>
</tbody>
</table>

#### Junior

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biochemistry 410</td>
<td>4</td>
</tr>
<tr>
<td><em>Divisional Distribution (C) Social Science</em></td>
<td>6-6</td>
</tr>
<tr>
<td><em>Divisional Distribution (D) Humanities Part I and II</em></td>
<td>6-9</td>
</tr>
<tr>
<td><em>Upper Level Distribution (A) U.S. Studies (B)</em></td>
<td>6-6</td>
</tr>
<tr>
<td>Foreign Studies or (C) Capstone Experience</td>
<td>6-9</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: 93-111 hours

#### Senior

Completion of major program and B.A./B.S. requirements or completion of one year at UT College of Veterinary Medicine.

Total: 124 Minimum hours

*Or equivalent honors courses.*

*3Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 141-142, 121-122, or 151-152 is a prerequisite for Physics. A math placement handout is available in the Liberal Arts Advising Center, 220 Ayres Hall. All students must complete the Math Basic Skills requirement as outlined in the Liberal Arts curriculum.*

*This requirement assumes a student has had enough language background in high school to begin an intermediate language sequence at UT-K.*

*4B. A. students must complete a minimum of 12 credits from at least two areas; B.S. students must complete a minimum of 6 credits from at least two areas for the Social Science requirements.*

*5B. A. students must take a two-semester course package in either literature or a philosophical perspective for Humanities, Part I and for Part II students must complete a minimum of 6 credits from the four lists under the Humanities requirement; not more than 3 credits may be taken in the Arts.*

*6B. A. students must complete a minimum of 6 credits in one of the three areas and 3 credits from one of the remaining two areas. B.S. students must complete a minimum of 6 credits in two of the three areas. (Upper Level Distribution)*

### Preparation for Other Professions

#### LIBRARY SCIENCE

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

#### PLANNING

Students who wish to consider a career in city and regional planning or a related field will find a brief description of the program of the Graduate School of Planning on page 126. Students are accepted into planning from a broad variety of undergraduate backgrounds. Detailed information on the planning profession, admission requirements, and the program of study may be obtained from the Graduate School of Planning.

### TEACHING

Students in the College of Liberal Arts who wish to be certified for secondary school teaching must satisfy state certification requirements as well as all degree requirements of the College of Liberal Arts and must be recommended for certification by the College of Education. The College of Education is approved by the National Council for Accreditation of Teaching Education (NCATE); recommendation for certification by the college, therefore, in effect certifies the student in 30 states.

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

### Course Load

The average course load in the college for any semester is 15-16 credit hours. The University defines full-time undergraduate students as those who register for a minimum of 12 hours. The maximum number of hours which may be taken by liberal arts students is 18, exclusive of elective work in ensemble music and physical education. Exceptions to this rule will require approval by the Associate Dean for Student Academic Affairs (220 Ayres).

#### Lower Division - Upper Division

Courses numbered at the 100 and 200 levels are considered lower division and are normally taken by students in the freshman and sophomore years. Courses numbered 300 and above are upper division and are designed for students at the junior and senior levels.

#### Satisfactory/No Credit

A few courses in the college are offered only on a Satisfactory/No Credit (S/NC) basis and students may elect to take others on this basis, except in areas where the option is specifically prohibited. Such courses, if successfully completed, will count as hours for graduation although neither S nor NC grades will be recorded on 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. Students may only receive S/NC credit for a maximum of 6 credit hours per semester with prior approval of the academic advisor. No Credit may only be counted as hours for graduation although neither S nor NC grades will be recorded on 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:

2. The maximum number of S/NC elective hours which may be counted toward graduation is 20, 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 semester. Exception: Students who register for a course S/NC in a restricted area will be required to change to regular grading when the error is discovered.

4. A transfer student who has more than 20 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 Basic Skills or distribution requirement may count it for that purpose. In the case of a course which satisfies a major or minor requirement, statement (1) applies.

The option of taking courses on a S/NC basis is provided to encourage the able student to venture beyond the limits of those courses in which the student does well and, motivated by intellectual curiosity, to explore subject matter in which performance may be somewhat less assured, enabling that work in preferred subject fields.

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

### Off-Campus Study

Recognizing that learning is not restricted to formal classroom situations, the college provides for students to earn credit toward graduation for approved off-campus study. Such study may be undertaken only with prior approval of the faculty member and the department concerned. It may include certain kinds of work experiences, community involvement, or other study which is not designed for college credit. Such study may be undertaken only with prior approval of the faculty member and the department concerned. It may include certain kinds of work experiences, community involvement, or other study which is not designed for college credit.

### Independent Study

Certain educational goals may best be met through independent study done by an individual under the direction of a faculty member. Students who wish to do such independent work should obtain the approval of the faculty member and the departments concerned prior to embarking upon their study. Credit per semester will vary from 1-15 hours. Up to 21 hours of credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.
Study Abroad and Foreign Study Courses

Several opportunities for study abroad are available to students in the college. One avenue is through group programs arranged and supervised by departments of the college on a full-semester or summer term basis. A second is through group programs conducted abroad by other academic institutions in which UTK students with approval may enroll for credit. Assistance in identification of and registration in such programs may be obtained through the Overseas Study Information Service located in the University's Division of International Education. A third opportunity is through individualized programs under the foreign study number 491. 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 1-15 hours in any one department. Up to 21 hours of such credit, exclusive of that earned in group programs offered by departments, may be awarded only after completion of all appropriate liberal arts departments. Credit by students prior to departure with the study number 491. The nature of this work as well as credit for it should be negotiated with an Anthropology advisor.

Afro-American Studies
See Cultural Studies.

American Studies
See Cultural Studies.

Ancient Mediterranean Civilizations
See Cultural Studies.

Anthropology

Professors:
W. M. Bass (Head and Alumni Distinguished Service Professor), Ph. D. Pennsylvania; C. H. Faulkner, Ph. D. Indiana; R. L. Jantz, Ph. D. Kansas; P. W. Parmalee, Ph. D. Texas; M. F. H. Smith, Ph. D. Michigan; M. C. Wheeler, Ph. D. Yale.

Associate Professors:

Assistant Professors:
M. A. Bass, Ph. D. Kansas State (part-time);
B. J. Howell, Ph. D. Kentucky; J. F. Simak, Ph. D. SUNY-Binghamton; P. S. Willey, Ph. D. Tennessee.

Research Assistant Professors:
J. Chapman, Ph. D. North Carolina; M. Smith, Ph. D. Tennessee; S. Tardiff, Ph. D. Michigan State.

Anthropology 110, 120, and 130 are prerequisites to a B.A. major in anthropology, which consists of Anthropology 450 and 27 additional hours of upper division course work in Anthropology. This course work shall be distributed as follows:

(1) one course from categories (a), (b), (c), and (d); and two courses from category (e).
(a) archaeological method and theory: 361, 362, 440, 464
(b) archaeological area: 380, 461, 462, 463
(c) cultural area: 310, 311, 312, 313, 314, 315
(d) cultural method and theory: 410, 411, 412, 413
(e) biological anthropology: 480, 490, 494, 495, 496

(2) Remaining hours may be selected from any upper division Anthropology courses.

Students with senior standing are encouraged to substitute appropriate 500 level courses (with permission of the instructor of the course and approval of the Department Head) for any portion of (1) or (2) above.

Anthropology 110, 120, 130 are prerequisites to a minor in anthropology, which consists of 15 hours of upper division Anthropology courses, chosen in consultation with an Anthropology advisor.

Art

Professors:

Associate Professors:

Assistant Professors:
B. Lyons, M. F. A. Arizona State; D. Wilson, M. F. A. California (San Diego); B. F. A. in Studio Art

The B. F. A. is Studio Art is a professionally oriented degree especially intended for those students planning careers or graduate study in the visual arts. Majors must pass a portfolio review, usually at the end of the sophomore year in order to be admitted into upper division courses and concentrations. All studio courses require 3 hours per week attendance for each credit hour earned. Completing the B. F. A. program may take more than 8 semesters. Students are urged to seek departmental advisement each semester to ensure proper scheduling. Transfer students are advised that a minimum of 21 hours in studio courses, and 6 upper division hours in art history, must be earned at UTK. No grade below "C" in art courses may be applied to the B. F. A. major. A minimum of 40 credit hours, 300 level or above, must be earned at UTK. Students may be accepted into advanced media concentrations in Ceramics, Drawing, Painting, Printmaking, Sculpture, Watercolor, and approved Inter-Area combinations, after passing the appropriate portfolio course.

Basic Requirements

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Art History 171, 172, 173</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>200 level</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Portfolio Review Pre-requisite to 300 and 400 courses</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>300 and 400 level</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Approved Studio Electives for Concentration</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Total: 32 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Studio Electives

Additional hours in studio course electives to be completed in the Art Department or at our affiliated facility, Arrowmont School of Arts and Crafts. Students may also apply a maximum of 6 hours of approved studio courses from Architecture, Art Education, Broadcast Journalism, Computer Science, Vocational Technical Education, Interior Design or Theatre. Students electing a joint Art/Art Education degree (B. F. A./B. S.) may take 12 hours in Art Education courses.

| Total: 12 hours | |

General Curriculum

| English Composition | 6 |
| Non-U.S. History/Social Science | 6 |
| Natural Science/Mathematics | 6 |
| Liberal Arts Non-Art Electives | 14-16 |
| Total: 34 hours | |
| Total: 126 hours | |
ILLUSTRATION CONCENTRATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Core</td>
<td></td>
</tr>
<tr>
<td>Art 171, 172, 173</td>
<td>9</td>
</tr>
<tr>
<td>Art History electives</td>
<td>6</td>
</tr>
<tr>
<td>Art 101, 102, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 192, 211, 213 or 215</td>
<td>9</td>
</tr>
<tr>
<td>Illustration</td>
<td></td>
</tr>
<tr>
<td>Art 350</td>
<td>0</td>
</tr>
<tr>
<td>Art 212, 9 hours drawing electives</td>
<td>12</td>
</tr>
<tr>
<td>Art 231</td>
<td>6</td>
</tr>
<tr>
<td>Art 151, 251, 252, 351, 451, 452, 455 in sequence</td>
<td>16</td>
</tr>
<tr>
<td>Art 356</td>
<td>1</td>
</tr>
<tr>
<td>Art 353, 354, 453, 454 in sequence</td>
<td>12</td>
</tr>
<tr>
<td>Total:</td>
<td>30</td>
</tr>
<tr>
<td>Illustration</td>
<td></td>
</tr>
<tr>
<td>Studio Electives1</td>
<td>18</td>
</tr>
<tr>
<td>General Curriculum</td>
<td></td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Non U.S. History/Social Science</td>
<td>6</td>
</tr>
<tr>
<td>Natural Science/Mathematics</td>
<td>6-8</td>
</tr>
<tr>
<td>Liberal Arts Non-Art Electives</td>
<td>14-16</td>
</tr>
<tr>
<td>Total:</td>
<td>34 hours</td>
</tr>
<tr>
<td>Design Electives</td>
<td></td>
</tr>
<tr>
<td>Art 171, 172, 173</td>
<td>9</td>
</tr>
<tr>
<td>Art History electives</td>
<td>6</td>
</tr>
<tr>
<td>Art 101, 102, 103</td>
<td>6</td>
</tr>
<tr>
<td>Art 192, 211, 213 or 215</td>
<td>9</td>
</tr>
<tr>
<td>Total:</td>
<td>126 hours</td>
</tr>
</tbody>
</table>

*Students must choose a minimum of 9 hours from two of the areas: Fiber-Fabric, Painting, Printmaking, Sculpture, Watercolor.

In addition to the general B.A. requirements, the following are required for B.A. majors:

**B. A. Majors in Art History**

<table>
<thead>
<tr>
<th>Prerequisite: Art 172, 173 Art History (Any two)</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major: Art History courses numbered 200 and above (May include Greek and Roman Art and Archeology, Department of Classics)</td>
<td>21</td>
</tr>
<tr>
<td>Studio courses numbered 200 and above</td>
<td>6</td>
</tr>
<tr>
<td>Art 481</td>
<td>3</td>
</tr>
<tr>
<td>Total: 39 hours</td>
<td></td>
</tr>
</tbody>
</table>

Undergraduate work in Art History is enhanced by knowledge of at least one foreign language and by additional studio art experience. Graduate work normally requires reading knowledge of German, French, and any other language appropriate to an area specialization.

Students anticipating possible careers in the museum or gallery field are advised that elective hours in Art 482, Museology II, should be considered.

**B. A. Major in Studio**

<table>
<thead>
<tr>
<th>Prerequisite: Art 101, 102, 103</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major: Studio courses numbered 200 and above, including a minimum of 15 hours in 300-400 level courses</td>
<td>24</td>
</tr>
<tr>
<td>Total: 39 hours</td>
<td></td>
</tr>
</tbody>
</table>

Asian Studies

See Cultural Studies.
The Department of Audiology and Speech Pathology offers course work in the scientific study of human communication sciences and disorders. The two undergraduate majors (audiology and speech pathology) are preparatory to graduate work and to professional practice in an aspect of speech, language, and hearing disorders. The master’s degree is required for most professional certificates and employment positions. Information about the audiology and speech pathology programs may be obtained from the department office, 457 South Stadium Hall, and students are strongly encouraged to consult with the undergraduate advisors in the department as early as possible in their study of human communication sciences and disorders.

Additional recommended courses for audiology and speech pathology majors include appropriate coursework from: Anthropology, Biology, Curriculum and Instruction, Educational Psychology, Psychology, Physics, Special Education and Child and Family Studies. Students majoring in Audiology and Speech Pathology are strongly encouraged to consult frequently with their advisors before selecting additional recommended courses.

A B. S. major in Speech Pathology consists of Audiology and Speech Pathology 304, 305, 306, 320, 331, 350, 360, 400, 403, 404, 410, 420, 440, 445, 449, 460, 490. Not more than 8 hours may be selected from one department. No more than 3 credits of research courses may be counted toward the major.

A minor in Organismal and Systems Biology consists of Biology 210, 220, 230, Chemistry 350, 360, 369, and 18 hours of upper division courses selected from Biochemistry 310, 319, or Biochemistry 410, 420, 440; Botany, any 300- or 400-level courses but not more than one course from 305, 306, or 309; Microbiology, any 300- or 400-level courses; Zoology any 300- or 400-level courses. Not more than 12 hours may be selected from one department. No more than 3 credits of research courses may be counted toward the major.

A Minor consists of Biology 210, 220, and 8 hours of upper-division courses chosen from the lists below: Chemistry 410-419, Botany, any 300- or 400-level courses; Microbiology, any 300- or 400-level courses; Zoology, any 300- or 400-level courses. No more than 6 hours of research courses may be credited. No more than 3 hours of research courses may be counted toward the major.

A Minor in Biology consists of Biology 210, 220, 230, and 8 hours of upper-division courses chosen from the lists below: Botany, any 300- or 400-level courses chosen from either Botany 321 or Zoology 445, Botany 330, 346, 401, 402, 403, 413, Forestry, Wildlife and Fisheries Science 311, 315, Geography 433, 434, Microbiology 470, 479, Wildlife and Fisheries Science 443, 444, 445. At least 450, 459, 470, and 15 upper division courses must be chosen from among the departments of Botany, Microbiology, and Zoology.

A Minor in Biology consists of Biology 210, 220, 230 and 8 hours of upper-division courses chosen from the lists below: Botany, any 300- or 400-level courses; Microbiology, any 300- or 400-level courses; Zoology, any 300- or 400-level courses. No more than 6 hours of research courses may be credited. No more than 3 hours of research courses may be counted toward the major.
A B.S. major in Botany may be obtained by completing one of the three concentrations: General Program, Organismal Botany, or Cellular and Molecular Botany. Prerequisites for all three concentrations are: Botany 110-120 or 118-128 (recommended) or Biology 110-120; and Chemistry 120-130.

Corequisite to the General Program is one of the following sequences: Mathematics 115-121 or 141-142 or 151-152, or Physics 121-122 or Geology 101-102; or Chemistry 350-360-369. Corequisites for both of the other concentrations are: Mathematics 141-142 or 151-152; Physics 121-122 or Geology 101-102; and Chemistry 350-360-369 (Health Science Concentration in Organismal Botany - Organismal Biochemistry, Microbiology, Zoology. A minimum of 29 hours completes this major's option.

Concentration in Organismal Botany requirements are: Biology 210, 230; Botany 321, 310, 320, 330, 1 hour of 371, 1 hour from 400 or 441-442; 4 hours of additional Botany; and 3 hours of upper division non-Botany courses selected from Biochemistry, Microbiology, or Zoology. A minimum of 29 hours completes this major's option.

Concentration in Cellular and Molecular Botany requirements are: Biology 210, 220; Botany 321, 310, 320, 330, or 451, 1 hour of 371, 2 hours from 400 or 441-442; Biochemistry 410; and 3 additional hours selected from Botany 305, 306, 309 do not meet this requirement; Biology 230 (recommended for fulfilling this requirement), or upper division Biochemistry, Microbiology, Zoology. A minimum of 38 hours completes this major's option (includes 8 hours of Organic Chemistry).

Students who desire to major in chemistry may select from either of two courses of study: Bachelor of Science or Bachelor of Science in Chemistry. Only the latter program is approved by the Committee on Professional Education of the American Chemical Society. It is designed to train students to go directly into positions in the chemical industry or to enter graduate study leading to positions in research and college teaching. A student in the B.S. in Chemistry program should, at the earliest opportunity, ask the Liberal Arts Advising Center for assignment of a faculty advisor in the Department of Chemistry. For further information, contact the Head of the Department of Chemistry, 575 Buehler Hall. For information concerning the Cooperative Program in chemistry, see description of the B.S. program below.

**CURRICULUM REQUIREMENTS:**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Chemistry 120-130 or (preferably) 121-131 or 128-138</td>
</tr>
<tr>
<td></td>
<td>Mathematics 141-142</td>
</tr>
<tr>
<td></td>
<td>English Composition</td>
</tr>
<tr>
<td></td>
<td>Foreign Language (intermediate level sequence)</td>
</tr>
<tr>
<td></td>
<td>Distribution</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Chemistry 140</td>
</tr>
</tbody>
</table>

**Chemistry 350-360**

**Chemistry 369**

**Chemistry 370**

**Mathematics 241-251**

**Physics 131-231**

**Distribution**

**Electives**

Total: 124 hours

*Must be chosen from German, French or Russian; a student who has not had two years of one of these languages in high school will need to complete the elementary sequence before taking the intermediate level sequence.*

*The distribution requirements of the College of Liberal Arts are satisfied by taking: Non-U.S. History (3 hours), Social Science (6 hours), Humanities (6 hours), and Upper Level Distribution (3 hours in either U.S. Studies or Foreign Studies and 3 hours in other fields). The number of credit hours shown in each year of the curriculum are merely intended as guidelines. It is recommended that a portion of these elective hours be applied to advanced courses in biochemistry, mathematics, physics, or chemical, metallurgical, and polymer engineering.*

To be chosen from Chemistry 400, 450, 450, 470, and 490. Chemistry 400 or 405 will also satisfy 3 hours of Upper Level Distribution (Capstone Experience).
try, the recommended courses (from the list above) are Mathematics 141-142, Physics 131-231, and Chemistry 371-381; although not required, certain additional courses are strongly encouraged, and students planning to become chemists: Mathematics 241-251 and Chemistry 230, 320, 329, and 406. Because professional chemists need a reading knowledge of foreign languages, intermediate level competency should be acquired in German, French or Russian. Students who are undecided about their career goals should consult a chemistry faculty advisor at the earliest opportunity. Unlike the Bachelor of Science in Chemistry, a minor B. S. degree is not approved by the Committee on Professional Training of the American Chemical Society. A minor in chemistry shall consist of the successful completion of 15 hours of chemistry courses numbered 200 and above (including 310, 319 (4 hours) and at least one of the following sequences: 350-360, 369 (8 hours); or 370-380, 379 (8 hours); or 371-381, 379 (8 hours).

Provisional Program

A cooperative program is available to students who are chemistry majors. After the freshman year, the student alternates a semester in school with a semester in a job in the chemical industry. The program normally requires five years and involves a total of four work semesters and eight school semesters. 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. Interested students should make application to the head of the department at least one semester in advance of the beginning of the first work period. Further information will be supplied on request.

Placement in General Chemistry Sequences

The sequences which meet all requirements of a year of general chemistry and which serve as prerequisite for upper-division courses are 120-130, 121-131, and 128-138; chemistry majors are strongly encouraged to take either of the latter two sequences. Courses 100 and 110 emphasize organic and biochemistry, and may be used as prerequisite only for 431.

It is possible to move from one sequence to another if permission for substitution is obtained. Students who have had high school chemistry and who have had additional experience (e.g. summer institute study, special research projects, home laboratory) are invited to apply during the summer to the head of the department for permission to take a proficiency examination in one or more semesters of general chemistry. If a satisfactory grade is made on the examination, credit will be allowed for the semester (or course) for which the exam was taken. The Department of Chemistry gives credit in general chemistry to students who present satisfactory scores on the Chemistry Advanced Placement Examination.

Chinese

See Cultural Studies (Asian Studies).

Classics

Professors:

H. C. Rutledge (Head), Ph. D. Ohio State; G. C. Gesell, Ph. D. North Carolina (Chapel Hill).

Associate Professors:

C. P. Craig, Ph. D. North Carolina (Chapel Hill); S. D. Martin, Ph. D. Michigan; J. E. Shenly, Ph. D. Vanderbilt; D. W. Tandy, Ph. D. Yale.

The B. A. major concentration in Greek consists of 27 hours including 21 hours of Greek language courses numbered above 200, and including 3 hours of Classics 422 (capstone); 6 hours chosen from Classics 221-222, 331, 334, 491.

The Latin minor consists of 18 hours including 12 hours of Greek language courses numbered above 200, and 6 hours chosen from Classics 221-222, 331, 334. The student minoring in Greek is encouraged to take Latin.

The B. A. major concentration in Latin consists of 27 hours including 21 hours of Latin language courses numbered above 200, and including 3 hours of Classics 422 (capstone); 6 hours chosen from Classics 221-222, 331, 334, 491. The student majoring in Latin is strongly encouraged to have as background History 310 before taking the Latin course. The student concentrating in Latin is encouraged to begin or take advanced work in Latin.

There are two intermediate options in the Greek program, both of which fulfill the Liberal Arts Language requirement and prepare students for advanced work in the third and fourth years. The Classical Option is 261 followed by Upper Division. The New Testament Option in second year Greek is 261-262.

The Greek minor consists of 18 hours including 12 hours of Greek language courses numbered above 200, and 6 hours chosen from Classics 221-222, 331, 334. The student minoring in Greek is encouraged to take Classics 422 (capstone).

Placement Examination.

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

Comparative Literature

See Cultural Studies.

Computer Science

Professors:

J. H. Poore (Head), Ph. D. Georgia Tech; J. A. George, Ph. D. Stanford; G. R. Sherman, Ph. D. Purdue; M. G. Thomason, Ph. D. Duke.

Associate Professors:


Assistant Professors:

J. R. S. Blair, Ph. D. Pittsburgh; J. R. B. Cockett, Ph. D. Leeds, UK; D. C. Butchler, Ph. D. Duke; D. W. Straight, Ph. D. Texas; M. Zemankova, Ph. D. Florida State.

The undergraduate major in computer science contains five areas of concentration: Computer Systems, Information Systems, Scientific Computing, Theory of Computation, and Machine Intelligence. Some courses are applicable to more than one concentration; consult the Department for details.

100 or 102 and 111, 112 are prerequisite to a major in computer science which consists of 219, 311, four out of 320, 340, 360, 380, Mathematics 371, plus fifteen hours at the 300 and 400 level. All students must take at least 9 of the 15 hours in one of the concentration areas and must also meet the requirements for the concentration along with the requirement that at least 28 hours must be in upper division (300, 400) credit toward graduation. Students must elect a two-semester lab science sequence in either Biology or Chemistry, or a sequence approved by the Computer Science Department.

It is highly recommended that all Computer Science majors own a personal computer with communications capability.

Undergraduate Computer
Science consists of 111 and 112 plus fifteen hours of 300 or 400 level courses. 

**Progression to the Major:**
A student may progress to the major or minor program only after completing courses specified by the department. These courses are listed in the Undergraduate Handout available in the department. Students who have completed the specified courses with a minimum GPA of 3.0 and wish to progress to the major or minor program must apply to the departmental office. This should be done as soon as the stated requirements are met so that a decision can be reached prior to the registration date for the next semester. Those who are not accepted into the Computer Science degree program will be counseled and advised of educational alternatives.

For undergraduate Computer Science majors who have taken at least three computer science courses at UTK, grades in all computer science courses from UTK, excluding service courses, will be averaged. If a course is repeated, all grades received for the course will be counted.

A student must have a Computer Science grade point average (as described above) of 2.50 or better in order to be retained in the major. If a student's Computer Science grade point average drops below 2.50, the student will be given a warning. If one or more semester's grades have been received, the student's Computer Science average has not risen to 2.50, the student will be dropped as a major in Computer Science.

A student who desires to be readmitted after being withdrawn as described above must attain an average in Computer Science courses (computed as described above) of at least 2.70.

### Cultural Studies

**Director:** Dr. Mary P. Richards

**Basic Faculty:**

- P. Barrette, Ph. D. Romance Languages
- L. J. Champion, Ph. D. Special Programs
- R. Copeland, Ph. D. Special Programs
- B. K. Dumas, Ph. D. English, J. R. Ericson
- Ph. D. Special Programs: D. M. Fiene, Ph. D. Russian; C. Special Programs: R. W. Gwynne, Ph. D. Special Programs; M. H. Handelsman, Ph. D. Romance Languages; M. Hartsell, Ph. D. Special Programs; J. O. Hodges, Ph. D. Special Programs; W. L. Humphreys, Ph. D. Religious Studies; C. O. Jackson, Ph. D. History; E. Johnson, Ph. D. Romance Languages; W. C. Neale, Ph. D. Economics; M. L. O'Connor, Ph. D. Anthropology; M. E. Peak, M. A. Special Programs; H. C. Rutledge, Ph. D. Classics; D. W. Tandy, Ph. D. Classics; S. S. Wallace, Ph. D. Sociology.

Recognizing that new disciplines have developed which require the integration of knowledge from several traditional fields, the College of Liberal Arts has combined the resources of several departments to offer a series of interdisciplinary major concentrations and minors. These Cultural Studies programs are: Afro-American Studies, American Studies, Ancient Mediterranean Civilizations, Asian Studies, Cinema Studies, Comparative Literature, Latin American Studies, Linguistics, Medieval Studies, Russian and East European Studies, Urban Studies, and Women's Studies. See individual program descriptions below for the major concentrations and/or minor requirements.

### Afro-American Studies

The Afro-American Studies Program offers both a major concentration and a minor in Afro-American Studies. AAS courses are offered not only by the program itself but also by numerous departments within the College of Liberal Arts and some other colleges as well. This diversified sponsorship of AAS courses enables the University to offer a particularly varied range of courses in the field of Afro-American Studies.

**Major concentration:** Afro-American Studies 201-202 are required in the concentration which consists of 24 hours from the Afro-American Studies curriculum. At least 15 hours must represent upper division credits. Majors are required to take AAS 431, preferably in their senior year. A maximum of 6 hours in AAS 492 and 493 combined can be applied toward the AAS major. In planning their program majors must include courses from at least 2 other departments which crosslist courses with Afro-American Studies in addition to the AAS core course offerings.

**Minor:** Afro-American Studies 201-202 are required in the minor which consists of 15 hours at least 9 of which must be upper division. A maximum of 3 hours in AAS 492 and 493 combined can be applied to a minor. In planning their programs minors must include courses from at least 2 other departments which crosslist courses with Afro-American Studies in addition to the AAS core course offerings.

### American Studies

**Major concentration:** History 251-252 (or equivalent hours courses) are prerequisite to a major concentration in American Studies which consists of 24 semester hours including American Studies 310 and 410; two of the three following courses: English 431, 432, or 433; and 15 hours of upper-division electives dealing with the American experience. Six hours of the electives group must be from one of the following disciplines: anthropology, economics, political science, or sociology. A list of acceptable elective courses is published annually by the American Studies Committee.

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

### Asian Studies

The Asian Studies major concentration consists of 27 credit hours from the upper-division courses in Asian Studies and approved departmental offerings. Fifteen of the hours must be taken from courses listed within one of the four geographical-cultural areas (Islamic World; South Asia; China; Japan), and no more than 9 of these 15 hours can come from one of the following subdivisions (A or B). Subdivision A includes Anthropology, Economics, Geography, History, Political Science, and Sociology. Prerequisite to the concentration is Asian Studies 101-102. Corequisite to the major concentration is competence in a major Asian language of the chosen geographical-cultural area. Competence is defined as the successful completion of the 200-level sequence of that language, or by demonstration of equivalent mastery.

The Asian Studies minor consists of Asian Studies 101-102 and 15 credit hours at the 200 level and above taken from courses within one of the four geographical-cultural areas. No more than 9 of these 15 hours can come from one subdivision.

### Cinema Studies

The Cinema Studies minor consists of fifteen hours, including English 289 Introduction to the Film Studies, and Art 292 Film Design. It is strongly recommended that Introduction to Film Studies and Film Design be taken before selection of electives provided for in the minor.

For further information consult the chairperson of the Cinema Studies Program, Charles Maland, English Department. Other related courses in such departments as history, philosophy, and sociology may be approved through consultation with Dr. Maland.

Approved Area Courses are: Art 292 Film Design (3); Art 392 Intermediate and Advanced Film Design (3-6); Broadcasting 330 Producing for Radio (3); Broadcasting 433 Producing for Television (3); English 289 Introduction to Film Studies (3); English 334 Film and American Culture (3); and English 489 Special Topics in Film (3).
Comparative Literature

A major concentration in comparative literature consists of 27 hours including Comparative Literature 201 and 401-402, and 9 hours of literature in a foreign language in courses numbered 300 and above. The remaining 9 hours should include literature courses, either in English or in a foreign language, numbered 300 or above, from at least two of the following departments: Classics, English, Germanic and Slavic Languages, Religious Studies, Romance Languages. Certain courses in Philosophy and Speech Communication may be substituted with the approval of the chairperson of the Comparative Literature Program. Students concentrating in comparative literature are strongly encouraged to acquire a working knowledge of a second foreign language, especially if they hope to pursue comparative literature on the graduate level.

A minor in comparative literature consists of 18 hours including Comparative Literature 201 and either Comparative Literature 401-402, or 6 hours of literature in a foreign language in courses numbered 300 and above, and 6 hours of literature courses numbered 300 and above in a different department. These 6 hours may be either in English or in a foreign language and should be chosen from the following departments: Classics, English, Germanic and Slavic Languages, Religious Studies, and Romance Languages. Certain Philosophy and Theatre courses may be substituted with the approval of the chairperson of the Comparative Literature Program. Minors in comparative literature are strongly encouraged to continue study of a foreign language beyond the minimum requirement.

Latin-American Studies

The major concentration consists of 27 hours including Latin American Studies 401 and 402, three hours of either History 360 or 361, three hours of an approved Spanish or Portuguese language/culture course at either the 300 or 400 level, and fifteen additional hours selected from courses offered by three different participating departments. Majors are strongly urged to take as a prerequisite Latin American Studies 251-252.

The minor consists of 18 hours including Latin American Studies 251-252, three hours of an approved Spanish or Portuguese language/culture course at either the 300 or 400 level, and nine additional hours selected from courses offered by three different participating departments.

A practical working knowledge of Spanish or Portuguese acquired independently is a prerequisite for majors and minors. All students are strongly encouraged to earn credit hours through UTK’s Latin American Studies Abroad Program at the Federal University of Ceara in Fortaleza, Brazil. Other foreign study programs are also available for Brazil and Spanish-speaking Latin America.

For further information, consult with Dr. Michael Handelman (301 McClung Tower), Chairperson of the Latin American Studies Program.

Linguistics

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

Students should consult program advisors early in planning a Linguistics major or minor. Audiology and Speech Pathology 305 should be taken as soon as possible. Other 300-level courses should, if possible, be completed before 400-level courses are begun.

Corequisites for the major concentration are Linguistics 200 (highly recommended); selection of the Foreign Studies option to fulfill the approved distribution requirement (required); and a two-semester sequence of a non-Indo-European language to be selected from the following: Asian Studies 121-122 (5.5) (Arabic); Asian Studies 131-132 (5.5) (Chinese); Asian Studies 141-142 (4.4) (Hebrew); Asian Studies 151-152 (5.5) (Ugandsese); Religious Studies 309-310 (3.3) (Hebrew); other non-Indo-European language sequences approved by the Linguistics Committee (required).

The concentration shall consist of 30 hours distributed as follows: (a) 24 hours composed of Audiology and Speech Pathology 305 (3); English 371, 372, and 471 (3,3,3); French, German, Russian or Spanish 425-426 (3,3); and Linguistics 420-430 (3,3); and (b) 6 hours of the following, selected in consultation with the Linguistics Committee: Anthropology 411 (3); Audiology and Speech Pathology 305, 465, 579, (3,3,3); Educational Curriculum and Instruction 457 (3); Special Education Education 422, 532, 533 (3,3); English 371, 372, 472, 475, 486, 508, 509, 680 (3 hours each); French 421, 422, 521-522 (3 hours each); German 435-436 (3,3), 571-572 (3,3), Linguistics 400 (3,3); Philosophy 479 (3); Psychology 430, 482, 543, 531-532, 680 (3 hours each); Spanish 421, 422, 531-532 (2,3,3); Theatre 426 (4).

Other hours may be substituted in (b) by approval of the Linguistics Committee.

A minor in Linguistics shall consist of 18 credit hours composed of (1) either English 471 (3) or 3 hours from section (b) of the major, selected in consultation with the Linguistics Committee; and (2) 15 hours as follows: Audiology and Speech Pathology 305 (3); English 371 (3) or 372 (3); French, German, Russian or Spanish 425 (3) or 426 (3); and Linguistics 420-430 (3,3).

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

Medieval Studies

A major concentration in Medieval Studies consists of Medieval Studies 201 and 403 and 21 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 concentration in Medieval Studies focussed on 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 possibility by studying a very different and remote culture - its conditions of life, social and political institutions, values and ideals, and modes of perception and expression.

The program offers the most appropriate language for students in the Medieval Studies concentration and is essential for those who plan to continue their studies in graduate school. In addition, students planning to go on to graduate study in the Medieval Studies Coordinating Committee, chairperson Dr. Paul Barrette.

Category #1 History, Philosophy, and Political Science. History 312 Medieval History: 300-1100 (3); History 313 Medieval History: 1100-1400 (3); History 330 History of England to 1688 (3); History 334 History of Germany to 1815 (3); History 359 History of the Middle East (3); History 474 Studies in Medieval and Early European History (3); Philosophy 322 Medieval Philosophy (3); and Political Science 475 Ancient and Medieval Political Thought (3).

Category #2 Language and Literature. Classics 435 Medieval Latin (3); English 371 Foundations of the English Language (3); English 401 Medieval Literature (3); English 402 Chaucer (3); French 410 Medieval French Literature (3); Italian 401 Dante and Medieval Culture (3); and Italian 402 Petrarch and Boccaccio (3).

Category #3 The Arts: Architecture 415 Seminar in Medieval Architecture (3); Art 371 Early Christian and Byzantine Art to 1350 (3); Art 372 Northern European Painting, 1350-1600 (3); Art 381 Medieval Art of the West, 800-1450 (3); Art 382 The Art of Italy, 1250-1400 (3); and Music History 210 History of the Music to 1750 (3).
Russian and East European Studies

The major concentration consists of 30 hours from the following: Geography 375, six hours from History 340-341, Philosophy 393, Political Science 459 and four additional hours from Political Science 469, 574; Russian 311-312; Russian and East European Studies 410; and additional hours in courses numbered 301 and above offered by the Russian section of the Department of Germanic and Slavic Languages. Recommended prerequisites to the major concentration are the completion of Russian 201-202 and Russian Culture 371-372.

Urban Studies

Urban Studies is a valuable major concentration for students who plan to work in such areas as housing, real estate, development, neighborhood organization, and environmental design.

A major concentration in Urban Studies consists of a minimum of 30 semester hours, including Urban Studies 250, 350, 450, 460, and at least 15 additional semester hours from the Urban Studies curriculum.

A minor consists of 18 semester hours, including Urban Studies 250 and 350 plus additional semester hours from the Urban Studies curriculum. A prerequisite to this minor curricular planning should be done with an advisor in Urban Studies. For more information, contact the chairperson of the Urban Studies Committee.

Approved Courses in other departments: Geography 365 Geography of Appalachia; Rural Sociology 380 Rural Sociology; Sociology 383 The City, 462 Population; and Transportation 302 Transportation Principles and Policies.

Women's Studies

Women's Studies encourages inquiry into the full range of the human experience by raising new questions and opening new areas of research concerning women. The discipline enriches the traditional liberal arts curriculum and at least 15 additional semester hours on women's lives and accomplishments. Women's Studies can broaden the education of both male and female students by helping them to understand the limitations placed on both sexes by narrowly defined sex roles. Wherever there is a need to understand women and an interest in the new role they are playing in society, Women's Studies can enhance a student's career preparation and opportunities.

The Women's Studies Program offers a wide variety of courses, some interdisciplinary in nature and others originating in supporting departments throughout the university. These courses, may be taken as electives, they may be used to satisfy requirements in various colleges, or they may serve as a concentration in Women's Studies, within a Cultural Studies major or minor.

The major concentration in Women's Studies consists of 30 semester hours including one of the images of Women in Literature courses (either 210 or 215). Women in Society (220), Emergence of the Modern American Woman (310), at least three hours of Independent Study (493), and at least one course from each of the three major areas: Women's Heritage (301, 330, 382, 437, 145, 463), Contemporary Issues (375, 382, 410, 425, 434), and Literature and the Arts (330, 332, 422). As its content varies, 400 may be included in any of these areas. Students are encouraged to take at least nine hours in one of these areas. The Women's Studies minor consists of one of the Images of Women in Literature courses (either 210 or 215), Women in Society (220), and an additional 12 hours of upper-division Women's Studies courses. Approved special topics courses related to Women's Studies may also be applied toward a major or a minor.

Ecology

Dewey L. Bunting, Director

Basic Faculty:


Psychology: J. R. Carter, Ph. D. Geography; E. E. Clebsch, Ph. D. Botany.


The Graduate Program in Ecology offers Master of Science and Doctor of Philosophy degrees. This intercollegiate program provides advanced courses in contemporary ecology for students from undergraduate programs in basic and applied biology, social sciences, mathematics and engineering.

Research opportunities in both fundamental and applied ecology are intended to prepare students for academic careers as well as professional positions in industry or government. The Environmental Sciences Division of the Oak Ridge National Laboratory, the National Park Service, and the Tennessee Valley Authority provide advisors and research facilities. The Great Smoky Mountains, Cumberland Plateau, valley and ridge topography, TVA lakes and wild rivers provide locally a spectrum of natural habitats and consequent biological diversity that is truly unique. In addition, faculty research programs provide opportunities for student research elsewhere on this continent and abroad.

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, 37996-1610. Consult the Graduate Catalog for listing of graduate level courses.

Economics

See faculty list, page 57. 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.

Requirements for a B. A. major in economics consist of: (1) Economics 201 or equivalent honors courses as a prerequisite to the major and (2) Economics 311 and 313 plus 21 additional hours in upper division economics courses. Majors are encouraged to satisfy Part II of the Natural Science Distribution Requirement with one of the mathematics packages Mathematics 115-121 or 121-122, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.

A minor consists of: (1) Economics 201 and (2) 9 additional hours in economics at the upper division level. Minors are encouraged to include Economics 311 and 313. In addition, certification to teach economics in secondary schools is available. Students with such interest should consult the Certification Clerk, Room 212, Claxton Education Building as early in their program as possible to determine the appropriate requirements.
English

Prerequisites and Corequisites: (1) English 101 and 102, or the equivalents, are prerequisites to all English courses at the 200, 300, and 400 levels; and (2) as a graduation requirement for a B. A., each English major must complete the equivalent of the second year of a foreign language, maintaining a grade average of C in the courses used to fulfill this requirement (D's in some of these courses can be counted if the overall average is C or better). If a student earns less than a C average, he or she must repeat courses and/or petition the department for a waiver.

Major Requirements: At least 36 semester hours of course work in the English Department, 30 of which must be at the 300 or 400 level.

For all English Majors: (1) English 201-202 (British Literature), 221-222 (Literature of the Western World), or any two of 231-232-233 (American Literature). This requirement should be satisfied, if possible, before the student takes courses at the 300-400 level; and (2) English 371 or 372 (study of the English language).

Concentration in Literature: Nine English courses at the 300-400 level, including: (1) English 376 (Colloquium in Literature), to be taken, if possible, near the beginning of the student's major program; (2) at least four courses in literature before 1800, including at least two before 1800 (see departmental brochure, Undergraduate Study in English, for a course list); and (3) four other courses, at least one of which is based on an approach to literature other than literary history (see departmental brochure, Undergraduate Study in English, for a course list).

Concentration in Writing: Nine English courses at the 300-400 level, including: (1) a two-course sequence in expository, technical, or creative writing; (2) three other courses in writing; and (3) four other courses, at least three of which must be literature courses selected in consultation with the advisor.

Individualized Program: The Director of Undergraduate Studies is empowered to approve individualized programs developed by students in consultation with their advisors. These programs should be designed to achieve academically sound objectives that are not addressed by the above requirements.

Honor: For students who qualify, the English Department offers specially designed courses at the freshman, sophomore, and senior levels. The freshman and sophomore honors courses are enriched versions of regular sections in composition, in introduction to the various genres, and in American, British, and world literatures. Senior honors courses involve independent study leading to a comprehensive examination and a substantial paper. For further information, contact the Director of Undergraduate Studies in English.

An English minor consists of at least 15 semester hours of English courses at the 300-400 level.

Certification for Teaching: Students planning to teach English in public schools should contact Dr. W. Clark, Room 212, Claxton Education Building.

Graduate Study: Students wishing to enter a graduate program in English should address inquiries to the Dean of the Graduate School. To be accepted for graduate study in English, the student should have had at least eighteen semester hours in English courses above the freshman and sophomore level with a better than B average and a B average in all other undergraduate courses. Students who lack eighteen semester hours of undergraduate English may be required to take and pass with a grade of B or better a designated number of undergraduate courses at The University of Tennessee before being admitted to graduate study. Admission is also dependent on satisfactory GRE scores. Consult the Graduate Catalog for specific requirements.

French

See Romance Languages.

Geography

Concentration in Geography: Nine Geography courses at the 300-400 level, including: (1) Geography 310-311 (Introduction to Geography), to be taken, if possible, near the beginning of the student's major program; (2) at least four geography courses before 1900, including at least two before 1900 (see departmental brochure, Undergraduate Study in Geography, for a course list); and (3) four other courses, at least three of which must be literature courses selected in consultation with the advisor.

Individualized Program: The Director of Undergraduate Studies is empowered to approve individualized programs developed by students in consultation with their advisors. These programs should be designed to achieve academically sound objectives that are not addressed by the above requirements.

Honor: For students who qualify, the Geography Department offers specially designed courses at the freshman, sophomore, and senior levels. The freshman and sophomore honors courses are enriched versions of regular sections in composition, in introduction to the various genres, and in American, British, and world literatures. Senior honors courses involve independent study leading to a comprehensive examination and a substantial paper. For further information, contact the Director of Undergraduate Studies in Geography.

An English minor consists of at least 15 semester hours of English courses at the 300-400 level.

Certification for Teaching: Students planning to teach Geography in public schools should contact Dr. W. Clark, Room 212, Claxton Education Building.

Graduate Study: Students wishing to enter a graduate program in Geography should address inquiries to the Dean of the Graduate School. To be accepted for graduate study in Geography, the student should have had at least eighteen semester hours in Geography courses above the freshman and sophomore level with a better than B average and a B average in all other undergraduate courses. Students who lack eighteen semester hours of undergraduate Geography may be required to take and pass with a grade of B or better a designated number of undergraduate courses at The University of Tennessee before being admitted to graduate study. Admission is also dependent on satisfactory GRE scores. Consult the Graduate Catalog for specific requirements.

French

See Romance Languages.
**Geological Sciences**

Professors:
K. R. Walker (Head), Ph. D. Yale; H. J. Klepser (Emeritus), Ph. D. Ohio State; O. C. Kopp, Ph. D. Columbia; K. C. Misra, Ph. D. Western Ontario; F. E. McLaughlin (Emerita), Ph. D. Tennessee; H. Y. McSween, Ph. D. Harvard; L. A. Taylor, Ph. D. Lehigh; J. G. Walls (Emeritus), Ph. D. North Carolina.

Associate Professors:
D. W. Byerly, Ph. D. Tennessee; T. W. Broadhead, Ph. D. Iowa; M. Clark, Ph. D. Pennsylvania State; P. A. Delcourt, Ph. D. Minnesota; T. C. Labotka, Ph. D. Caltech; R. T. Williams, Ph. D. V. P. I.

Assistant Professors:
R. W. Arnseth, Ph. D. Northwestern; S. G. Driase, Ph. D. Wisconsin; M. McKinney, Ph. D. Yale.

Prerequisites to a B. S. major are: Geology 101-102; Chemistry 120-130; Mathematics 141-142; three semesters from Physics 131-132; Biology 110-120. This requirement includes a two-semester sequence in one area plus a single semester in the other; the single semester may be satisfied by high school coursework in that area.

**Major requirement consists of:** Geology 310, 320, 330, 340, 370 (16 hours); 3 courses from: Geology 410, 420, 440, 450, 460, 470, 480; and 6 hours of geology courses numbered 300 or above. Geology 440 (field camp) is strongly recommended for students planning a career in geology.

**Minor requirement consists of: Prerequisites:** Geology 101-102. Geology courses: at least 16 hours of courses numbered 200 or higher.

**Germanic and Slavic Languages**

Professors:
J. E. Falen, Ph. D. Pennsylvania; H. W. Fuller (Emeritus), Ph. D. Wisconsin; H. Kradt, Ph. D. Ohio State; Ph. D. Cornell; J. C. Osborne, Ph. D. Northwestern; M. P. Rice, Ph. D. Vanderbilt.

Associate Professors:
D. M. Fiene, Ph. D. Indiana; N. A. Lauckner, Ph. D. Wisconsin; D. E. Lee (Head), Ph. D. Stanford; C. J. Mellor, Ph. D. Chicago; U. C. Ritzehoff, Ph. D. Connecticut.

Assistant Professors:
C. Hodges, Ph. D. Chicago; J. Kolodziej, Ph. D. Indiana.

Instructors:
M. H. Harris, M. A. Illinois; A. Rashkovsky, M. A. Tartu.

Placement Examination. Students who have had previous work in German or Russian either in high school or at another college should take a placement test to determine what level course they should elect. Placement tests are given for incoming freshmen during orientation in the summer, and also the first week of each semester.

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

**Foreign Study.** Students are encouraged to study abroad, particularly through participation in the University's International Student Exchange Program (ISEP). The department is also prepared to recommend summer study programs and year abroad programs for students who are interested in foreign study. Credits from recognized foreign study programs can readily be transferred to UT. For qualified students, the department also offers German 491 Foreign Study and Russian 491 Foreign Study. Students should consult the department before registering for the foreign study course.

**B. A. Major in German.** Majors in German should carefully prepare their programs in consultation with a departmental faculty advisor. German 201-202 or the equivalent is a prerequisite to the major. The major shall consist of at least 24 hours of German in courses numbered above 300, (excluding courses in English translation or 331-332), and shall usually include German 301-302. In order to graduate, majors will be required to take a proficiency test in German. It is recommended that German majors also take History 151-152 or 334-335 and 6 hours of 200 level English courses. Majors are also strongly urged to consider a minor in some other area of the humanities.

**Minor in German.** German 201-202 or its equivalent is a prerequisite to the minor. The minor shall consist of at least 18 hours of German courses numbered above 300, which normally include German 301-302 and 12 additional hours of courses numbered above 300 (excluding 331-332 and courses in English translation).

**B. A. Major in Russian.** Russian 201-202 is a prerequisite to the major. Russian majors should prepare their programs in consultation with the departmental faculty advisor. The major in Russian shall consist of at least 30 hours of Russian courses including Russian 301-302: 311-312: 401-402: 451-452: and 6 hours from Russian 221, 222, 226, 321, 322, 326, 371, 372; or other courses numbered above 400. It is recommended that majors also take Russian History 340-341 and 6 hours of sophomore English. Majors are urged to consider a minor in some other area of the humanities.

**Minor in Russian.** Russian 201-202 is a prerequisite to the minor. The minor in Russian shall consist of at least 18 hours of Russian courses, including Russian 301-302; 311-312; and 6 hours from Russian 221-222 or other Russian courses numbered above 300.

**Greek**

See Classics.

**Hebrew**

See Religious Studies.

**History**

Professors:
J. H. Morrow, Jr. (Head and Alumni Distinguished Service Professor), Ph. D. Pennsylvania; P. H. Bergeron, Ph. D. Vanderbilt; E. V. Chmielewski, Ph. D. Harvard; R. E. Duncan, Ph. D. California (Berkeley); J. R. Finger, Ph. D. Washington; L. P. Graf (Benwood Distinguished Service Professor and Emeritus), Ph. D. Harvard;

Y. P. Hao (Lindsay Young Professor), Ph. D. Harvard; A. G. Haas, Ph. D. Chicago; R. W. Hawkins (Emeritus), Ph. D. California (Berkeley); C. O. Jackson (Associate Dean, Liberal Arts College), Ph. D. Emory; M. M. Klein (Alumni Distinguished Service Professor, Lindsay Young Professor and Emeritus), Ph. D. Columbia; L. A. Ratner (Dean, Liberal Arts), Ph. D. Cornell.

Associate Professors:
S. D. Becker, Ph. D. Case Western Reserve; J. D. Bing, Ph. D. Indiana; J. Bohstedt, Ph. D. Harvard; C. W. Johnson, Ph. D. Michigan; M. J. McDonald, Ph. D. Pennsylvania; J. Muldowny (Associate Head), Ph. D. Yale;

P. J. Pinckney, Ph. D. Vanderbilt;


Assistant Professors:
P. H. Brummert, Ph. D. Chicago; J. R. Farr, Ph. D. Northwestern; W. W. Farris, Ph. D. Harvard; C. B. Fleming, Ph. D. Duke;

C. L. Lansing, Ph. D. Michigan; C. D. Matson, Ph. D. Columbia; J. D. Miller, Ph. D. Duke.

Instructor:
D. B. Morrow, M. A. Tennessee.

The department's program is designed to provide students with a knowledge of their cultural traditions and of their world, past and present, and thus to prepare them for the responsibilities of citizenship in today's complex society. Students take history courses to develop their skills in thinking, reading, writing and speaking; to understand the links between past, present and future; and to assist them in their search for personal identity.

**B. A. Major.** Majors in history should prepare their programs in consultation with a departmental faculty advisor. History 151-152 (or their honors equivalents) or 161-162 are prerequisites to a major which consists of 27 hours, including: (1) 6 hours of History 251-252 (or their honors equivalents); and (2) 21 upper-division hours. The distribution of the upper-division courses shall be in such a way that they include at least one course dealing predominantly with a period prior to 1750 may count in the distribution and at least one course in each of the following

106 College of Liberal Arts/Geological Sciences
areas: (a) Europe-Latin America, (b) United States, and (c) Asia-Africa.

Minor. History 151-152 (or honors equivalents) are prerequisites to a minor which consists of 15 hours of courses numbered 200 or above, including at least: (1) 6 hours in United States history; and (2) 9 upper-division hours.

History for Non-Majors. The department welcomes non-majors in its courses. Few history courses have formal prerequisites.

Honors Program. The Department of History offers honors sections of the Western Civilization and United States history survey course. Some entering freshmen are invited to participate; other interested students may apply. These survey courses are open to non-majors. An honors major requires successful completion of two special courses at the junior level (307-308), and a senior thesis (407-408). The honors major consists of 33 hours, including 27 hours as outlined above, plus 307-308. All rising juniors who are declared history majors with an overall GPA of at least 3.0 are invited to join the Junior-Senior Honors Program. Students interested in honors work should consult the department's honors coordinator.

Human Services

The interdisciplinary program in Human Services is comprised of applied social sciences operating within the tradition of humanism, liberal thought, and concern for the values and dignity of persons. See the Department of Special Services Education in the College of Education for a statement of requirements for progression into the major. Courses offered in the Department of Special Services Education in the College of Education provide opportunity for a major in the College of Liberal Arts.

Requirements for a B.A. in Human Services include: (1) Special Services Education 220, 330, 380, 430, 440, 441; (2) 9 hours from a departmentally-developed list of professional electives; (3) Special Services Education 220, Psychology 360, and Sociology 375 to be used to fulfill the College Social Science distribution requirement; and three additional hours of Mathematics.

Italian

See Romance Languages.

Japanese

See Cultural Studies (Asian Studies).

Latin

See Classics.

Latin American Studies

See Cultural Studies.

Linguistics

See Cultural Studies.

Mathematics

Professors:
J. S. Bradley (Head), Ph. D. Iowa; G. E. Albert (Emeritus), Ph. D. Wisconsin, D. F. Anderson, Ph. D. Chicago; G. A. Baker, Ph. D. Cornell; J. H. Carruth, Ph. D. Louisiana State; C. E. Clark, Ph. D. Louisiana; R. E. Cline, Ph. D. Purdue; R. J. Davenport, Ph. D. Wisconsin; D. J. Dessart, Ph. D. Maryland; D. E. Dobbs, Ph. D. Cornell; E. D. Eaves (Emeritus), Ph. D. Texas; H. Frandsen, Ph. D. Illinois; J. A. George, Ph. D. Stanford; T. G. Hallam, Ph. D. Missouri; D. B. Hinton, Ph. D. Tennessee; A. S. Householder (Emeritus), Ph. D. Chicago; L. S. Husch, Ph. D. Florida State; G. S. Jordan, Ph. D. Wisconsin; B. A. Kupershmidt (Space Institute, Tullahoma), Ph. D. Massachusetts Institute Technology, H. T. Mathews, Ph. D. Tulane; R. M. McConnel, Ph. D. Duke; D. D. Miller (Emeritus), Ph. D. Michigan; B. S. Rapag, Ph. D. Illinois; K. C. Raddy (Space Institute, Tullahoma), Ph. D. Indian Institute of Technology; P. W. Schafer, Ph. D. Maryland; S. M. Serbin, Ph. D. Cornell; K. Soni, Ph. D. Oregon State; F. W. Stalling (Emeritus), Ph. D. Indiana; K. R. Stephenson, Ph. D. Wisconsin; E. Wachspress, Ph. D. Rensselaer Polytechnic Institute; W. R. Wade, Ph. D. California (Riverside); C. G. Wagner, Ph. D. Duke; J. J. Welsh, Ph. D. SUNY (Binghamton).

Associate Professors:
V. Alexiades, Ph. D. Delaware; N. Alilikos, Ph. D. Brown; J. Dydak, Ph. D. Warsaw (Poland); L. T. Gross, Ph. D. Cornell; O. Karakashian, Ph. D. Harvard; K. R. Kimble (Space Institute, Tullahoma), Ph. D. Ohio State; Y. Kuo, Ph. D. Cincinnati; S. Lenhart, Ph. D. Kentucky; J. Rosinski, Ph. D. Wroclaw University, W. H. Row, Jr., Ph. D. Wisconsin, H. Simpson, Ph. D. California Institute of Technology; J. Smith, Ph. D. California (Berkeley); B. K. Soni (Space Institute, Tulahoma), Ph. D. Texas; R. P. Soni, Ph. D. Oregon State; C. Sundberg, Ph. D. Wisconsin.

Assistant Professors:
L. Baies, Ph. D. Cornell; J. A. Haefner, Ph. D. Wisconsin; M. Kot, Ph. D. Arizona; J. Mulay, Ph. D. Purdue; B. K. Soni (Space Institute, Tulahoma), Ph. D. Virginia, Ph. D. John Hopkins.

Instructor:
C. G. Doss, M. A. Tennessee.

B. S. Major: Mathematics 141-142 (or the Honors version, 147-148) is prerequisite to a major in Mathematics. Majors must also have computer programming skills sufficient to take 371; students without other computing experience should take Computer Science 100, 101, or 102. The courses required for the major are: 231 Discrete Mathematics (3); 321 Numerical Algorithms I (3); 241 calculus II; or 247 Honors: Calculus III (4); 251 Matrix Algebra I; or 257 Honors: Matrix Algebra I (3); 323 Probability I (3); 341 Analysis I (3); 351 Algebra I (3); 371 Numerical Algorithms I (3); and nine additional hours selected from Mathematics courses numbered 421 through 472.

Honors B. S. Major: Candidates for an honors degree in Mathematics must fulfill all of the requirements for the B. S. degree in Mathematics, but take 12 (rather than 9) hours in Mathematics courses numbered 421 through 472. The grade point average computed on the 24 hours of Mathematics courses consisting of 323, 341, 351, and 371, plus the aforementioned 12 hours, will determine the honors category: GPA at least 3.4 - Honors; GPA at least 3.6 - High Honors. GPA at least 3.8 - Highest Honors. Students with credit for more than 12 hours in courses numbered 421 through 472 may designate the 12 hours to be included in the above average.

Minor: Mathematics 141-142 (or 147-148) is prerequisite to a minor in Mathematics. A minor in Mathematics consists of (1) 241 and 251; (2) 221 or 231; and (3) nine additional hours in Mathematics courses numbered 300 or higher. The grade in each of the above courses must be at least C.

Medieval Studies

See Cultural Studies.

Medical Biology/Memorial Research Center

The Department of Medical Biology of The University of Tennessee College of Medicine-Knoxville Unit was formed from the faculty of The University Memorial Research Center and Hospital in 1978. The Research Center was established in 1956. The faculty has research, education, and service interests in cancer, blood diseases, metabolism, neuroscience, birth defects, cytogenetics and clinical genetics. Courses in these areas are offered to students at the graduate and undergraduate levels. Elective courses are also available to students in the College of Medicine.

The faculty with the College of Veterinary Medicine participates in the graduate program leading to M. S. and Ph. D. degrees in Comparative and Experimental Medicine. Other advanced degree students can do thesis research in the department by arrangement with other life science departments at the University.

Microbiology

Professors:
A. Brown (Head), Ph. D. Chicago; R. W. Beck, Ph. D. Wisconsin; J. M. Becker, Ph. D. Cincinnati; D. A. Brian, Ph. D. D. V. M. Michigan State; T. C. Montie, Ph. D. Maryland; W. S. Riggby, Ph. D. Yale; B. T. Brown (Emeritus), Ph. D. Ohio State; B. V. Sc., Bristol (England); G. S. Sayler, Ph. D. Brown.

Assistant Professors:
G. M. Temple, Ph. D. Missouri; F. A. Nelson, Ph. D. Iowa; J. A. Edwards, Ph. D. Ohio State; C. F. Taylor, Ph. D. Wisconsin; J. D. Doud, Ph. D. Nebraska; M. A. H., Ph. D. Iowa; D. F. Anderson, Ph. D. Wisconsin; D. J. Tessier, Ph. D. California (Berkeley); M. S. Smith, Ph. D. Pennsylvania; D. W. Johnson, Ph. D. Wisconsin; M. A. D. G., Ph. D. Iowa; J. H. Smith, Ph. D. Illinois; K. J. Brown, Ph. D. Wisconsin; D. W. Johnson, Ph. D. Wisconsin; J. D. Doud, Ph. D. Nebraska; M. A. H., Ph. D. Iowa; D. F. Anderson, Ph. D. Wisconsin; D. J. Tessier, Ph. D. California (Berkeley); M. S. Smith, Ph. D. Pennsylvania; D. W. Johnson, Ph. D. Wisconsin; M. A. D. G., Ph. D. Iowa; J. H. Smith, Ph. D. Illinois.
Medical Technology

Courses in this major are open only to qualified students who have completed the first three years of the Science-Medical Technology Curriculum, described in the College of Liberal Arts curricula section of this catalog, and who have been approved by the Medical Technology Admissions Committee.

Music

Professors:


Associate Professor:

C. J. Wust, Ph. D. Indiana.


J. M. Woodward (Emeritus), Ph. D. Kansas; D. C. White (Distinguished Professor), Ph. D. Idaho; D. B. Northington, D. M. A. Yale; C. R. Huber, Ph. D. North Carolina; D. B. Northington, D. M. A. Yale; D. M. Pederson, Ph. D. Iowa; W. J. Starr (Emeritus), M. M. Eastman; D. D. Stutzenberger, D. M. A. Maryland; D. Van Vactor (Emeritus), M. M. Northwestern.

Electives:

9

Total: 130 hours

B. M. Curriculum in Sacred Music (Voice)

Sophomore

Religious Studies, Non-U.S. History or Social Science

Music 210, 220

Music History 210, 230

Music Performance 240

Music Elective

Music General 200

Electives

Senior

General Education

Music Education 210-230

Music Education 240-250

Music Performance 260

Music Elective

Music General 200

Electives

B. M. Curriculum in Sacred Music (Organ or Piano)

Hours Credit

Freshman

Music Theory 100, 120

Music History 120

Music Performance 100

Music Ensemble

Foreign Language

Music General 200

Music General 200

Music General 200

Music General 200

Mathematics, or Natural Science

Music History Elective

Music Theory 310

Music History 480, 490

Music Performance 355

Music Ensemble

Music General 200

Electives

Senior

General Education

Music Education 310-320

Music Voice 450-460

Music Elective

Music General 200

Electives

B. M. Curriculum in Sacred Music (Organ or Piano)

Hours Credit

Freshman

Music Theory 100, 120

Music Theory 130, 140

Music History 200

Music Performance 100

Music Ensemble

Foreign Language

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Music General 200

Science

Music History 180, 190

Music History 200

Music Performance 210

Music Elective

Music General 200

Electives
Music Theory 130, 140 2
Music History 200 6
Music General 200 2
Music General 200 0
Junior
Music Performance 392 6
Applied Music 1
Applied Music 1
Music Theory 310, 320, 420, 430, 440 15
Music History Elective 3
Music Ensemble 1
Music General 200 0
Music General 200 0
Total: 129 hours

1 Humanities-Arts (Non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.

B. M. Curriculum in Music History and Literature

Hours Credit

Freshman
English Composition 6
Music Theory 110, 120 6
Music History 130, 140 2
Music History 200 6
Applied Music 1
Applied Music 1
Music Ensemble 2
Music Keyboard Literature 2
Music General 200 0
Music General 301 0
Senior
Music Education 310 3
Applied Music Principal (400 level) 6
Applied Music Secondary 2
Music Theory 310 3
Mathematics, Natural Science 6
Music Keyboard Literature 2
Music General 200 0
Music General 401 0
Total: 128 hours

1 Humanities-Arts (Non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.
### B. M. Curriculum in Music Theory

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music History 200</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Applied Music</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Performance 180</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-U. S. History, Social Science</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>129 hours</td>
<td>129 hours</td>
<td>129 hours</td>
<td>129 hours</td>
</tr>
</tbody>
</table>

1. Humanities-Arts (non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.
2. Must be two years in either French or German.

### B. M. Curriculum in Studio Music and Jazz

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music History 200</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Applied Music</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Performance 180</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-U. S. History, Social Science</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>130 hours</td>
<td>130 hours</td>
<td>130 hours</td>
<td>130 hours</td>
</tr>
</tbody>
</table>

1. Humanities-Arts (non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.

### B. M. Curriculum in Piano Pedagogy and Literature

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Composition</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music History 200</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Applied Music</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Music General 200</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Music Performance 180</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-U. S. History, Social Science</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>131 hours</td>
<td>131 hours</td>
<td>131 hours</td>
<td>131 hours</td>
</tr>
</tbody>
</table>

1. Humanities-Arts (non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.
<table>
<thead>
<tr>
<th>Program</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>B. M. Curriculum in String Pedagogy</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music History 200</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>General Education</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total: 126 hours</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total: 127 hours</strong></td>
<td></td>
</tr>
<tr>
<td><strong>B. M. Curriculum in Voice</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music History 200</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total: 126 hours</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>2</td>
</tr>
<tr>
<td>Music History 210, 220</td>
<td>3</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>2</td>
</tr>
<tr>
<td>Music General 200</td>
<td>0</td>
</tr>
<tr>
<td>Music General 301</td>
<td>0</td>
</tr>
<tr>
<td>Music General 401</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total: 127 hours</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Organizational Psychology Program</strong></td>
<td></td>
</tr>
<tr>
<td>See Graduate School.</td>
<td></td>
</tr>
<tr>
<td><strong>Philosophy</strong></td>
<td></td>
</tr>
</tbody>
</table>

**Professors:**
- J. W. Davis (Head), Ph. D. Emory, R. E. Aguila, Ph. D. Northwestern; G. G. Brinkert, Ph. D. Michigan; L. B. Cebik, Ph. D. Nebraska; R. B. Edwards, P. D. Emory; G. C. Graber, Ph. D. Michigan; B. C. Postow, Ph. D. Yale; D. Van de Vate, Ph. D. Yale.

**Associate Professors:**

**Assistants:**
- H. P. Hamlin, Ph. D. Georgia; E. R. Jones III, Ph. D. Chicago; M. Lavin, Ph. D. Stanford.
Physics and Astronomy

Professors:
- W. M. Bugg (Head), Ph. D. Tennessee;
- C. R. Bingham, Ph. D. Tennessee;
- W. E. Blass, Ph. D. Michigan State;
- J. E. Brau, Ph. D. Massachusetts Institute of Technology;
- M. A. Breazelle, Ph. D. Michigan State; T. A. Callcott, Ph. D. Purdue;
- L. G. Christophorou, Ph. D. Manchester (England);
- G. T. Condo, Ph. D. Illinois;
- C. J. Craven (Emeritus), Ph. D. North Carolina;
- W. E. Deeds, Ph. D. Ohio State;
- J. B. Dicks, Jr., Jr. (Space Institute, Tullahoma);
- P. M. D. Vanderbilt;
- D. M. Mahan (Distinguished Scientist, Science Alliance Center of Excellence), Ph. D. University of California (Berkeley); A. A. Mason (Space Institute, Tullahoma), Ph. D. Tennessee; A. H. Nielsen (Emeritus), Ph. D. Michigan; F. E. Obenshain, Jr., Ph. D. Pittsburgh; L. R. Painter, Ph. D. Tennessee;
- D. J. Pegg, Ph. D. New Hampshire;
- L. L. Rieder, Ph. D. Vanderbilt;
- R. H. Ritchie, Ph. D. Tennessee; W. R. Rusk (Emeritus), M. S. Tennessee;
- H. C. Schweinler, Ph. D. Massachusetts Institute of Technology; I. A. Sellin (Alumni Distinguished Service Professor and Chancellor's Research Scholar), Ph. D. Chicago;
- C. C. Shih, Ph. D. Cornell;
- P. J. Siemens (Distinguished Scientist, Science Alliance Center of Excellence), Ph. D. Cornell;
- P. H. Stelson, Ph. D. Massachusetts Institute of Technology;

Associate Professors:
- M. J. Breining, Ph. D. Oregon; J. Burgdorfer, Ph. D. Freie Universitat Berlin;
- R. W. Childers, Ph. D. Vanderbilt;
- J. R. Crennell (Space Institute, Tullahoma), Ph. D. Colorado State; H. W. Crater (Space Institute, Tullahoma), Ph. D. Yale;
- W. A. Dunnill (Space Institute, Tullahoma), Ph. D. Florida; S. S. Elston, Ph. D. Massachusetts; W. M. Farmer (Space Institute, Tullahoma), Ph. D. Tennessee;
- T. Ferrell, Ph. D. Clemson; T. H. Handler, Ph. D. Rutgers; D. R. Keffer (Space Institute, Tullahoma), Ph. D. Florida; R. H. Kohl (Space Institute, Tullahoma), Ph. D. Ohio State; R. W. Lide, Ph. D. Michigan; S. Y. Shieh, Ph. D. Maryland; B. G. L. Ward, Ph. D. Princeton.

Assistants:
- S. J. Daunt, Ph. D. Quaers; R. DeSario, Ph.D. Chicago; R. Harmatz, Ph. D. Ohio State; S. P. Sorensen, Ph. D. Copenhagen.

Research Professor:
- H. D. Cohn, Ph. D. Indiana.

Research Associate Professors:
- D. L. McCorkle, Ph. D. Tennessee;
- S. R. Nave, Ph. D. Tennessee.

Research Assistant Professors:
- C-S, O. Ph. D. New York University;

Lecturer:
- T. Rieder, M. S. Vanderbilt.

Physics

B. S. Major
The undergraduate physics major provides a thorough introduction to all of the core disciplines of physics so that students are prepared to pursue related specialties at a later point in their career. Students with special interests are encouraged to pursue those interests through research projects and/or independent study under the direction of members of the physics faculty through Physics 493.

Prerequisites to the major are: Physics 131-132 or 137-138; Mathematics 141-142. The major consists of: Physics 231-232 or 237-238; Mathematics 231 and 241; Physics 311 (students intending to pursue graduate studies in Physics should also take 312 and 421 as electives) ; Physics 311-312 or 374-378, 487-488, and 21 additional hours numbered 300 and above. These 21 hours must include at least one course in each of the four areas of the discipline: United States Government and Politics/Public Administration.

International Relations: 365, 366, 370, 455, 469 and 470

Political Theory: 374, 475 and 476

Honors in Political Science: The Honors concentration encourages highly motivated students to obtain a superior liberal education and more rigorous preparation in the discipline. Admission is selective. The Honors concentration is normally a two year program. Political Science 101, 107 and 102 are prerequisites to the major which consists of thirty-six hours, Political Science 301, 387-388, and 21 additional hours numbered 300 and above. These 21 hours must include at least one course in each of the four areas of the discipline: United States Government and Politics/Public Administration; Comparative Government and Politics; International Relations; and Political Theory. To graduate with Honors in Political Science, the student must have a minimum GPA of 3.5 in Political Science, and a cumulative GPA of 3.0 or better.

Major in Political Science with a Concentration in Public Administration: Students majoring in Political Science who wish to prepare for a career in the public service may select to follow the concentration in Political Science. Political Science 101 or 107 and 102 and Economics 201 are prerequisites to a major in Political Science with a concentration in Public Administration. Corequisite courses are Mathematics 121 and 122 and Accounting 201 and 202. Majors must earn a "C" or better in prerequisite and corequisite courses. The concentration consists of 24 hours of upper division course work in Political Science and 12 hours of upper division course work in Economics. In Political Science, majors must include one course in each of the four fields of Political Science:

- Political Science professors:
  - L. J. Henderson, Jr. (Head), Ph.D. California (Berkeley);
  - R. S. Avery (Emeritus), Ph.D. Northwestern;
  - D. H. Carlisle (Emeritus), Ph.D. North Carolina;
  - J. R. Fitzgerald, Ph.D. Ohio State;
  - L. S. Greene (Emeritus), Ph.D. Wisconsin;
  - A. H. Hopkins, Ph.D. Syracuse;
  - R. A. Gorman, Ph.D. New York;
  - V. R. Iredell, Ph.D. Chicago;
  - W. Lyons, Ph.D. Oklahoma;
  - H. Pfai, Ph.D. Michigan;
  - T. R. Smith, Ph.D. State; O. H. Stephens, Jr. (Alumni Distinguished Service Professor), Ph.D. Johns Hopkins; T. D. Unger, Ph.D. Iowa; D. M. Webborn, Ph.D. Texas.

Associate Professors:
- R. B. Cunningham, Ph.D. Indiana;
- J. W. Dodd, Ph.D. Tulane; G. C. Evans, Ph.D. Columbia; M. R. Fitzgerald, Ph.D. Oklahoma;
- W. Fierman, Ph.D. Harvard;
- P. K. Freeman, Ph.D. Wisconsin; M. M. Gant, Ph.D. Michigan State; R. A. Gorman, Ph.D. New York;
- R. L. Peterson, Ph.D. Yale;

Assistant Professors:

B. A. Major:
Political Science 101 or 107 and 102 are prerequisites to the major which consists of 24 hours of courses numbered 300 and above. These 24 hours must include at least one course in each of the four areas of the discipline:


Comparative Government and Politics: 311, 350, 355, 361, 452, 454, 459, 460, 461, 463 and 464

International Relations: 365, 366, 370, 455, 469 and 470

Political Theory: 374, 475 and 476

Honors Major: Students majoring in Political Science who wish to prepare for a career in the public service may select to follow the concentration in Political Science. Political Science 101 or 107 and 102 are prerequisites to the major which consists of thirty-six hours, Political Science 301, 387-388, and 21 additional hours numbered 300 and above. These 21 hours must include at least one course in each of the four areas of the discipline: United States Government and Politics/Public Administration; Comparative Government and Politics; International Relations; and Political Theory. To graduate with Honors in Political Science, the student must have a minimum GPA of 3.5 in Political Science, and a cumulative GPA of 3.0 or better.

Major in Political Science with a Concentration in Public Administration: Students majoring in Political Science who wish to prepare for a career in the public service may select to follow the concentration in Political Science. Political Science 101 or 107 and 102 and Economics 201 are prerequisites to a major in Political Science with a concentration in Public Administration. Corequisite courses are Mathematics 121 and 122 and Accounting 201 and 202. Majors must earn a "C" or better in prerequisite and corequisite courses. The concentration consists of 24 hours of upper division course work in Political Science and 12 hours of upper division course work in Economics. In Political Science, students must include one course in each of the four fields of Political Science.

Political Science professors:
- L. J. Henderson, Jr. (Head), Ph.D. California (Berkeley);
- R. S. Avery (Emeritus), Ph.D. Northwestern;
- D. H. Carlisle (Emeritus), Ph.D. North Carolina;
- J. R. Fitzgerald, Ph.D. Ohio State;
- L. S. Greene (Emeritus), Ph.D. Wisconsin;
- A. H. Hopkins, Ph.D. Syracuse;
- R. A. Gorman, Ph.D. New York;
- V. R. Iredell, Ph.D. Chicago;
- W. Lyons, Ph.D. Oklahoma;
- H. Pfai, Ph.D. Michigan;
- T. R. Smith, Ph.D. State; O. H. Stephens, Jr. (Alumni Distinguished Service Professor), Ph.D. Johns Hopkins; T. D. Unger, Ph.D. Iowa; D. M. Webborn, Ph.D. Texas.
Science: American Government and Politics/Public Administration, Comparative Government and Politics, International Relations, and Political Theory. Students must also take Political Science 340, 440, 441 and 442. In Economics students must take Economics 311, 471, and 472.

**Psychology**


Associate Professors: J. M. Barlow, Ph. D. Tennessee; M. G. Johnson, Ph. D. Johns Hopkins; J. J. Kanclitas, Ph. D. Tennessee; K. A. Lawler, Ph. D. North Carolina; S. Loucks, Ph. D. Tennessee; J. W. Lounsbery, Ph. D. Michigan State; A. McIntyre, Ph. D. Yale; W. G. Morgan, Jr., Ph. D. Tennessee; R. S. Saudargas, Ph. D. Florida State; C. B. Travis, Ph. D. California (Davis).

Assistant Professors: L. Beever-Laurence, Ph. D. Tennessee; W. Berez, Ph. D. Tennessee; L. M. Coleman, Ph. D. Harvard; J. W. Erickson, Ph. D. Tennessee; L. T. Laurence, Ph. D. Tennessee; R. E. Levey, Ph. D. California School of Professional Psychology; F. M. Masters, Reserve; M. Rash, Ph. D. Ohio; F. W. Trautus, Ph. D. Tennessee; M. H. Waugh, Ph. D. Florida.

Major: Psychology 110 or 117 is prerequisite to a major consisting of 36 credit hours: (1) Psychology 210 or 220; (2) Three basic courses chosen from the following: 300; 310; 320; 330; 360; (3) Three courses on research, quantitative methods, and their application: Psychology 385 (or equivalent and 395), plus one of the following: 396, 399, 445, 459, 459, or 489; (4) Two upper-division courses chosen from the following: 400, 410, 420, 430, 440, 450, 461, 470, 480, 496; and (5) Three elective courses in Psychology, including at least two courses numbered 400 through 499.

For students who plan to seek graduate training in Psychology: Applicants to most graduate programs in Psychology are expected to take the Graduate Record Examination in Psychology by December of the year preceding the year they plan to graduate. The Psychology Department recommends that a prospective graduate student complete as many of the requirements for the major as possible before taking the examination. In addition to the minimum requirements for the major, the following courses are strongly recommended for prospective graduate students in psychology: one year of Biology or Zoology; one year of Calculus; one course in Computer Science; three or four additional Psychology courses chosen from 400, 410, 420, 430, 440, 445, 450, 461, 470, 480, 496.

Minor: Consists of 110 or 117; 210 or 220; 395 plus 12 additional upper-division hours.

**Religious Studies**

Professors: C. H. Reynolds (Head), Ph. D. Harvard; F. S. Lusby, B. D. Colgate (Rochester); D. L. Dungan, Th. D. Harvard; W. L. Humphreys, Th. D. Union; D. E. Linge, Ph. D. Vanderbilt; R. V. Norman, Jr. (Vice Provost), Ph. D. Yale.

Associate Professors: J. L. Fitzgerald, Ph. D. Chicago; M. L. Lavering, Ph. D. Harvard.

Assistant Professor: R. I. J. Hackett, Ph. D. Aberdeen.

Adjunct: J. D. Hodges, Ph. D. Chicago; L. M. Tober, Ph. D. Vanderbilt.

Major: Religious Studies 211 is recommended as a preliminary course for each of the two concentrations available. The basic concentration is designed to assure that students attain skills to analyze and interpret religious phenomena in different cultures and in different historical periods, including how sacred texts and traditions, and interpretations of critical reasoning, inform and are informed by religion. The basic concentration consists of at least 24 hours of religious studies courses chosen from 300 level or above, including one course from each of the first five categories listed below, and two courses from category six: (1) The roots of western religion, 311, 321, or 322; (2) religion and culture in South Asia, 374 or 376; (3) religion and culture in East Asia, 379 or 383; (4) religion and culture in the United States, 351 or 352; (5) critical thinking about religion, 301, 305, 342, or 371; and (6) two 400 level seminars on methods of interpreting religious phenomena, at least one of which must be 499. The remaining 3 hours which complete this major shall not include related language courses.

As an alternative to the basic concentration, a student-initiated concentration is available for students with special educational needs, as those who intend to enter a graduate or professional school (seminary, law, medicine) which recommends a specific course of undergraduate study. A faculty member in religious studies will assist a student to formulate this major consisting of at least 27 hours of credit at the 300 level or above, including 499. Up to 9 hours in this major may be taken in approved courses from other programs or departments in the College of Liberal Arts. Students whose vocational goals would best be served by such a major may form one with a faculty member in the department, who will submit any specific proposal to the faculty in religious studies for approval.

Further details on the major and on department courses are available in the department office, located in 501 McClung Tower, or from any member of the religious studies faculty. Minor: Fifteen hours of courses at the 300 level or above, not including related language courses. It is recommended that students minor in religious studies discuss their program with a member of the department faculty.

**Romance Languages**

Professors: John B. Romy (Head), Ph. D. Vanderbilt; P. E. Barrette, Ph. D. California (Berkeley); C. W. Cobb, Ph. D. Tulane; J. Elliott, M. A. Illinois; W. H. Hoff, Jr., Ph. D. Florida State; T. B. Irving (Emeritus), Ph. D. Princeton; F. D. Mauro (Emeritus), Ph. D. Columbia; C. R. M. Pinsky (Emeritus), Ph. D. California (Berkeley); M. Petrovska (Emeritus), Ph. D. Kentucky; A. M. Vazquez-Big (Emeritus), Ph. D. Minnesota; G. E. Wade (Emeritus), Ph. D. Ohio State; A. H. Wallace, Ph. D. North Carolina; Y. M. Washburn, Ph. D. North Carolina.

Associate Professors: W. F. Byess (Emeritus), Ph. D. Wisconsin; E. J. Campion, Ph. D. Yale; R. M. E. DeRyk, Ph. D. Illinois; D. M. DiPuzzo, Ph. D. Kansas; M. H. Handelman, Ph. D. Florida; K. D. Levy, Ph. D. Kentucky.

Assistant Professors: A. S. Allen, Ph. D. California (Berkeley); Charlotte G. Cox (Emeritus), M. A. Tennessee; C. K. Duncan, Ph. D. Illinois; Margaret Millereit, Ph. D. Florida; F. Perez-Pineda, Ph. D. Penn State; C. V. Rogers, Ed. D. Georgia; B. S. West, Ph. D. North Carolina; Paula Wilson (Emeritus), M. A. Tufts.

Instructor: M. T. Rabot, Cert. de Lic. Poitiers.

French Major: Consists of 27 hours in courses numbered 311 and above. All majors must have the following courses (or their equivalent with consent of the department): 311-312, 313; 341 or 342 or 345; 421; 422, 440; 3 hours of language oriented or civilization courses at the 300 or 400 levels. Literature concentration students must also have 6 hours of literature at the 400 level, 3 hours of which must be either 410, 411, 412, 413, 414, or 415.

Language concentration students must also have 9 hours of language-oriented or civilization courses at the 300 or 400 levels. French Minor: The minor consists of 18 hours in courses numbered 311 and above distributed accordingly: 311-312; 313; 341 or 342; 421; plus 3 hours of electives at the 300 or 400 levels.
Italian Major: Consists of 27 hours in courses numbered 311 and above. All majors must take 311, 312, 341, 542, and 401.

Italian Minor: Consists of 18 hours in courses numbered 311 or above. Students pursuing a minor must consult with a departmental advisor.

Portuguese Minor: Consists of 18 hours in courses numbered 300 or above. Students pursuing a minor must consult with a departmental advisor.

Spanish Major: Consists of 26 hours in courses numbered 311 or above. The following are required: 311; 312; 421; 422. Students must also have a minimum of 3 hours of civilization, either 431 or 471; a minimum of 6 hours of conversation and composition from 323, 324, 423 or 424; and a minimum of 6 hours of literature from 432, 435, 436, 450, 472, 473, 474, 479. Majors are encouraged to take as many hours as possible, especially the surveys, 435-436 and 473-474. Students must also take 459 and 460.

Spanish Minor: Consists of 18 hours in courses numbered 311 or above, including 311 and 312; 422; one course in Conversation and Composition from among the following: 323, 324, 423, 424; and the remaining courses to be chosen among conversation and composition, civilization, phonetics, or literature. Students pursuing a minor are strongly advised to consult with a departmental advisor.

Courses which are the equivalents of the foregoing may be substituted with the consent of the department. Courses in Spanish literature in English translation, however, may not be counted toward either a major or minor.

Placement Examination: Students who have had two or more year’s work in French, Italian, or Spanish in high school or one year’s work in another college should register in French 101, or Italian 101, or Spanish 101. During the first week of the semester a placement test will be given, and students will be advised if a change in registration is indicated.

Proficiency Examinations: Students who have acquired a knowledge of French, Italian, or Spanish through private study, tutoring, residence in foreign countries, or the like should initiate a request for a proficiency test in the Office of the Dean of Admissions and Records. A student earning a grade of C or better on such a test will receive credit for a limited number of courses. Superior students are encouraged to proceed as rapidly as their achievement permits.

Russian
See Germanic and Slavic Languages.

Russian and East European Studies
See Cultural Studies.

Sociology
Professors:
T. C. Hood (Head), Ph. D. Duke; D. M. Betz, Ph. D. Michigan State; J. A. Black, Ph. D. Iowa; D. J. Champion, Ph. D. Purdue; D. Cieland, Ph. D. Michigan State; D. W. Hastings, Ph. D. Massachusetts; D. R. Ploch, Ph. D. North Carolina; N. E. Shover, Ph. D. Illinois (Urbana); S. E. Wallace, Ph. D. Minnesota.

Associate Professors:
Robert D. Bullard, Ph. D. Iowa State; S. Kurth, Ph. D. Illinois (Chicago); R. G. Perrin, Ph. D. British Columbia; K. D. Van Liere, Ph. D. Washington State.

Assistant Professors:

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

Major: Prerequisites to the major are six lower-division hours in sociology which must include either 100 or 110, followed by 200. The major consists of 24 upper-division hours in sociology and must include 321 and 331. Students should complete these two courses by the end of their junior year.

Concentration in Criminal Justice: All prerequisites and upper-division courses required for general majors are required for this concentration. In addition, the concentration consists of 18 upper-division sociology courses as follows: 350, 351, 451, 459, 492, and one course selected in consultation with advisor.

Minor: The minor consists of 12 upper-division hours in sociology which must include 321 and 331. Prerequisites to the minor are six lower-division hours in sociology which must include 200.

College Scholars Honors
Director: Dr. Harry C. Jacobson

College Scholars is a major with selective admission. For details contact the director. All Scholars must enroll in one of the College Scholars Seminars 317-318 each term. They are encouraged to complete work in College Scholars Honors 491-492-493. Each student must complete a substantial piece of research, scholarship or creative imagination. College Scholars 498 is the appropriate course to use to receive credit for this work.

Spanish
See Romance Languages.

Speech Communication
Professors:
L. W. Lester (Head), Ed. D. Tennessee; M. L. Ambrester, Ph. D. Ohio; F. D. Julian, Ph. D. Tennessee.

Associate Professors:
J. E. Buckley, Ph. D. Northwestern; N. C. Cook, M. A. Alabama; R. W. Glenn, Ph. D. Northwestern.

Assistant Professor:
R. S. Ambler, Ph. D. Ohio State.

Major: Speech Communication 100 is prerequisite to a major which consists of Speech Communication 270, 300, 310, 330, either 350 or 460, and 12 additional hours in Speech Communication courses, of which 9 must be in courses numbered 300 and above. No more than 5 hours from Speech Communication 200, 271-272, 371-372, 491, 492, and 493 may be counted toward the major. Students interested in broad applications (e.g., teacher certification or religious training) may complete their required hours from a wide range of Speech Communication courses. In addition, specially designed options are available in (1) Interpersonal/Organizational Communication and in (2) Public Communication. Students should inquire in the Department Office for information and recommended advisors.

Minor: Speech Communication 100 is prerequisite to a minor which consists of 18 additional hours in Speech Communication courses numbered 200 or above. Additional information for planning minor areas of focus which will complement a wide variety of majors in other Liberal Arts fields as well as in other colleges is available in the Department Office.

Theatre
Professors:

Associate Professors:

Assistant Professors:

Major: Theatre 100 is prerequisite to a concentration which consists of (1) Theatre 210, 211, 220, 245, 250, 260, 310, and 311; (2) 12 additional hours of Theatre courses numbered 200 and above, 8 hours of which may be in cognate areas approved by the
department; (3) at least one half of the hours in the major must be at the 300 level or above; (4) only 8 hours of 380, 391, 480, 481 are applicable in the major.

Minor: Theatre 100 is prerequisite to a minor which consists of 15 additional hours of Theatre courses numbered 300 or above, 6 of which must be in history and criticism. General requirements for the master's degree are given in the Graduate Catalog.

**Statistics**

See faculty list on page 59.

Liberal Arts students may major or minor in statistics under the supervision of the faculty of the Statistics Department in the College of Business Administration. The major is designed to prepare students for graduation in statistics or for professional work in various applications of statistical methods, including applications in the natural and social sciences, business and industry. Contact the Statistics Department for further information on careers in statistics and appropriate courses to take. It is highly recommended that a student majoring in statistics have a minor in an area of application.

**Major:** (a) Required courses consist of 19 hours from Mathematics 241, 251; Statistics 251, 252, 411; Statistics 471 or Mathematics 323 or 425; (b) Statistics electives consist of 6 hours from upper-division statistics courses not listed in part (a); and (c) Electives consist of 9 hours to be selected from no more than two of the following groups: Computer Science 111, 331, 401, 403; Management 481; Mathematics 323, 404, 421, 425, 445-446, 447-448, 471-472.

**Minor:** (a) Required courses consist of 13 hours from Mathematics 241, 251; Statistics 251, 252; and (b) Statistics electives consist of 6 hours from upper-division statistics courses not in part (a) of the minor.

**Women's Studies**

See Cultural Studies.
College of Nursing

Sylvia E. Hart, Dean
Barbara M. Reid, Associate Dean

Professors:
S. E. Hart (Dean), Ph. D. New York;
D. H. Goodfellow, Ph. D. Peabody;
M. E. Groer, Ph. D. Illinois; J. N. Mozingo, Ph. D. Walden.

Associate Professors:

Assistant Professors:
M. T. Boynton, M. S. N. Emory; J. Brenson, M. S. N. Vanderbilt; K. P. Conlon, M. S. N. SUNY (Buffalo); G. A. Evans, M. S. N. Tennessee; C. Goforth, M. S. N. Vanderbilt; M. Kollar, M. S. M. Davis, Ph. D. Pennsylvania; M. M. Fenske, Ph. D. Vanderbilt; K. P. Conlon, M. S. N. Tennessee; C. Goforth, M. S. N. Vanderbilt; K. K. Conlon, M. S. N. Tennessee; C. Goforth, M. S. N. Vanderbilt; M. M. Fenske, Ph. D. Vanderbilt.

Instructors:
S. M. Bowen, M. S. Tennessee; K. B. Hamoer, M. S. N. Vanderbilt; N. Gaylord, M. S. N. Colorado.

The College of Nursing at The University of Tennessee, Knoxville, was established in July 1971 in response to a long-recognized need which existed for nurses prepared at the collegiate level. The undergraduate program combines the unique resources of the UTK campus with those of the university's comprehensive teaching hospital and several other cooperating health care agencies in a manner that enables both faculty and students to participate fully in all facets of the health care delivery system. The program is accredited by the National League for Nursing and has full approval status from the Tennessee Board of Nursing.

The baccalaureate nursing program has as its central focus and frame of reference human beings, society, and health. It is based on the belief that nursing has equal concern for the prevention of illness, the promotion of health, and the care of the sick. General education courses, nursing courses, and electives are organized in a manner designed to promote and develop creative thinking and other cognitive, affective, and psychomotor processes that are essential for effective nursing practice and for full and meaningful involvement as a contributing member of society.

A broad base of general education, a thorough study of human behavior, emphasis on health maintenance, health promotion, and health restoration and a strong family and community orientation are essential components of baccalaureate education in nursing. By maintaining a high quality, relevant program that is responsive to the increasing complexity of health care delivery, the ever changing health needs of society, and the changing and expanding role of the nurse, graduates of the program are able to:

1. Assume beginning leadership positions in nursing in a variety of settings;
2. Work collaboratively with other health professionals;
3. Function as socially conscious and contributing citizens; and
4. Pursue advanced education on either a formal or an informal basis.

General Requirements

In order to obtain a Bachelor of Science in Nursing degree students are required to successfully complete eight semesters of full-time study or the equivalent in part-time study. Students may complete the entire program at UTK or they may take most or all of the lower division component of the program at any regionally accredited college or university. One hundred-twenty semester hours are required for graduation. The program is designed to accommodate high school graduates, transfer students from within or external to UTK, and registered nurses who hold associate degrees in nursing or who are graduates of diploma nursing programs.

Progression Policies and Procedures

1. During the spring semester of the year the student expects to meet all lower division course requirements, she/he must complete a Petition for Progression form and submit it to the college's Student Affairs Office no later than the second Friday of UTK's spring semester. If the number of petitions exceeds the number of students that can be accommodated students will be selected on the basis of: (a) cumulative GPA for courses completed; (b) grades in required courses; (c) number of course withdrawals and repetitions; (d) grade improvement over time; and (e) probability of completing all lower division requirements prior to the following fall.

2. If a student is selected for progression to upper division nursing courses but then fails to successfully complete all lower division requirements prior to the fall semester, the student will not be permitted to enroll in nursing courses and must submit another petition the following year.

3. Registered nurses must also complete all lower division courses but, at the discretion of the faculty RN advisor, they may enroll in Nursing 305 once they are within 16 semester hours of meeting these requirements. Nursing 305 must be successfully completed before RN's may challenge or take Nursing 312, 402, or 412.

Grading and Continuation Policies

1. The minimum acceptable grade for all courses in the curriculum except humanities
electives is a "C". The satisfactory/no credit grading option is not available for nursing courses.

(2) No nursing course may be repeated more than once. If a "D" or "F" grade is earned on the second attempt the student will be required to withdraw from the program.

(3) Any student who receives a grade of "D" or "F" for more than two nursing courses will be required to withdraw from the program even if previous courses for which "D's" or "F's" were awarded have been repeated with a grade of "C" or higher.

(4) If a student receives an Incomplete "I" in a nursing course, the "I" must be removed prior to enrolling in any course for which the uncompleted course is a prerequisite.

(5) If a student's clinical performance for any nursing course is found to be unsatisfactory, the grade for that course will be an "F" regardless of any other grades earned in other components of the course. If the unsatisfactory clinical performance is characterized by unethical, unprofessional, or unsafe behavior, behavior that actually or potentially places the client in jeopardy, the student will be required to withdraw from the program.

Health and Insurance Requirements

Students must meet specific physical examination and immunization requirements as specified by state law and by the rules and regulations set forth by the various clinical agencies. All non-nurse students must participate in the college's group malpractice and liability insurance program. All registered nurses must provide proof that they have appropriate malpractice-liability insurance coverage. Specific information concerning these requirements will be provided to the students at appropriate times by the nursing faculty and the Associate Dean for Student Affairs.

Course Load

The maximum credit hours per semester for which a nursing student may register without special permission is 18.

The Bachelor of Science in Nursing Curriculum

Freshman

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 110, 115</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 100, 110</td>
<td>8</td>
</tr>
<tr>
<td>University Core</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 110</td>
<td>3</td>
</tr>
<tr>
<td>Sociology or Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 240</td>
<td>3</td>
</tr>
<tr>
<td>Zoology 230</td>
<td>3</td>
</tr>
<tr>
<td>Microbiology 210</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>Child and Family Studies 210</td>
<td>3</td>
</tr>
<tr>
<td>Sociology or Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Humanities Electives</td>
<td>3</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Philosophy 345</td>
<td>3</td>
</tr>
<tr>
<td>Nursing 301, 302, 304, 311, 313</td>
<td>29</td>
</tr>
<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>University Core or Humanities Electives</td>
<td>3</td>
</tr>
<tr>
<td>Nursing 401, 403, 404, 411</td>
<td>24</td>
</tr>
</tbody>
</table>

Total: 40 hours

Registered nurses must successfully complete all of the non-nursing courses listed above as well as the nursing courses listed below. Courses with an asterisk may be challenged.

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>*301 Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>304 Nursing Assessment and Health Promotion</td>
<td>4</td>
</tr>
<tr>
<td>305 Transition to Professional Nursing</td>
<td>4</td>
</tr>
<tr>
<td>*312 Acute Care Nursing Theory</td>
<td>6</td>
</tr>
<tr>
<td>313 Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td>315 Clinical Nursing Practicum</td>
<td>2</td>
</tr>
<tr>
<td>*402 Family Health Nursing Theory</td>
<td>3</td>
</tr>
<tr>
<td>403 Community Health Nursing</td>
<td>4</td>
</tr>
<tr>
<td>404 Nursing Management and Strategies</td>
<td>8</td>
</tr>
<tr>
<td>*412 Psychosocial Long Term Nursing Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 120 hours

Because the curriculum for RN's requires only 40 semester hours of nursing courses instead of the 53 hours required for non-nurse students, RN's must complete an additional 13 hours of electives to meet the 120 credit hours required for conferral of the degree.

The following courses are open to all university students: 214, 301, 317.

Graduate

General requirements for the Master of Science in Nursing degree are given in the Graduate Catalog.
College of Social Work

Ben P. Granger, Dean and Professor of Social Work, Ph. D. Brandeis University, The Florence Heller School for Advanced Studies in Social Welfare

Professors:
Gideon W. Fryer (Emeritus), Ed. D. Columbia University; Charles A. Gilson, Ph. D. Washington University; Roger M. Nooe, D. S. W. Tulane University; James D. Orten, D. S. W. University of Alabama.

Associate Professors:
Reginald Avery, Ph. D. Brandeis University; Thomas Cruithirds, D. S. W. Tulane University; Catherine A. Fayer, Ph. D. University of Michigan; Ellie Moses, D. S. W. University of California (Berkeley); Frank J. Spicuzza, M. S. W. University of Tennessee; Ann R. Wachter, M. S. W. University of Tennessee; Paul G. Zarbock, M. S. S. W. University of Wisconsin.

Assistant Professors:
Judith L. Fiene, M. S. W. University of Louisville; Jennette Jennings, Ph. D. University of Michigan; Denzel C. Johnston, M. S. W. University of California (Berkeley); Margaret P. Strong, M. S. W. Tulane University; Vicki G. Williams, M. S. W. Howard University.

Social work is a helping profession which focuses on providing skilled intervention in the prevention and amelioration of individual and societal problems. It is a challenging and rewarding career involving the application of knowledge, skills, and professional values to assist individuals, families, groups, and communities in reaching their potentials. The primary objective of the undergraduate social work program is to prepare students for beginning social work practice. It is the purpose of the College to provide an education which fosters growth in both individual and career development.

The program prepares students for social work careers in such diverse areas as agencies, nursing homes, courts, mental health centers, and welfare agencies. The degree provides graduates a competitive advantage in many jobs, the possibility of up to one year's standing in some master's degree programs in social work, and the potential to be licensed in a number of states throughout the nation.

The social work curriculum builds on a strong liberal arts base. The humanities and the social and behavioral sciences are emphasized to help students understand human diversity and the transactions between people and their environment. The curriculum combines classroom experience and agency-based field placements. Courses provide a knowledge base in social work practice theory, human behavior, social welfare policy, and research. Educationally directed field placements, which consist of over 400 clock hours of supervised field instruction in agency settings throughout greater Knoxville, provide extensive and challenging opportunities for students to apply the lessons of the classroom to the problems of society. The program is accredited by the Council on Social Work Education.

The undergraduate social work program (BSSW) started in 1982 in the College of Liberal Arts. It was granted initial accreditation by the Council on Social Work Education in January 1984, and reaffirmation was given in 1987. The program was transferred to the College of Social Work in September 1985. The three programs, BSSW, MSSW and Ph. D., in the College represent the full continuum of social work education.

Facilities

The College of Social Work is housed in Henson Hall, located on the corner of Cumberland Avenue and Volunteer Boulevard. This building houses the administrative and faculty offices, along with classrooms for the BSSW, MSSW and Ph. D. programs. Video and computer resources are available to facilitate instruction.

Graduate Program

The College of Social Work offers a fully accredited two year graduate professional degree at the master's level (MSSW). The College also offers a graduate program leading to a Doctor of Philosophy in Social Work (Ph. D.). Information concerning graduate programs is given in the College of Social Work Bulletin and also in the Graduate Catalog.

Grading Policy

The satisfactory/no credit option is not permitted in the major. The minimum acceptable grade for all social work courses is a C. Courses, other than field, in which a D or F is achieved may be repeated once. Field courses must be completed with a C or better, and may not be repeated. A student receiving an incomplete (I) in any social work course must remove the incomplete before enrollment in subsequent field practice.

Course Load

The maximum credit hours per semester allowed for any student is 18. Special permission must be obtained for any over load.

Progression Requirements

Students admitted to the University may request a faculty advisor from the College of Social Work. Students in the College must move through Initial and Full Progression. The following identifies progression criteria for all social work students:

1. Successful completion of Social Work 200 and 250 with a grade of C or better.
2. Cumulative grade point average of 2.0 or above.

Facilities

The College of Social Work is housed in Henson Hall, located on the corner of Cumberland Avenue and Volunteer Boulevard. This building houses the administrative and faculty offices, along with classrooms for the BSSW, MSSW and Ph. D. programs. Video and computer resources are available to facilitate instruction.

Graduate Program

The College of Social Work offers a fully accredited two year graduate professional degree at the master's level (MSSW). The College also offers a graduate program leading to a Doctor of Philosophy in Social Work (Ph. D.). Information concerning graduate programs is given in the College of Social Work Bulletin and also in the Graduate Catalog.

Grading Policy

The satisfactory/no credit option is not permitted in the major. The minimum acceptable grade for all social work courses is a C. Courses, other than field, in which a D or F is achieved may be repeated once. Field courses must be completed with a C or better, and may not be repeated. A student receiving an incomplete (I) in any social work course must remove the incomplete before enrollment in subsequent field practice.

Course Load

The maximum credit hours per semester allowed for any student is 18. Special permission must be obtained for any over load.

Progression Requirements

Students admitted to the University may request a faculty advisor from the College of Social Work. Students in the College must move through Initial and Full Progression. The following identifies progression criteria for all social work students:

1. Successful completion of Social Work 200 and 250 with a grade of C or better.
2. Cumulative grade point average of 2.0 or above.

Facilities

The College of Social Work is housed in Henson Hall, located on the corner of Cumberland Avenue and Volunteer Boulevard. This building houses the administrative and faculty offices, along with classrooms for the BSSW, MSSW and Ph. D. programs. Video and computer resources are available to facilitate instruction.
3. Successful completion of a minimum of 60 semester hours. Initial progression must be completed prior to enrollment in any 300-level social work courses.

4. Favorable review of the student’s application for entry into the junior level social work courses by the faculty admissions committee. The application requires an essay discussing the student’s interest in and preliminary understanding of the profession.

FULL PROGRESSION
1. Successful completion of junior level social work courses with a grade of C or better.
2. Cumulative grade point average of 2.0 or above.
3. Successful completion of a minimum of 90 semester hours. Full progression must be completed prior to enrollment in 400-level social work courses.
4. Favorable approval by the BSW faculty prior to entry into senior level classes. This process will include a close review of the student’s performance in junior field practice.

Full progression is based on the recognition that social work has an intensive field component in which students demonstrate aptitude and ability to work with other people. While review is ongoing, full progression provides an additional opportunity to review the students’ potential for entry-level practice.

---

### Curriculum

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>English 101, 102</td>
<td>Zoology 210, 220</td>
<td>Social Work 312, 313, 314</td>
<td>Social Work 412, 416</td>
</tr>
<tr>
<td></td>
<td>Mathematics 110</td>
<td>Anthropology 130</td>
<td>United States Studies</td>
<td>Social Work 480, 481</td>
</tr>
<tr>
<td></td>
<td>History 151-152 or 161-162</td>
<td>Humanities (Literature Package)</td>
<td>Sociology 336 or Psychology 385</td>
<td>Social Work 460</td>
</tr>
<tr>
<td></td>
<td>Physiology or Biology Sequence with lab</td>
<td>Humanities (Philosophy Package)</td>
<td>Social Work 310, 380</td>
<td>Anthropology 312</td>
</tr>
<tr>
<td></td>
<td>Women’s Studies 229</td>
<td>Psychology 220</td>
<td>Child and Family Studies 220</td>
<td>Electives</td>
</tr>
</tbody>
</table>

Total: 124 hours

---

1. The following sequences may be selected: Astronomy 161-162; Botany 110-120; Chemistry 120-130; Geography 131-132; Geology 101-102; Physics 121-122.

2. The following literature packages may be selected: Classics 253-254; English 201-202; English 221-222; English 231-232 or 233; Germanic and Slavic Languages 221-222; Religious Studies 312-313; French 251-292; Spanish 291-292.

3. The following philosophical packages may be selected: Classics 221-222; Philosophy 110-111; Philosophy 120-121; Philosophy 240-344; Philosophy 340-382.

4. One course selected from: Anthropology 310; Anthropology 315; Geography 363; History 379; History 380; History 385; Philosophy 390; Political Science 311; Political Science 374; Religious Studies 352; Sociology 343; Sociology 345; Speech 456.

5. One course selected from: Anthropology 314; Classics 383; Classics 385; English 302; Geography 371; Geography 372; Geography 373; Geography 375; Geography 379; Germanic and Slavic Languages 363; History 320; History 374; Philosophy 326; Political Science 300; Political Science 361; Political Science 466; Religious Studies 332; French 432; Spanish 431; Spanish 471; Sociology 446.
University Honors

Susan Becker, Director

TENNESSEE SCHOLARS PROGRAM

Each year, twenty-five outstanding high school students will be selected for a four year program of honors work. These students may have any major in any college offering the Bachelor's degree. In addition, Tennessee Scholars' work includes: a minimum of four lower division honors courses; a close relationship with a faculty mentor; a one credit hour Tennessee Scholars seminar each term for four years; and a senior honors paper or project. The Tennessee Scholars program is administered by the University Honors committee which includes representatives from each of the ten baccalaureate colleges and schools. Students are selected on the basis of ACT/SAT scores, high school GPA and the difficulty of the high school course of study, academic references, and a personal statement. Students who are selected as Tennessee Scholars are awarded substantial four year scholarships.

UNIVERSITY HONORS COURSES

Seminars and colloquia focused on various topics, issues, and problems, and limited in size to 15-20 students. These are taught by faculty from all ten undergraduate colleges and schools, and may be repeated. University Honors courses are open to all undergraduate students on the basis of high school GPA, ACT/SAT scores, UTK GPA of 3.25 or better, or by strong professorial recommendation.
University Studies

Glenn C. Graber, Director

The University Studies Program has three general objectives: (1) to foster interdisciplinary teaching and scholarship, especially across college boundaries; (2) to promote active, integrative, and personal training; and (3) to nurture the personal and intellectual development of faculty and students.

In pursuit of these objectives, University Studies sponsors three types of activities: FACULTY COLLOQUIES, which are ongoing, structured, interdisciplinary conversations on a topic or nexus of topics; LEARNING COMMUNITIES, which are year-long clusters of courses in which a group of faculty and students work together to integrate material from several disciplines dealing with a common theme; and INTERDISCIPLINARY COURSES, often team-taught, many stemming from the colloquy discussions.

Faculty Colloquies explore important contemporary issues which are sufficiently fundamental to involve the attention of faculty and students from all colleges. Current colloquies are: Technology, Society and the Common Good; Aging and Society; Land and People (Tennessee Appalachian Forum); Learning, Thinking, Creating; Forum on International Development; Humanistic Perspectives on Science and Society; and Freshman Year Experience.

The University Learning Community at the sophomore level has as its goals: (a) To form a community of learners, including both faculty and students; (b) To promote active involvement in learning by making use of case studies, active class exercises, small-group projects, and other alternatives to a lecture method of instruction; (c) To promote integrative learning by focusing on a common theme from the point of view of a variety of disciplines throughout a year-long series of courses; and (d) To integrate classroom learning with wellness activities and social interaction with other students and faculty of the learning community.

For further information, contact: Dr. Glenn C. Graber, Director; University Studies Program; 401 Student Services Building — PHONE: 974-4932.
Reserve Officers Training

Department of Military Science

Army ROTC

LTC Hugh E. Howard, III, Professor of Military Science

The military program at The University of Tennessee predates that of any other state university in the country, having been introduced in 1844. In that year, Professor Albert Miller Lea, a West Point graduate, organized an infantry company. With the outbreak of the Mexican War, the entire company, as well as thousands of other Tennesseans, volunteered for service in the war. Thus, Tennessee became known as the “Volunteer State”.

When The University of Tennessee reopened after the Civil War, a system of military discipline was adapted. A Code of Military Regulations was drawn up and a copy was provided each student when he matriculated. The whole institution was put under regular West Point discipline. The student body was organized into a battalion of cadets, which consisted of four companies fully officered, armed and equipped under the command of the commandant and his staff of cadet officers. The University of Tennessee remained as a Military Garrison for a period of six years, until 1877. Military Science continued to be taught, since the University of Tennessee was a Land Grant Institution and instruction in Military Science was required by the 1862 Act of Congress.

The National Defense Act of 1916 changed the old military organization into a ROTC unit. For the first time, the Federal Government began to pay a part of the uniform cost for basic course students; uniforms and other equipment were provided by the Government for Juniors and Seniors, and a monthly subsistence allowance was given to advanced course students.

From 1928-1930, Major (later Brigadier General) Robert R. Neyland was the Professor of Military Science and football coach at The University of Tennessee. Today, Neyland Stadium stands in tribute to his great accomplishments.

The purpose of Army ROTC is to provide professional education which will prepare students for appointment as commissioned officers in the Regular Army or the United States Army Reserve components.

Objectives of the program are to provide students with an understanding of the fundamental concepts and principles of military art and science; to develop a basic understanding of associated professional knowledge, a strong sense of personal integrity, honor, and individual responsibility, and an appreciation of the requirements for national security; and to establish a sound basis for the students’ future professional development.

ROTC draws young men and women for training from all geographical, economic, and social strata of our society as well as from the many educational disciplines required for the modern Army. The program insures that men and women educated in a liberal and broad spectrum of American institutions of higher learning are commissioned annually into the officer corps.

Satisfactory/No Credit Courses

Since Military Science is not a major course of study that leads to a degree in a specific academic discipline, the number of satisfactory/no credit courses is decided by the college of the student’s academic major. All ROTC courses are offered on a letter grade basis only.

Course Load

No more than one Military Science course may be taken during any given semester, unless an exception to policy is approved by the Professor of Military Science on a case-by-case basis. Students enrolled in the advanced program (upper division Military Science 300 and 400 level courses) and ROTC scholarship cadets are required to be full-time students, taking at least 12 hours each semester.

Course Substitution

On the basis of previous honorable active military service in any branch of the Armed Forces, or participation in a Junior ROTC Program at a Secondary School, a student may request exemption from portions of the Basic Course (Military Science 100 and 200 level courses). Placement credit may also be authorized for completion of basic training and advanced individual training. Exemption allowed will be determined by the Professor of Military Science. Military Science courses taken at other colleges or universities are transferable as approved by the Professor of Military Science.

Requirements for Enrollment and Continuance

The general requirements for enrollment and continuance in the Army ROTC program are:

1. Basic Military Studies
   a. Be a citizen of the United States.
   b. Be physically qualified.
   c. Freshman and Sophomore standing.
   Student with higher standing requires consent of instructor.

2. Advanced Military Studies Cadets applying for enrollment in the Advanced ROTC program who seek a Commission must:
   a. Have successfully completed Military Science 110, 120, 210 or have accomplished one of the following: Prior Military Service, ROTC Basic Military Studies - Practicum (MS 200), 3-Year High School ROTC Basic Course.
b. Have two years remaining at the University (either undergraduate, graduate or in pursuit of additional course work).

c. Have completed a minimum of 30 semester hours.

d. Be under 30 years old at time of commissioning.

e. Be enrolled as a full-time student, either at The University of Tennessee or at a nearby institution in a cooperative program.

f. Meet military screening and physical requirements.

g. Maintain a 2.0 G.P.A.

h. Maintain B average in Military Science Courses as a scholarship student.

NOTE: Regularly enrolled students who meet the academic prerequisites and do not desire a commission, may take individual courses as electives with the permission of the department head and academic advisor.

Requirements For All Military Science Commissionees

The following Military Science (MS) Advanced Course Curriculum must be successfully completed:

- Military Science 310 (4) - Advanced Military Studies I
- Military Science 320 (4) - Advanced Military Studies II
- Military Science 400 (4) - Advanced Camp-Practicum
- Military Science 410 (4) - Command and Staff Functions
- Military Science 420 (4) - Military Ethics and Law

In addition to a baccalaureate degree, there are required and recommended courses in designated fields of study that students must complete prior to commissioning. Students must meet these prerequisites by successful completion of required and elective courses taken from the university curriculum in the required areas of concentration.

Courses in the following designated fields of study are required of students seeking a commission in the United States Army:

a. One course in written communications.

b. One course in human behavior.

c. One course in military history.

d. One course in a foreign language (scholarship students only).

Courses in management and national security studies are strongly recommended but are not required.

Special Programs

Pay and Entitlements All students enrolled in the Army ROTC program are furnished texts by the Army through the Military Property Officer. Students enrolled in the ROTC Advanced Course receive uniforms and equipment plus an allowance of $100 per month during the academic year. While attending the ROTC summer studies each cadet receives approximately $650 for Advanced Summer Studies, $450 for Basic Summer Studies, plus meals and clothing are provided.

Army ROTC Scholarship Program The Army ROTC scholarship program offers financial assistance to outstanding young men and women in the Army ROTC program who are interested in the Army as a career. Each scholarship provides for free tuition, textbooks subsidy, and laboratory fees in addition to a subsistence allowance of $100 per month for the period that the scholarship is in effect. Scholarships may be awarded for either two, three, or four years. High school seniors should contact their guidance counselors early in August or September of their senior year to apply for the four-year scholarship. Two- and three-year scholarship applicants should contact the Professor of Military Science for further information. Certain other privately financed scholarships and grants are available to ROTC cadets.

Simultaneous Membership Program The “SMP” option combines the Army ROTC living allowance ($100/month) with membership in the Army Reserve or Army National Guard. Military Science cadets are required to take Military Science courses in designated fields of study that will qualify them for the branch to which they desire to be commissioned in any branch for which he or she is qualified and in which a need for officers exists. After graduation and commissioning, the officer will attend a service school for further specialized military training which will qualify him or her for the branch to which he or she is assigned.

Extra Curricular Activities Numerous military-related activities are available to cadets throughout the school year. These include the Tennessee Rangers, Rifle Company, UT Color Guard and Sponsor Corps. These organizations provide both student to student contact and a valuable opportunity to acquire military skills. Additionally, each term, a number of Field Training Exercises are conducted allowing such military skills as Small Unit Tactics.

Variations to these sequences of study may be approved by the Professor of Military Science on a case-by-case basis. Total Military Science hours offered is 32. Maximum total Military Science hours applicable for commission is 28. Minimum total Military Science hours applicable for commission is 20. Lower division credit hours granted by the University for military service are dependent upon time spent in service and service schools attended.

Progression Requirements

1. Minimum semester hours/GPA for entrance into Basic Military Studies - Practicum (Military Science 200): 30 semester hours/2.00 GPA

2. Minimum overall GPA for entrance into the advance course (Military Science 310, 320, 400, 410, 420): 2.00

3. Minimum GPA in Military Science Courses: 2.00

4. Minimum overall GPA for commissioning: 2.00

5. Quarterly counseling sessions with advisor required for Advance Course and scholarship students only

6. Officer Selection Battery test.
Department of Air Force

Air Force ROTC Program

Professor of Air Force Aerospace Studies: Colonel Arthur W. Ahl (Head); M. S. Troy State.

Assistant Professors: Captain Robert J. Dowd, M. S. University of Southern California; Captain Richard E. Lee, M. S. University of Southern California; Captain Richard L. Modell, M. S. AF Institute of Technology.

Purpose

The Air Force Reserve Officers Training Corps (AFROTC) is an educational program designed to provide the college student an opportunity to earn an Air Force commission as a Second Lieutenant while completing the University requirements for a bachelor's degree. The program provides education that will develop the skills and attitudes vital to the professional Air Force officer. Upon successful completion of the program and graduation from the University, students are commissioned as Second Lieutenants and enter active duty.

The Programs

The Four-Year Program: Students entering the Four-Year Program may register for the program at the same time and in the same manner as they enroll in their other college courses and there is NO MILITARY OBLIGATION. During their freshman and sophomore years, students enroll in the General Military Course (GMC). They then may compete for entry into the Professional Officer Course (POC) which is normally taken during the last two years of college. Selection into the POC is highly competitive and is based on being medically qualified; scores achieved on the Scholastic Aptitude Test (SAT) or American College Test (ACT); scores achieved on the Air Force Officer Qualifying Test (AFOQT); successful completion of a four-week field training course at an Air Force base; and the recommendation of the Professor of Aerospace Studies.

The Two-Year Program: The Two-Year Program consists of the Professional Officer Course (POC), the last two years of the Four-Year Program. It is designed to provide greater flexibility to meet the needs of students desiring Air Force opportunities. The basic requirement is that applicants have two academic years remaining at either the undergraduate or graduate level, or a combination of both. After being nominated by the Professor of Aerospace Studies, applicants seeking enrollment in the Two-Year Program are evaluated using the same criteria used for the four-year program except the length of the field training course is six weeks. Additionally, every POC applicant must agree to take and successfully complete a course in mathematical reasoning or its equivalent before graduation and commissioning.

Since the processing procedure must be completed approximately six months in advance of intended enrollment, interested students must apply early in the academic year preceding the fall term in which they intend to enter the program. Application should be made in person to the Department of Aerospace Studies.

Women in AFROTC

AFROTC at The University of Tennessee has been coeducational since 1970. Women complete the same courses as men and have the same opportunities. Upon successful completion of the AFROTC program and degree requirements, women are commissioned in the Air Force as Second Lieutenants. Pay and job opportunities are equal for women and men. Virtually all career fields in the Air Force are open to women, including pilot and navigator positions.

Scholarship Program

Air Force ROTC Scholarships are available to qualified applicants in both the Four- and Two-Year Programs. Each scholarship provides full tuition, laboratory and incidental fees, and book fee. In addition, scholarship cadets receive a non-taxable $100 stipend each month during the school year while on scholarship status.

High School Students: Competitive four-year scholarships are available to high school male and female students who enroll in certain scientific and engineering career fields. Some scholarships are also available to male and female students who enroll in certain non-technical majors. Four-year scholarship applications are contained in the "Air Force ROTC Four-Year College Scholarship Program Application Booklet". Booklets may be obtained directly from Air Force ROTC Public Affairs, Maxwell, AFB, AL 36112.

College students: Other scholarship opportunities exist for students already in college. Four-, three-, and two-year scholarships are available on a competitive basis and the student must have at least four, three, or two undergraduate or graduate years of study remaining in order to compete. Applications for these scholarships should be made directly to the Department of Aerospace Studies.

In order to retain an AFROTC scholarship, students must maintain the minimum grade point average prescribed by the university and must take and complete an English composition course or its equivalent before completing the GMC.

Pay and Entitlements

All cadets enrolled in AFROTC are furnished texts and uniforms. Enrollees are required to deposit $75 as security to the University against loss or damage to the uniforms. The deposit, minus a nominal fee to cover cost of shoes, is returned to the student upon early withdrawal or disenrollment from the program. Professional Officer Course cadets receive a subsistence allowance of $100 per month during the academic year. In addition they are paid mileage to and from field training, plus pay commensurate with active duty rates while at field training.

Active Duty Commitments

Commissioned graduates going into non-flying duties will be required to serve four years of active duty. Those graduates going into pilot assignments will be required to serve eight years active duty after completion of pilot training. Those graduates going into navigator assignments will be required to serve five years active duty after completion of navigator training.
Graduate Studies

The College of Law
Marilyn Yarbrough, Dean
Mary Jo Hoover, Associate Dean
Julia P. Hardin, Associate Dean
Patrick Harbin, Associate Dean
John A. Sebert, Jr., Associate Dean
N. Douglas Wells, Assistant Dean

The College of Law has, since 1890, continuously sought to provide high quality legal education in a University community. The college offers a professional curriculum leading to the degree of Doctor of Jurisprudence. The College of Law and the College of Business Administration offer a coordinated dual degree program leading to the conferment of both the Doctor of Jurisprudence and the Master of Business Administration degrees.

Information regarding admission, financial aid, academic policies, extracurricular activities, and student services is available in the "College of Law Bulletin". A copy may be obtained from the Admissions Office. The University of Tennessee, College of Law, 1505 W. Cumberland Avenue, Knoxville, Tennessee 37996. Completed application should be received before February 1 of the year of expected admission.

College of Veterinary Medicine
Hyram Kitchen, Dean
W. H. Grau, Jr., Associate Dean
C. F. Reed, Jr., Associate Dean

The College of Veterinary Medicine, established in 1974, offers a professional curriculum leading to the degree of Doctor of Veterinary Medicine (D. V. M.). The college offers graduate studies leading to the degrees of Master of Science (M. S.) and Doctor of Philosophy (Ph. D.). Residency training programs in the various clinical specialties are also offered. The Graduate Catalog contains complete information concerning the programs in the college.

Forms and instructions for making application for admission may be obtained from the Director of Admissions, 202 Student Services Building, The University of Tennessee, Knoxville, Tennessee 37996. Applications must be received by January 15 of the year of expected admission. All pre-veterinary requirements must be completed by the end of the spring term of the year in which the student plans to enroll in the college.

The Graduate School
C. W. Minkel, Vico Provost and Dean of The Graduate School
Wayne T. Davis, Assistant Dean of The Graduate School
Linda R. Painter, Assistant Dean of The Graduate School
Diana Lopez, Director, Graduate Admissions and Records
S. Kay Reed, Graduate Recruitment Coordinator
Ann L. Lacava, Thesis/Dissertation Coordinator
Rose Ann Trantham, Assistant Director, Graduate Admissions and Records

The University of Tennessee, Knoxville, is the official land-grant institution for the State of Tennessee. It is a comprehensive institution offering a wide range of graduate programs leading to the Master's and doctoral degrees. The University offers Master's programs in 52 fields of specialization and doctoral work in 93. Approximately 5,700 graduate students are enrolled, both on and off campus. Administration of graduate student policies and procedures, and associated record keeping, is the responsibility of the Dean of The Graduate School. Much of the day-to-day administration of graduate study is conducted by department heads or faculty advisors and committees responsible for particular programs. In addition to departmental units, numerous interdisciplinary programs, institutes and centers have been developed on campus and in locations throughout the state.

The Graduate School brings together faculty and graduate students as a community of scholars with a common interest in creative work and advanced study. Graduate programs are available to students desiring full-time study toward the Master's and doctoral degrees or professional certification, those interested in continuing education for updating and broadening knowledge, and those pursuing postdoctoral research. Traditionally, universities have provided graduate programs primarily for full-time, degree-oriented students. Serving the needs of students engaged full-time in intensive study and pursuit of a degree continues to be a major emphasis of UTK's graduate effort. At the same time, the University employs a variety of modes, traditional and non-traditional, in offering quality programs designed to serve students.

Complete information concerning graduate study at The University of Tennessee, Knoxville is available in the Graduate Catalog published annually. For a copy, write or visit the Office of Graduate Admissions and Records, 218 Student Services Building, The University of Tennessee, Knoxville, Tennessee 37996-0220 or call (615) 974-3251.

Graduate School of Biomedical Sciences
Raymond A. Popp, Acting Director

FULL-TIME FACULTY

Professors:
D. Billen, Ph. D. Tennessee; D. E. Olins, Ph. D. Rockefeller.
Assistant Professor:
C. Soumoff, Ph. D. California (Los Angeles).
Graduate School of Library and Information Science

Ann E. Prentice, Director

Professors:

Associate Professors:

Assistant Professor:
M. H. Karrenbrock, Ed. D. University of Georgia.

The Graduate School of Library and Information Science provides a program leading to the preparation of librarians and information scientists for work in all types of libraries and information centers.

The Undergraduate Program

The undergraduate library education program leads to a minor in the College of Education or the College of Liberal Arts. Students in other colleges may elect a minor in library and information science with the approval of their faculty advisors. The undergraduate minor is planned for the following groups of people: (1) students preparing for positions as school librarians in elementary and secondary schools; (2) teachers who wish to become better acquainted with books and other instructional materials; (3) school administrators who wish to explore the place of the library in the instructional program; (4) prospective candidates for the graduate program in library education; (5) persons seeking a position at the level of Library Associate as described in the manpower policy of the American Library Association.

The minimum requirements for a full-time position as school librarian in the state of Tennessee (both elementary and secondary) can be met through fulfilling the requirements for teacher certification and completion of the following library courses: 300, 340, 475, 510, 530, 551, 564, and 574.

The Graduate Program

The goal of the program is to prepare graduates to function effectively in libraries and information centers. For further information, write for a Graduate Catalog.

Life Sciences

Coordinating Council
H. L. Adler (Chair); Physiology: R. Bagby; Biotechnology: D. K. Dougall; Cellular, Molecular and Development Biology: J. M. Becker; Environmental Toxicology: W. R. Farkas; Ethology: G. B. Burghardt; Plant Pathology and Genetics: O. J. Schwarz.

The programs leading to the M. S. and Ph. D. degrees in Life Sciences are interdisciplinary and intercollegiate programs which augment the programs of individual departments.

The graduate program in Life Sciences supports studies and research in the following concentrations: physiology; biotechnology (M. S. only); cellular, molecular and development biology; ethology; environmental toxicology; and plant physiology and genetics. Students interested in any of these areas should contact either the chair of Life Sciences or the Director of the area of interest. For complete information, refer to the Graduate Catalog.

Graduate School of Planning

J. A. Spencer, Director

Professors:

Associate Professors:
G. E. Bowen, M. A. George Washington; P. Fisher, Ph. D. Florida State.

The Graduate School of Planning offers a program of studies leading to the professional degree of Master of Science in Planning.

Space Institute

Kenneth E. Harwell, Dean
Richard M. Roberds, Associate Dean

The Space Institute is a graduate education and research institution established in 1964 on a 365 acre lakeshore campus in Middle Tennessee. UTI has evolved into an internationally recognized institution for graduate study and research in engineering, physics, mathematics, and computer science. The accredited academic programs and educational policies of the Space Institute have their origins in appropriate departments of The University of Tennessee, Knoxville. The more than 40 faculty members of the Institute carry out research programs through classroom teaching, informal seminars, active research, and directing the research of their students in an environment of creative work and advanced study. Graduate programs are available to students devoting full-time effort toward M. S. and Ph. D. degrees those
interested in continuing education for updating and broadening knowledge, and those who wish to pursue post-doctoral research.

Graduate degree programs are available with majors in Aerospace Engineering, Aviation Systems, Computer Science, Electrical Engineering, Engineering Science, Industrial Engineering (engineering management concentration), Mathematics, Mechanical Engineering, and Physics. In addition to the fundamental studies characteristic of each discipline, research opportunities are available in many areas including aerodynamics, atmospheric science, fluid mechanics, computer graphics, knowledge engineering, energy conversion processes, thermal sciences, space systems, remote sensing, propulsion, computational fluid dynamics, and other aspects of atmospheric and space flight.

The Institute has an established Center of Excellence in Laser Applications and offers graduate studies and research opportunities in laser diagnostics, laser materials interactions, picosecond processes, and coherent and non-linear optics.

The Institute was established in part to increase the research and engineering resources of Tennessee through education and practice in relevant scientific and technical areas and in part to interface University faculty and student research with the Air Force Arnold Engineering Development Center. The faculty, research activities, and facilities of the Institute and those available at Arnold Center through appropriate contractual arrangements provide students an unusual opportunity for significant research in these areas. Students who enroll at UT SI and admitted to The Graduate School, The University of Tennessee, Knoxville. Graduate Research Assistantships are available for qualified students. Further information may be obtained from the Dean, The University of Tennessee Space Institute, Tullahoma, Tennessee 37388.

Transportation Center
E. William Colglazier, Director

The Transportation Center, utilizing an interdisciplinary approach to transportation research, brings together both University faculty and students in a setting conducive to the solution of problems associated with the transportation of goods and people. The Center provides support for undergraduate and graduate students, as well as faculty, in projects associated with research in the field of transportation. Such support, while providing needed financial assistance to students, enables the Transportation Center to undertake research that ultimately contributes to the solution of the nation's transportation problems.

Water Resources Research Center
E. William Colglazier, Director

The Water Resources Research Center is a federally designated institute for the conduct of water research for the state. The purposes of the Center are: (1) to assist and support all the academic institutions of the state, public and private, in pursuing water resources research which addresses a wide range of problems of interest to the state, region, and nation; (2) to provide information, dissemination and technology transfer services to state and local government bodies, academic institutions, professional groups, environmental organizations, and others, including the general public, who have an interest in water resources matters; and (3) to promote education in fields relating to water resources and to encourage the entry of promising students into careers in these fields.
## Majors and Degree Programs

<table>
<thead>
<tr>
<th>College of Agriculture</th>
<th>DEGREE</th>
<th>Food Systems Administration</th>
<th>DEGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Extension Education</td>
<td>M.S.</td>
<td>Home Economics</td>
<td>M.S.</td>
</tr>
<tr>
<td>Agricultural Economics</td>
<td>M.S., Ph.D.</td>
<td>Human Ecology</td>
<td>M.S., Ph.D.</td>
</tr>
<tr>
<td>Agricultural Engineering</td>
<td>M.S., Ph.D.</td>
<td>Interior Design</td>
<td>M.S.</td>
</tr>
<tr>
<td>Agricultural Engineering Technology</td>
<td>M.S.</td>
<td>Nutrition</td>
<td>M.S.</td>
</tr>
<tr>
<td>Animal Science</td>
<td>M.S.</td>
<td>Textiles and Apparel</td>
<td>M.S.</td>
</tr>
<tr>
<td>Entomology and Plant Pathology</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Technology and Science</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forestry</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ornamental Horticulture and Landscape Design</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plant and Soil Science</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wildlife and Fisheries Science</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Business Administration</td>
<td>M.Acc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>M.B.A., J.D., M.B.A., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Administration</td>
<td>M.A., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td>Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management Science</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statistics</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Communications</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Education</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult Education</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art Education</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Education</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College Student Personnel</td>
<td>M.S., Ed.S., Ed.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Curriculum and Instruction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Administration and Supervision</td>
<td>M.S., Ed.S., Ed.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Psychology</td>
<td>M.S., Ed.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educational Psychology and Guidance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guidance</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Education</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Education</td>
<td>M.S., Ed.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Education</td>
<td>M.P.H.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Health</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreation &amp; Leisure Studies</td>
<td>M.S., Ed.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rehabilitation Counseling</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Safety Education and Service</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Health Education</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Special Education</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vocational-Technical Education</td>
<td>M.S., Ed.S., Ed.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aerospace Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>M.E., M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>M.E., M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engineering Science</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Engineering</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial Engineering</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Metallurgical Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuclear Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polymer Engineering</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Human Ecology</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child and Family Studies</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food Science</td>
<td>M.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Liberal Arts</td>
<td>M.A., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anthropology</td>
<td>M.F.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Art</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Audiology</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biochemistry</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Botany</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer Science</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>French</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geology</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>German</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>M.A., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microbiology</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Modern Foreign Languages</td>
<td>Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td>M.Mus., M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Philosophy</td>
<td>M.A., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td>M.E., M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td>M.A., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychology</td>
<td>M.A., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public Administration</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sociology</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech and Hearing Science</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speech Pathology</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theatre</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoology</td>
<td>M.A.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Nursing</td>
<td>M.S.N.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Social Work</td>
<td>M.S.S.W., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Work</td>
<td>(Memphis, Nashville, and Knoxville)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>College of Biomedical Sciences</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biomedical Sciences</td>
<td>M.S., Ph.D.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School of Library and Information Sciences</td>
<td>M.S.L.S.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library Science</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School of Planning</td>
<td>M.S.P.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ACCOUNTING

201 Principles of Financial Accounting (3) Introduction to financial accounting theory and practice with emphasis on preparation and reporting of financial information. Prerequisite to all other courses in accounting. Prereq: Mathematics 110 or 121 or equivalent. E

202 Principles of Managerial Accounting (3) Introduction to managerial and cost accounting concepts with emphasis on uses of accounting data by managers in planning operations, controlling activities, and decision making. Prereq: 201. E

311-312 Intermediate Financial Accounting (3,3) Theory, principles, and procedures related to valuation of assets, liabilities and equities; measurement of periodic income; and preparation of financial statements. Prereq: 202 for 311; and 311 with a grade of C or better and Management 303 for 312. E

321 Cost and Managerial Accounting (3) Analysis of costing for products, projects, and management control. Topics include cost behavior, cost prediction, budgeting, and responsibility accounting. Prereq: 202. Prereq or Coreq: Management 303. E


400 Special Topics (3) Critical consideration of selected current topics. May be selected from managerial, cost, financial, systems or auditing. May include written reports and cases. Prereq: 312, 321, and 341 and consent of instructor. 

411 Auditing (3) Role of auditing in society, operational auditing; professional auditing standards; auditor’s legal responsibilities; audit evidence and reporting, role of internal control and statistical sampling in auditing, applications to specific transaction cycles. Prereq: 312, 341, F, Prereq or Coreq: Management 303. E


431 Federal Income Taxation (3) Fundamentals of gross income, deductions, credits, and tax determination. Introduction to taxation of corporations and partnerships. Prereq: 311 or consent of instructor. E

ADVERTISING

250 Advertising Principles (3) Survey of the role of advertising in American business and society. Relationship between advertising and marketing; functional components of the advertising process: research, media, creative, and management. Prereq or Coreq: Management 303. E

340 Advertising Research Methods (3) Secondary data and primary research techniques for advertising decisions. Prereq: 250 with a grade of C or better and Statistics 201. E

350 Advertising Creative Strategy (3) Basic concepts of creative strategy with intensive practice in developing creative platforms, writing and designing advertisements, and judging creative work. Prereq: 250 with a grade of C or better. E

360 Advertising Media Strategy (3) Assessment of markets, vehicle audiences and mathematical techniques for advertising planning. Instruction in media planning, buying, and evaluation. Prereq: 340 with a grade of C or better. E

380 Advertising Professional Seminar (1) Exploration of career choices in mass communications. Resume and letter writing, interviewing, and portfolio preparation. Prereq: Progression as a major in the Department of Advertising. E

450 Advertising Management (3) Case-study approach to advertising decisions. Data analysis and interpretation, generating alternative strategies, oral and written presentation of recommendations. Prereq: 350 and 360 with grades of C or better. Open to marketing seniors in the College of Business Administration with consent of Head of Department of Advertising. E

470 Advertising Campaigns (3) Group-based development, execution and evaluation of an advertising campaign for a regional or national client. Prereq: 450 with a grade of C or better. E

490 Special Topics (3) Detailed study of a specialized area of advertising. Topics vary by semester and include advanced media strategy, advanced creative strategy, direct marketing, and advertising and social issues. E

492 Advertising Practicum (1) Experience in a functional area of advertising. Ten hours laboratory each week. May be repeated once. Prereq: Progression as a major in the Department of Advertising. Satisfactory/No credit. E

493 Independent Study (1-3) Individual study in a specialized area under the supervision of a faculty member. Prereq: Consent of instructor. E

AFRO-AMERICAN STUDIES

201 Introduction to Afro-American Studies (3) Multidisciplinary approach to the Afro-American experience through the Civil War period which examines such issues as traditional African societies, the institution of slavery, the development of Afro-American culture, and the Civil War and Reconstruction. E

202 Introduction to Afro-American Studies (3) Multidisciplinary approach to the Afro-American experience from the Civil War through the Civil Rights era which focuses on such topics as Afro-American rural and urban societies, the Afro-American church and education and the evolution of Afro-American intellectual and protest movements. E

310 Introduction to Afro-American Music (3) (Same as Music History 310.) E

314 Peoples and Cultures of Africa (3) (Same as Anthropology 314.) E

315 Afro-American Anthropology (3) (Same as Anthropology 315.) E

322 Minority Group Politics in the United States (3) (Same as Political Science 322.) E

343 Race and Ethnicity (3) (Same as Sociology 343.) E

350 History of Jazz (3) (Same as Music History 350.) E

352 Afro-American Religion in United States (3) (Same as Religious Studies 352.) E

353 Topics in Afro-American Religion (3) (Same as Religious Studies 353.) E

364 Contemporary Issues in Afro-American Education (3) 1954 to the present. Issues relevant to the current dilemma of providing quality education for the Afro-American student including professional school quotas, intelligence testing, homogeneous grouping, Afro-American college survival, busing, Black English/Standard English controversy. E

371-372 African History (3,3) (Same as History 371-372.) E

373 African Religions (3) (Same as Religious Studies 373 and Anthropology 373.) E

379 Geography of Africa (3) (Same as Geography 379.) E

420 Families: Race, Class and Culture (3) (Same as Child and Family Studies 420.)
Agricultural and Extension Education

420 Methods of Teaching Agricultural Mechanics (2) Methods for teaching agricultural students. Special competencies for planning, conducting and evaluating agricultural mechanics programs. Prereq: Agriculture and Nutritional Technology 201 on consent of instructor. Sp


492 Agricultural and Extension Education Internship (2-8) Supervised work experience in approved county Extension offices, agricultural businesses, or agriculture related agencies. (Requires living off-campus for a specified time.) Prereq: 411 and consent of instructor. F, Sp

493 Special Problems in Agricultural and Extension Education (1-3) Individualized study of a special project or problem in Agricultural and Extension Education. Must be selected in consultation with the instructor. Prereq: Consent of instructor. May be repeated for credit. Maximum 6 hours. E

AGRICULTURAL ECONOMICS

210 Introduction to Agricultural Economics (3) Application of economic principles of demand, supply, price determination, and market structure to agriculture, natural resource management, community development, and international trade and development. Economic aspects of current issues and problems associated with production, marketing, income use, and government intervention in the agricultural, rural, and international sectors. Prereq: Economics 201. F, Sp

310 Farm and Agribusiness Law (3) Survey of law applicable to the farmer, agribusiness manager, and agribusiness industry. Property, contracts, torts, drainage and water rights, landlord-tenant relationships, taxation and insurance, forms of business organization, estate planning, corporate and personal income tax planning, regulatory laws, and other selected topics. Prereq: Junior standing or consent of instructor. F

342 Farm Business Management I (3) Principles and procedures for determining most profitable farm organization and system of operation: nature of managerial processes; farm records and their uses; budgeting; economic aspects of acquisition and management of capital, land, labor and machinery resources. Prereq: Economics 201 and Junior standing. F

350 Marketing of Agricultural Products (3) Survey of U.S. food and fiber marketing systems, marketing functions; intermediate markets, market channels, marketing options of farmers; basic analysis of marketing problems. Prereq: 210 or consent of instructor. Sp

352 Commodity Futures Markets (2) Futures market analysis, insurance strategies, computer applications in marketing agricultural products; process of passing to others the risk of adverse price changes; price analysis from two viewpoints: supply and demand and history (fundamentalists and chartists). Prereq: Junior standing. F

412 Agricultural Finance (3) Macroe- and microfinances, acquisition of debt and equity funds, capital investments, capital allocation, debt repayment, credit analysis, borrower and lender loan application analysis, insurance strategies, computer applications, kinds and sources of agricultural credit, and financial intermediation. Prereq: Economics 201; Junior standing or consent of instructor. F

430 Agricultural and Trade Policy (3) Values, goals, and policy process; historical development and current characteristics of commodity, credit, food, and trade policy; relationship between domestic and international agricultural policy. Prereq: 210 or consent of instructor. Sp

440 Agricultural Production Economics (3) Application of microeconomic theory to problems of resource allocation, enterprise selection, scale of operation of agricultural businesses; economics interpretation of technical agricultural production relationships. Prereq: 210 and Economics 311. F

Agricultural Sciences

442 Farm Business Management II (3) Advanced topics for farm managers. Scope includes financial spreadsheets and mainframe computers: linear programming applications in farm planning; spreadsheet analysis of whole farm business, systems analysis and management control; risk analysis and management; income tax management; farm growth and intergeneration transfer. Prereq: 342. Sp

450 Agricultural Price Analysis (3) Demand and supply analysis in agriculture; price determinations; spatial equilibrium; temporal price patterns; pricing institutions. Prereq: 350 and Economics 311. F

452 Agribusiness Firm Management (3) Operations of firms selling farm supplies and merchandising agricultural products. Analytical tools and economic theories for decision making. Prereq: Economics 201. Sp

460 Rural Economic and Community Development (3) Historical and theoretical perspective on problems facing rural communities; linkages between farm and nonfarm sectors; models and tools for analyzing rural development. Prereq: 210 or consent of instructor. F

470 Natural Resource Economics (3) Nature of natural resource, economic efficiency as a basis for natural resource use; externalities in natural resource use; factors influencing environmental quality; alternative public policy tools for influencing natural resource use or improving environmental quality. Prereq: 210 or consent of instructor. Sp

Agricultural Engineering

200 Specialty Areas of Agricultural Engineering (1) Activities and opportunities in five areas of specialization: required training for each area; projected career activities. 1 hour. F

300 Environmental Relationships (2) Applications of thermodynamics principles to agriculture. Pesticides, thermodynamics cycles, biothermodynamics, the plant-animal-environment interaction. 2 hours. Sp

310 Power Units and Machinery (2) Component and operating characteristics of internal combustion engines and tractor power transmission systems; functional analysis, planning, purchasing, installation, and maintenance for implementation of farm equipment. 1 hour. Sp

320 Structures and Environment (2) Environmental control systems; ventilation, heat and moisture balances, and their role in the design and use of agricultural buildings; material selection and cost. Prereq: Junior standing, 1 hour and 1 lab. Sp

330 Processing (2) Application of basic engineering sciences to processing and handling of agricultural products, physical properties; thermal processing, curing, drying and materials handling. Prereq: 300, Engineer- ing Mechanics 241, Nuclear Engineering 341, Nuclear Engineering 342, 1 hour and 1 lab. Sp

340 Soil and Water Conservation Engineering (2) Hydrologic, agronomic and engineering principles applied to agricultural water management problems including flood control, erosion control, irrigation drainage, and management of water quality. Prereq: Plant and Soil Science 210, Engineering Science and Mechanics 341, 2 hour and 1 lab (on alternate weeks). Sp

350 Properties of Biological Materials (2) Mechanical, thermal, and electrical properties of biological systems and their effect on engineering design and utilization. Prereq: Engineering Sciences and Mechan- ics 341, 1 hour and 1 lab. F

400 Professional Development (1) Engineering ethics; professional registration; opportunities for professional development and continuing education. 1 hour. F
410 Electronic Measurements and Control for Agricultural (2) Sensing and controlling physical and environmental parameters electronically; sensor selection and interfacing; analog and digital I/O signal conditioning, programming, and microcontroller systems and materials handling. Prereq: Physics 121, Mathematics 121. 2 hours and 1 lab. F

420 Agricultural Engineering Design Project (2) Synthesis of design; structure, kinetic, control system analysis; preparation of design drawings, specifications, model of device; written and oral report of project. Prereq: 420. 1 hour and 1 lab. Sp

425 Agricultural Engineering Design Project (2) Synthesis of design; structure, kinetic, control system analysis; preparation of design drawings, specifications, model of device; written and oral report of project. Prereq: 425. 1 hour and 1 lab. Sp

430 Mobile Hydraulic Power System Design (2) Functional and operational characteristics of mobile hydraulic system components including pumps, valves and actuators; analysis and synthesis of power transmission and control circuits. Prereq: Engineering Science and Mechanics 341, 1 hour and 1 lab. Sp

435 Design of Mechanisms for Agricultural Machines (2) Types of mechanisms; transmission angles; design of space mechanisms; introduction to space mechanisms. Prereq: Mechanical Engineering 465 or equivalent. 1 hour and 1 lab. Sp

440 Irrigation and Drainage Design (2) Design of irrigation and drainage systems including crop response, climate, water quantity and quality, and system characteristics. Prereq: 340 or equivalent. 2 hours and 1 lab (on alternate weeks). Sp

445 Processing and Materials Handling Design (2) Systems and components for processing and utilization of crops including product characteristics, energy and mass balance, storage, handling and economic merit. Prereq: 330. 1 hour and 1 lab. Sp

450 Electrical Distribution and Utility Design (2) Design of on-farm electrical systems; control, motors, stray voltage; special electrical loads; safety. Prereq: Electrical Engineering 301. 1 hour and 1 lab. Sp


460 Design of Agricultural Structures (2) Design fundamentals for wood, steel and concrete components; compression and tension members; beam and column design and evaluation of farm business. Team work, applications of systems analysis concepts to planning and operation of farm business. Prereq: 320. 1 hour and 1 lab. Sp

470 Special Problems in Agricultural Engineering (1-3) Selection, analysis solution and report of problem. May be repeated. E

480 Selected Topics in Agricultural Engineering (1-3) Current trends and problems in agricultural engineering. May be repeated. E

AGRICULTURAL ENGINEERING TECHNOLOGY

201 Materials and Fabrication (3) Properties of materials including wood, metals, concrete, plastics and lubricants; drafting and planning; production; fabrication techniques and processes involving hand tools, power equipment, and arc and gas welding. 1 hour and 2 labs. Sp

211 Surveying and Engineering Technology in Agriculture (3) Agricultural surveying including measurement of distances, angles, and areas; differential and profile leveling; descriptive surveying; mapping and surveying; engineering fundamentals applied to problems in soil and water conservation, agricultural machinery, and structural design. 2 hours and 2 labs. F

201-202 Air Force Aerospace Studies (2,2) Introduction to study of air power from a historical perspective starting before the Wright Brothers and continuing into the 1980's. 1 hour and 2 labs. F

205 Field Training (Academic Program) (1-4) Role of United States military forces in contemporary world, with particular attention to United States Air Force. Its organization and mission, and various coding font forces of U.S. military power. Organization of America's defense structure, policies of major powers, and elements and processes in making of defense policy. Conducted at Field Training bases throughout the country. Open only to two-year program applicants. 1 hour and 1 lab. F

301-302 Air Force Aerospace Studies (3,3) Air Force leadership at junior officer level, including theoretical, professional, and ethical values, and their application to communication skills. Military management functions, principles, and techniques. Prereq: Air Force ROTC approval.


AMERICAN STUDIES

310 Introduction to American Culture: Voices of Dissent (3) Explores dynamics and nature of American culture through discussion of various forms of dissent. Topics include abolition, women's rights, civil disobedience, and nuclear disarmament.

334 Film and American Culture (3) (Same as English 334.)

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

ANIMAL SCIENCE

101 Orientation to Animal Science (1) For Animal Science majors and Prevet students in their first year. Discussion of student services, activities, and careers; student participation in plans, the college experience. Satisfactory/No Credit. F

241 Breeds of Farm Animals (2) Evolution and formation of breeds of cattle, goats, horses, poultry, sheep and swine. Breeding structure, history, development, characteristics, and improvement programs of various breeds and strains. Prospects for purebred industry and impact of crossbreeding programs. 1 hour and 1 lab. Sp AE-E.

261 Fundamentals of Food Animal Evaluation (3) Structure and production principles of food animal industries. Criteria for food animal evaluation, market classes and grades of cattle, poultry and poultry products, lamb and wool, and swine. Subjective and objective techniques for evaluation of beef cattle, dairy cattle, poultry, sheep and swine. Introduction to and utilization of species specific performance programs. F

281 Farm Animal Health and Management Practices (4) Integration of herd/flock programs and management practices into cattle, horse, poultry, sheep, goats, and swine enterprises. Characteristics and symptoms, prevention and treatment of major diseases, internal and external parasites. Government health programs and regulations. Application of animal behavior knowledge, handling animals, including facilities and restraint. Includes age determination, pre- and post-natal care, identification, dehorning, castrating, docking, implanting, dubbing, foot care, preparing for show and sale, record keeping, reproductive and milking management. 2 hours and 2 labs. F

321 Anatomy and Physiology of Farm Animals (3) Skeletal and muscular, bony and muscular, blood and microcirculation, the nervous, endocrine, cardiovascular, respiratory and digestive systems, demonstrations of physiological phenomena. Prereq: Biology 120. 2 hours and 1 lab. F

322 The Physiology of Reproduction and Lactation (3) Biology of sexual reproduction and lactation, gametogenesis, neuroendocrinology and endocrinology of reproduction and lactation, sex cycles, fertility cycle, ovulation, spermatogenesis, fertilization, embryonic development, implantation, pregnancy, parturition, initiation of lactation and maintenance of the milk production. Prereq: Biology 120. 2 hours and 1 lab. Sp (Same as Zoology 322.)

331 Animal Nutrition and Feeds (3) Properties, function
485 Horse Production and Management (3) Integration of principles of selection, nutrition, breeding, physiology and ethology into a comprehensive horse production and management program. Economic importance of equine industries, kinds of horse enterprises, management of feed and pasture resources, health maintenance and first aid, breeding and foaling and horse management systems. Prereq: Completion of Animal Science sophomore and junior core courses or consent of instructor. 2 hours and 1 lab. Sp

486 Lamb and Wool Production and Management (3) Integration of principles of selection, nutrition, breeding, physiology, and marketing into complete lamb and wool production and management programs. Structure of industry, enterprise establishment, systems of production, production responses and economic returns. Alternatives evaluated in terms of production responses and economic returns. Prereq: Completion of Animal Science sophomore and junior core courses or consent of instructor. 2 hours and 1 lab. F-AE

489 Companion, Zoo and Lab Animal Management (3) Principles of nutrition, physiology, breeding, handling, and history of breeds of common household pets, zoo animals and animals used in scientific research. Specific species requirements and peculiarities. Laws and agencies governing use of laboratory animals. Laboratory analysis of blood metabolites commonly used to monitor health and nutritional status. Prereq: Completion of Animal Science sophomore and junior core courses or consent of instructor. 2 lectures and 1 lab. F-AE

493 Special Problems in Animal Science (1-3) Special restricted independent study: approved supervised work experiences in state-federal laboratories or in private industry. Written report is required. May be repeated for a maximum of 6 credits. Prereq: Senior standing and consent of instructor and department head. E

495 Seminar (1) Review of literature and oral and written presentation on special topics and current research. Prereq: Senior standing. One 2 hour lab. F, Sp

461 Advanced Beef Cattle, Dairy Cattle, Horse, Poultry, Sheep and Swine Judging (1) Specialization in judging, evaluation, selection and presentation of oral reasons for classes of beef cattle, dairy cattle, horses, pork, sheep, and swine. Prereq: Consent of instructor. 2 labs. F, Sp

462 Dairy Cattle Production and Management (3) Integration of principles of nutrition, physiology, and breeding into complete dairy cattle management program. Structure of industry, enterprise establishment, systems of production, production practices, and herd improvement programs. Alternatives evaluated in terms of production responses and economic returns. Prereq: Completion of Animal Science sophomore and junior core courses or consent of instructor. 2 hours and 1 lab. Sp

480 Poultry Production and Management (3) Structure of industry, enterprise establishment, systems of production, production practices, and herd improvement programs. Alternatives evaluated in terms of production responses and economic returns. Prereq: Completion of Animal Science sophomore and junior core courses or consent of instructor. 2 hours and 1 lab. F

483 Pork Production and Management (3) Integration of principles of selection, nutrition, breeding, physiology, and marketing into complete pork production and management program. Structure of industry, enterprise establishment, systems of production, production practices, and herd improvement program. Alternatives evaluated in terms of production responses and economic returns. Prereq: Completion of Animal Science sophomore and junior core courses or consent of instructor. 2 hours and 1 lab. Sp

220 Prehistory of Tennessee (3) History of archaeological research in Tennessee and survey of prehistoric Indian cultures from initial occupation of the state to European contact. Prereq: 110. F

230 American Cultures (3) Anthropology in the study of our own society, including such topics as ethnic communities, social classes, power structures, etc. Prereq: Consent of instructor. 2 hours and 1 lab. F

302 Religion of Primitive Peoples (3) (Same as Religious Studies 302.)

306 Genetics and Society (3) (Same as Botany 306.)

311 North American Indians (3) Comparative overview of Indian cultures of North America. Topical coverage ranges from prehistory and aboriginal life through contact and acculturation. Prereq: Consent of instructor. 2 hours and 1 lab. F

312 Appalachian Culture (3) Traditional Southern culture of the Appalachian region, stressing folkways, beliefs and values, folklore and customs; sociocultural impacts of industrialization and modernization. Prereq: Consent of instructor. 2 hours and 1 lab. F

313 Peoples and Cultures of Mesoamerica (3) Pre-Columbian and Hispanic cultures of Mexico, Guatemala, Belice, El Salvador and Honduras. Patterns of cultural continuity and cultural change throughout Mesoamerica's history. Prereq: 130 or consent of instructor. (Same as Latin American Studies 313.)

314 Peoples and Cultures of Africa (3) Ethnographic survey of peoples of sub-Saharan Africa, focusing on cultural diversity, human ecology, and contemporary issues. Prereq: 130 or consent of instructor. (Same as Afro-American Studies 314.)

315 Afro-American Anthropology (3) Anthropological perspectives on lifestyles and social status of persons of African descent in North America, South America, and the Caribbean. Prereq: 130 or consent of instructor. (Same as Afro-American Studies 315.)

360 North American Prehistory (3) Prehistoric cultures of North America from initial occupation of the continent to European contact.

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

362 Principles of Archaeology (3) Research strategies used in developing method and theory, contrasting cultural histories, identifying site function and settlement-subistence patterns, and evaluating explanations of cultural change. Prereq: 130 or consent of instructor.

373 African Religions (3) (Same as Religious Studies 373 and Afro-American Studies 373.)

400 Readings in Anthropology (1-6) Problem-oriented directed readings in anthropology. Prereq: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 6 hours.

410 Principles of Cultural Anthropology (3) Exploration and illustration of major concepts, theories, and methods in cultural anthropology, with applications to analysis of specific ethnographies. Prereq: 130.

411 Linguistic Anthropology (3) Basic linguistic concepts applied to research in cultural anthropology, particularly investigation of relationships between language and culture. Prereq: 130 or Linguistics 200. (Same as Linguistics 411.)

412 Folklore in Anthropology (3) Introduction to anthropological study of folklore, using folklore and folklore materials from various tribal, peasant, and complex societies. Prereq: 130 or consent of instructor.

413 Dynamics of Culture (3) Definition and in-depth study of major forms of culture change, ranging from evolution and diffusion to religious revitalization and political revolt. Continuity and change in diverse cultural settings examined through use of archaeological, ethnohistorical, and contemporary cases. Prereq: 130.

430 Fieldwork in Anthropology (3-9) Practicum work in anthropological data recovery and analytical techniques. Prereq: Consent of instructor. May be repeated. Maximum 9 hours.

440 Cultural Ecology (3) Concepts and methods in the study of culture; survey of cross-cultural similarities and differences in subsistence, social organization, economic, political, and religious institutions; language, ideology and arts. Contributions of anthropology to resolving contemporary human problems.

450 Current Trends in Anthropology (3) Analytical, integrative review of recent directions of research and theory in anthropology.

460 Selected Topics in Anthropology (3) Regional or theoretical issues in anthropology for undergraduate
students. Topics may include practical experience in laboratory study of archaeological materials. May be repeated. Maximum 6 hours. Prereq: 120 or consent of instructor.

461 African Prehistory (3) African cultural history from the earliest evidence of human activity to the time of European contact. Emphasis on the stone age of Africa south of the Sahara. Prereq: 120 or consent of instructor. (Same as Afro-American Studies 461.)

462 Early European Prehistory (3) Origins and evolution of human culture in Europe through the beginnings of settled life. Primary focus on Paleolithic, Mesolithic, chronology and life-ways. Prereq: 120 or consent of instructor.

463 Rise of Complex Civilizations (3) Development of complex societies in Old World from origins of agricultural economics to rise of States. Focus on Mesolithic, Neolithic, and Metal Age lifeways in Africa, Europe, and Asia. Prereq: 120 or consent of instructor.

464 Principles of Zoarchaeology (3) Basic osteological studies of major vertebrate groups, with emphasis on the aboriginal's use of animals in subsistence and culture. Identification and interpretation of archaeologically derived molluskan and vertebrate remains, with introduction to laboratory use of comparative collections. Prereq: 120 or consent of instructor.

480 Human Osteology (4) Intensive examination of the human skeleton. Prereq: 110 or consent of instructor. 3 hours and 1 hour lab.

481 Museology I: Museums, Purpose and Function (3) (Same as Art 481.)

482 Museology II: Exhibition Planning and Installation (3) (Same as Art 482.)

484 Museology III: Field Projects (1-12) (Same as Art 484.)

490 Primate Evolution (3) Living and fossil primate taxonomy, ecology, and comparative anatomy. Survey of primate fossil record with emphasis on the origin or major primate lineages. Coreq: 110.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

494 Primate Behavior (3) Social organization and behavior of selected primates including group composition, size, and structure; patterns of mating; other social interactions; and cultural behavior. Application of primate studies to human ethology. Prereq: 110 or consent of instructor.

495 Human Paleontology (4) Introduction to human fossil record from the earliest human remains to the earliest representative of modern human form. Coreq: 110.

496 Biology of Human Variability (3) Introduction to human populations; human adaptation, biological features of major human races; relationships of major groups to one another. Prereq: 110. (Same as Afro-American Studies 496.)

ARCHITECTURE

101 Introduction to Architecture (3) Scope and definition of architecture in relation to the contemporary society, building industry, and allied design professions. Architectural design as a creative process. Orientation to courses and programs of the School.


171 Design Fundamentals I (3) Definition, ideas, and processes of design. Sketch design studies and free-hand drawing. Introduction to drafting techniques; graphic and visual skill development. Coreq: 101.


203 Second Degree Program: Seminar II (2) Theory and practice of architectural concept. Selected readings in history, theory, and design methodology with emphasis on contextual issues and architectural ordering principles. Coreq: 281. F

204 Second Degree Program: Seminar II (2) Selected readings in history, theory, and design methodology with emphasis on analysis of architectural exemplars. Prereq: 203. Coreq: 282. Sp

211 History of Architecture I (3) Architectural thought and ideas of building and community form. Ancient times to the Renaissance. Prereq: History 151, 152, F

212 History of Architecture II (3) Architectural thought and ideas of building and community form. Renaissance to mid-twentieth century. Prereq: 211. Sp

213 History and Theory of Contemporary Architecture (3) Architectural thought in design practice in late twentieth century. Examples of contemporary works and review of theoretical issues. Prereq: 212. F

231 Computer Applications in Architecture (3) Survey of the role of the computer in architecture, its potential and limitations. Recent developments in computer graphics with specific applications and demonstrations. F

232 Introduction to Architectural Technology (3) Place of building technology in architectural design. Introduces concepts and theory of structures; building materials and construction; and environmental controls. Sp


282 Second Degree Program: Design II (6) Principles of architectural design emphasizing approaches to site planning and design of buildings in relation to function and context. Circulation patterns, structural order, and space allocation. Coreq: 203. F


312 Materials and Methods of Construction (3) Properties of interior and exterior building materials and their relation to construction methods and detailing. Theory of material selection and application and the role materials and methods play in the design process. Prereq: 232. Sp

323 Advanced Computer Applications (3) Computer applications in architecture, with special emphasis on structural calculations. Prereq: 231.


332 Architectural Structures II (4) Continuation of analysis and design of simple structures of steel, wood and concrete based upon specific loading requirements. Use of construction and building codes, handbooks and design tables - selection of structural members. Prereq: 331. Sp

333 Advanced Structural Design (3) Analysis and design of basic building structures. Structural and constructional aspects of building, including structures in steel, concrete, masonry, and timber to satisfy loading and building code requirements. Prereq: 332 or equivalent.

334 Advanced Architectural Structures (3) Philosophy of structural design in relation to materials and form. Advanced mathematical and experimental analysis of structures, including use of computer programs. Prereq: 323 or equivalent.


336 Advanced Design of Concrete Buildings (3) Precast and on-site concrete construction and maintenance, foundations, floor and wall systems. Domes and shell roofs. Prereq: 323 or equivalent.

341 Environmental Control Systems I (4) Heating, ventilation, and air conditioning including passive and active solar energy systems. Plumbing and fire protection systems. Prereq: 231 and 232. F


390 Service Practicum (6) Experience in architectural or equivalent offices, a minimum of 3 months to be completed prior to fifth year entry. E

403 Introduction to Preservation (3) History, theory, and legal aspects of architectural preservation and restoration.

404 Preservation Technology (3) Techniques of pres-ervation: methods of analysis, history of materials and technology used in old buildings.

405 Descriptive Analysis of Historic Buildings (3) Identification and analysis of characteristic elements of buildings from various architectural periods, with emphasis on American architecture. Survey techniques.

406 Ideas in Architecture (3) Historical and critical review of the major ideas of architecture through the ages. Open to all students.

409 Cultural Comparison of Housing Patterns (3) Patterns of spatial organization and discrete elements of design for specific cultures with emphasis on housing, cultural, social, economic, climatic, and technical factors. Sources of form.

410 History and Theory of Urban Form (3) Patterns of community development. Selected historical and contemporary examples. Basic urban design issues and exemplary design approaches examined through lectures, readings, essays, and sketch studies including historical change in urban form and design.

411 Architecture Since 1945 (3) Recent architectural developments and views of the future.

412 Non-Western and Indigenous Architecture (3) Building responsive to climate, material availability, and economic level, as designed by anonymous builders. Examples from pre-historic times to the present including Central America, China, India, Tibet, Hindu, Buddhist, and Mughal architecture of India, China, and Japan.

413 Tennessee Architecture (3) History of settlement patterns and building in Tennessee. Selected examples examined through reading assignments, lectures, discussion, and field trips. Historical research using primary material.

414 History of Architectural Technology (3) Building materials and construction techniques from antiquity to the present.

415 Medieval Architecture (3) History of architecture from the decline of Rome to the beginning of the Renaissance. (Same as Medieval Studies 415.)

416 Forms of Utopia (3) Ideas and architectural expres-
sions of utopian movements; visionary and fantastic architecture. Concepts of the future.


420 American Architecture II (3) Stylistic periods from the Gothic Revival through the twentieth century.

421 History of Landscape Architecture (3) Intellectual, societal, and geographical influences which provide the theoretical basis for design throughout history. Selections to examine the landscape architecture analyzed in terms of design.

422 Modern East European Architecture (3) Twentieth century architecture in Russia, Czechoslovakia, Poland, Hungary, East Germany, Rumania, Bulgaria, Yugoslavia.

425 Special Topics in Architecture (1-4) Individual projects under faculty direction. Credit adjusted to project complexity and level of effort. May be repeated. Maximum credit 6 hours.

426 Special Topics in History, Theory and Criticism (1-4) Special topics in history-related subjects. May be repeated. Maximum credit 6 hours.

431 Structural and Mechanical Applications (4) Analysis and selection of structural and mechanical systems for a specific case study to integrate technical information and related design strategy. Prereq: 332, 341, 471, 472.

433 Earthquake-Resistant Structures (3) Analysis and design of structures to resist earthquake effects. Earthquake phenomena, vibration of single degree structural systems, non-linear and damping. Introduction to dynamic analysis of structures, instrumentation and structural response, frame and shear wall behavior, ground interaction structure. Prereq: Consent of instructor. (Same as Civil Engineering 433.)

434 Elementary Structural Matrix Methods (3) Introduction to generalized matrix methods of analysis and design of structures to resist earthquake effects. Earthquake phenomena, vibration of single degree structural systems, non-linear and damping. Introduction to dynamic analysis of structures, instrumentation and structural response, frame and shear wall behavior, ground interaction structure. Prereq: Consent of instructor. (Same as Civil Engineering 433.)

435 Planning and Design of Tall Buildings (3) Architectural, economic and urban design considerations in design of tall buildings. Environmental and service systems; wind, fire and earthquake resistance; structural and construction considerations; building standards; steel, concrete, and masonry structures; foundations. Prereq: Consent of instructor.

443 Building Energy Analysis (3) Balancing heat flow through external skin of residential and small and large commercial buildings; local climate evaluation; site planning; building size and orientation, window area, wall treatments, insulation, and passive energy systems. Energy conservation, energy efficient design features. Architectural program analysis of external and internal load dominated buildings. Prereq: 341.

444 Advanced Environmental Control Systems (3) In-depth analysis and innovative concepts in design of heating, ventilating, and air conditioning. Prereq: 341.

445 Advanced Lighting (3) In-depth analysis and innovative concepts in design of lighting. Prereq: 342.

462 Professional Practice (4) Management and organizational theories and practices for delivering professional design services. Include analysis of the building industry and its influences on practice; analysis of the basic management functions within professional firms; and legal and ethical concerns facing practitioners today. Special obligations and privileges of the professional. Prereq: Consent of instructor.

463 Architectural Development (3) Principles and practice of the architect as a developer, impact of economic trends on urban policy on the design and development of real estate. Open to all students.

464 Project and Construction Management (3) Principles, methods, and application of project and construction management in the building process. Project manager's and construction manager's function; responsibilities, and liabilities investigated through case studies. Methods and theories of estimating project cost and building cost in current practice. New techniques of cost analysis.


466 Marketing Services (3) Theories of marketing for architectural practice. Case studies. Public relations procedures.

469 Codes, Zoning, and Fire Protection (3) Theory, review, and research of city, county, state, regional, and national codes and zoning. History and development of fire safety and building codes; history and development of zoning emphasizing architect's responsibility for specific project application. Characteristics of fires in buildings. Fire codes, building evacuation, sprinklers and other fire protection systems. Emergency power and lighting. Fire resistant materials and construction.


472 Architecture Design VI (6) Ordar and form in complex designs developed to address problems of structural, material, structural, and energy environmental issues. Prereq: 471. Sp

473 Architectural Photography (3) Photography as a design, research, and presentation medium. Application of photographic techniques, printing and processing. Color, black and white.

480 Comprehensive Design Project I (3) Project selection and preparation for Architecture 482. Formation of collaborative teams. Preparation of background and program information. Goals and concepts set forth. To be taken semester immediately preceding 482. F

481 Advanced Architectural Design Topics (5) Special areas which affect architectural design, such as alternative approaches to design, energy, urban design, urban development, structural studies, historical preservation, and special building types. Work from this program may relate to the student's Comprehensive Design Project. Prereq: 472. Certain architectural electives may be stipulated as prerequisite for specified sections.

482 Comprehensive Design Project II (6) Student selected project under faculty direction. Exploration of design hypothesis which informs the character of a substantial building design. (See Architecture 480). Completed project will address all issues of environment, structure, enclosure, use, and ethical considerations of design appropriateness. Design is expected to stand up to rigorous scrutiny regarding strength of idea, economy of means, durability, validity for stipulated use, quality of cultural expression, and character of setting. Prereq: 480 and satisfactory completion of all design courses. Sp

491 Foreign Study (1-15) Research and design projects conducted in foreign countries. Prereq: Consent of instructor.

492 Off-Campus Study (1-15) Studies conducted under the direction of architect or expert in an allied profession, in service to public service organizations or agencies of government, and public groups. Not a Design Course elective.

493 Independent Study (6) Faculty initiated studies and projects which are approved by the dean and conducted in a studio. May be repeated once. Prereq: Consent of instructor.

ART


102 Studio Fundamentals: Two Dimensional Design (2) Surface composition and color. Primarily for art, architecture, interior design, and art education majors.

103 Studio Fundamentals: Three Dimensional Design (2) Projects dealing with real space and three-dimensional materials. Primarily for art, architecture, art education, and interior design and housing majors.


105 Fiber: Three Dimensional Non-Woven Structures (3) Contemporary approaches to fiber art including exploration and experimentation with various fiber media and techniques in development of sculptural fiber forms.

106 Introduction to Metalsmithing and Jewelry (3) Basic metalworking and jewelry fabrication techniques including repoussé, annealing, forging, chasing, embossing, dapping, drawing, rolling, sinking, soldering, fusing, polishing, and patination with individual studio projects to develop a personal style of expression.

151 History of Graphic Design/Ilustration (2) Major movements and pivotal artists/designers/art directors. 1860 to the present, and their impact on current graphic design trends. (Does not apply to art history requirement.)

161 Basic Printmaking (3) An introductory survey of print-making with studio experience in xerography, monotype, lino- cine, relief and collograph.


172 Western Art I (3) Major monuments in Western Art with emphasis on Europe from prehistory through the Middle Ages.

173 Western Art II (3) Major monuments in Western Art with emphasis on Europe and America from 1400 to the early 20th century.

176 Experiencing Art (3) Form and meaning in the visual arts. Lecture-discussion. Especially for non-majors.

183 Asian Art (3) Art of Central and Southeast Asia, India, China, Korea, and Japan from prehistory through common Buddhist forms and into modern media.

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For non-majors only. Course may be repeated, medium may not be repeated. Maximum 12 hours.

192 Intermediate Design and Color (3) Further exploration of basic techniques of two-dimensional design, with emphasis on color theory and technique. Prereq: 101, 102, 103.

201 Fabric: Painting and Dying (3) Painting and dying processes in the development of surface design on fabric, including batik, direct drawing, and/or other resist approaches.


204 Fiber: Woven Wall Works (3) Fabrication of woven wall forms on the vertical loom, with emphasis on exploration of structural use of fiber media, and development of architecturally scaled wall works.
205 Jewelry (3) Metalworking and jewelry techniques emphasizing integration of casting and fabrication methods with individual studio problems to develop a personal style of expression. Prereq: 106. May be repeated. Maximum 6 hours.

206 Enameling (3) Graphic, painterly, and dimensionally capacities of vitreous enamel techniques (including basse-taille, cloisonné, piqué-a-jour, imoges, sgraffito, grisaille, etc.) combined with individual studio problems to develop an individual style of expression. May be repeated. Maximum 6 hours.

209 Special Topics in Fiber and Fabric (3) Student or instructor-initiated course to be offered at convenience of department. Prereq Determined by department for individual topic. May be repeated. Maximum 12 hours.


212 Drawing II: Life Drawing (3) Development of drawing observational skills with special emphasis on structure and dynamics of the human figure and of the figure in environment. Prereq: 211. May be repeated. Maximum 6 hours.

213 Painting I: Introduction (3) Capacities of oil and acrylic painting on canvas. Prereq: 101, 102, 103 for art majors; none for non-art majors.

214 Painting II (3) Techniques of expression in oil and/or acrylic. Prereq: 213 for art majors; 181-Painting for non-art majors. May be repeated. Maximum 6 hours.


216 Watercolor II (3) Capacities of transparent watercolor, with attention to individual exploration of surface, space, and concept. Prereq: 215 for art majors; Art 191-Watercolor for non-art majors. May be repeated. Maximum 6 hours.

219 Special Topics in Drawing/Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curricula. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

221 Ceramics I: Handbuilding (3) All ceramic handbuilding techniques including forming methods, glazing, clay preparation, firing, small and large scale pieces. Ceramic history through slide lectures.

222 Ceramic II: Throwing (3) Thrown ceramic forms including functional utilitarian pottery techniques, glazing and firing methods. Prereq: 221 for art majors; 191-Ceramics for non-art majors. May be repeated. Maximum 6 hours.

229 Special Topics in Ceramics (3) Student or instructor-initiated course to be offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

231 Photography I (3) Art of black and white photography. Field and studio shooting, history of photography, basic developing, and enlarging techniques.

232 History of Photography (3) Photography as a fine art. Emphasis on work of Steiglitz, Strand, Weston, and White. (Does not apply to art history requirements.) Prereq: 231.

239 Special Topics in Photography (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

241 Sculpture I (3) Problems which explore basic materials and techniques including clay modeling, plater construction, moldmaking. Limited work in plastics, wood, or metal.

242 Life Sculpture I (3) Modeling techniques in clay and plaster. Emphasis on expression with human figure as subject. Modeling process as both observational and material handling technique. Prereq: 101, 102, 103, or 104; permission of instructor. May be repeated. Maximum 6 hours.

243 Metal Cast Sculpture I (3) Metal casting methods involving use of aluminium. May include foundry wax, styrofoam sand, ceramic shell casting methods. May be repeated. Maximum 6 hours.

244 Wood Sculpture I (3) Wood as sculptural medium. May include use of hand and power tools, carving, and construction.

245 Steel Sculpture I (3) Problems to introduce steel as a material for sculpture. Development of welding techniques.

246 Mixed Media Sculpture I (3) Use of two or more materials, and a variety of sculptural techniques, to create dimensional form. May include carving, modeling, forging, and welding. Prereq: Determined by department of individual topic. May be repeated. Maximum 12 hours.

251 Beginning Graphic Design (3) Survey of graphic design; tools, materials, techniques, lettering, and use of type; layout and design. Prereq: 101, 102, 103.

252 Production (3) Design and layout; practice of mechanical preparation of art for various printing processes; skills and craftsmanship emphasized. Prereq: 251.

253 Advertising Design (3) Fundamentals of lettering and layout for newspaper, magazine, television, outdoor advertising. Non-art majors only.

256 Individual Projects in Graphic Design/Illustration (3) Prereq: Consent of instructor. May be repeated. Maximum 8 hours.

259 Special Topics: Graphic Design/Illustration (3) Student or instructor-initiated course offered at discretion of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

262 Intaglio I (3) Metal plate intaglio printing in traditional and contemporary techniques of etching, softground, drypoint, mezzotint, aquatint, and photo etching. May be repeated. Maximum 6 hours.

263 Lithography I (3) Stone and aluminum plate lithography applying traditional and contemporary techniques of crayon, tusche, transfer methods, and state proofs. May be repeated. Maximum 8 hours.

264 Screen Printing I (3) Screen printing as a fine art technique. Prereq: 106. May be repeated. Maximum 6 hours.

265 Special Topics: Classical Lettering (3) Student or instructor-initiated course offered at discretion of department to enhance and expand the lettering, typography applying traditional and contemporary techniques of lettering. Prereq: 264. May be repeated. Maximum 6 hours.

266 Special Topics: Graphic Design/Photography (3) Student or instructor-initiated course offered at discretion of department to enhance and expand the graphic design, photography curricula. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

269 Special Topics in Printmaking (3) Student or instructor-initiated course offered at discretion of department to enhance and expand the printmaking curricula. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

279 Special Topics in Art History (3) Student or instructor-initiated course offered at discretion of department: Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

291 Papermaking Workshop (3) Papermaking as a medium for two and three-dimensional art, includes sheet forming, embossing, puddling, pulp dyeing, inlaying, casting, and other related techniques. Emphasis on development of a personal form.

292 Film Design I (3) Introductory theory and practice of film making. Emphasis on graphic elements through use of motion picture camera.

299 Special Topics (3) Student or instructor-initiated course offered at discretion of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

300 Inter-area Portfolio Review (0) Review of prior studio work. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

301 Fibre: Individual Class Projects (3-6) Prereq: 104, 201, 203 or consent of instructor. May be repeated. Maximum 6 hours.

302 Fiber: Individual Class Projects (3-6) Prereq 102, 202, 204 or consent of instructor. May be repeated. Maximum 6 hours.

306 Silversmithing (4) Intensive metalsmithing techniques, including forming, casting, and finishing. Prereq: Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

311 Drawing III (4) Development of personal drawing techniques and concepts through class problems. Prereq: 212 and 312 or consent of instructor. May be repeated. Maximum 8 hours.

312 Drawing Portfolio Review (6) Review of prior work in painting. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

314 Painting Portfolio Review (6) Review of prior work in painting. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

320 Ceramics Portfolio Review (0) Review of prior work in ceramics. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.


331 Photography II (4) Individual expression in photographic medium. Prereq: 231. May be repeated. Maximum 8 hours.


334 Photographic Techniques Workshop (4) Theories and practices of film exposure and development. Introduction to zone system. Prereq: 331.

340 Sculpture Portfolio Review (0) Review of prior works in sculpture. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

341 Sculpture II (3) Further exploration and development of sculptural concepts and materials. Prereq: 240 and 340. May be repeated. Maximum 6 hours.

342 Life Sculpture II (3) Advanced modeling techniques in clay and wax working from the figure. Includes casting a minimum of one piece. Prereq: 242 and 340 or consent of instructor. May be repeated. Maximum 6 hours.


344 Wood Sculpture II (3) Extension of skills and techniques begun in 244. Prereq: 244 and 340 or consent of instructor. May be repeated. Maximum 6 hours.
473 19th Century American Painting (3) From West and Copley to emergence of "The Eight".


475 History of the 19th Century Painting in Europe and America (3) Fauvism, Die Brucke, Cubism, Der Blaue Reiter, Futurism, Dada and Surrealism, geometric abstraction, social commentary painting, Abstract Expressionism in the USA and parallels in Europe; Pop, Op, Minimal and Concept Art.

476 History of 20th-Century Painting in Europe and America (3) Expressionism in the USA and parallels in Europe; abstraction, social commentary painting, Abstract Expressionism in the USA and parallels in Europe; Pop, Op, Minimal and Concept Art.

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

493 Independent Study (3) May be repeated. Maximum 6 hours.

494 Individual Problems (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.

496 Advanced Airbrush (3) Advanced techniques of airbrush drawing; skills and use in illustrations emphasized. Prereq: 350.

499 Special Topics (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

210 Drawing (2-4) Beginning to intermediate. May be repeated.

220 Ceramics (2-4) Beginning to intermediate. May be repeated.

230 Photography (2-4) Beginning to intermediate. May be repeated.

240 Painting/Watercolor (2-4) Beginning to intermediate. May be repeated.

250 Metal Design (2-4) Beginning to intermediate. May be repeated.

260 Fibers (2-4) Beginning to intermediate. May be repeated.

270 Fabric (2-4) Beginning to intermediate. May be repeated.

280 Enameling (2-4) Beginning to intermediate. May be repeated.

290 Wood (2-4) Beginning to Intermediate. May be repeated.

400 Special Topics (2-4) Student or instructor-initiated course offered at convenience of department. May be repeated.

410 Drawing (2-4) Intermediate to advanced. May be repeated.

420 Ceramics (2-4) Intermediate to advanced. May be repeated.

430 Photography (2-4) Intermediate to advanced. May be repeated.

440 Painting/Watercolor (2-4) Intermediate to advanced. May be repeated.

450 Metal Design (2-4) Intermediate to advanced. May be repeated.

460 Fibers (2-4) Intermediate to advanced. May be repeated.

470 Fabric (2-4) Intermediate to advanced. May be repeated.

480 Enameling (2-4) Intermediate to advanced. May be repeated.

490 Wood (2-4) Intermediate to advanced. May be repeated.

ART EDUCATION

300 Art for the Elementary Classroom Teacher (2) Methods of teaching art in elementary classrooms including developmental theory, philosophical concerns and selected media experiences. E

301 Foundation of Art Education (3) Basic philosophy and structure including directed learning activities in two and three dimensional design, art appreciation, and teaching methodology. F, Sp

302 Concepts of Drawing and Painting (3) Processes in teaching of drawing and painting including consideration of pertinent literature and research. F, Sp

303 Concepts of Sculpture and Crafts (3) Processes in teaching of sculpture and crafts including pertinent literature and research. Prereq: 301 and admission to Teacher Education Program. F

304 Concepts of Printing, Graphic Design and Lettering (3) Processes in teaching of printing, graphic design and lettering including pertinent literature and research. Prereq: 301 and admission to Teacher Education Program. F

350 Field Experience (1) Tasks related to teaching and to teacher roles. May be repeated. Maximum 2 hours. Prereq: Admission to Teacher Education Program. Sp

400 Curriculum Planning and Teaching Strategies (3) Program development, instructional methods, professional literature, contemporary issues, simulation and micro teaching situations. Prereq: 301 and admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp

410 Pre-Internship Seminar (1) Orientation describes the objectives and policies of the internship program. Must completed the term immediately preceding the internship. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp

481 Internship I: Grades K-12 (2-6) Test of materials and theories of teaching. Internship is completed in local public schools. Application for internship should be made upon admission to Teacher Education Program. Prereq: 410 and admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp

482 Internship II: Grades K-12 (3-4) Demonstration of professional competence in planning, instruction and classroom management. Internship is completed in local public schools. Prereq: 481 and admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp

490 Special Topics (3) May be repeated. Maximum 6 hours.

493 Independent Study (3) May be repeated. Maximum 9 hours.

ASIAN STUDIES

101-102 Asian Civilization (3,3) Comparative study of development of religion, social institutions, and high culture in India, China, Japan, and the Islamic world. 101 emphasis on classical civilizations; 102-Traditional cultures and their modern developments.

121-122 Elementary Modern Standard Arabic I, II (5,5) Literary Arabic, the language of the press, broadcasting, literature, and formal situations. Meets every day, days with instructor and two with native informant in addition to language lab. Must be taken in sequence.

131-132 Elementary Chinese I, II (5,5) Must be taken in sequence.

141-142 Elementary Modern Hebrew I, II (4,4) Taped language program. Must be taken in sequence.

151-152 Elementary Japanese I, II (5,5) Must be taken in sequence.

161-162 Elementary Persian (4,4) Taped language program. Must be taken in sequence.

221-222 Intermediate Modern Standard Arabic I, II (5,5) Literary Arabic, the language of the press, broadcasting, literature, and formal situations. Meets every day, three days with instructor and two with native informant in addition to language lab. Must be taken in sequence. Prereq: 121-122 or equivalent or consent of instructor.

231-232 Intermediate Chinese I, II (5,5) Prereq: 131-132 or equivalent or consent of instructor. Must be taken in sequence.

241-242 Intermediate Modern Hebrew I, II (4,4) Taped language program. Prereq: 141-142 or equivalent or consent of instructor. Must be taken in sequence.

251-252 Intermediate Japanese I, II (5,5) Prereq: 151-152 or consent of instructor. Must be taken in sequence.

311-312 Chinese Literature in English Translation (3,3)311-Classical literature. 312- Vernacular and modern literature.

313-314 Japanese Literature in English Translation (3,3)313-Classical tradition, masterpieces of poetry, fiction, and drama to 1800. 314-Modernd masterpieces of fiction since 1800.

316 The Literature of India in English Translation (3) Major genres and masterpieces of Indian literature—epic, poetry, drama, novels, and modern novel. Concentration on ancient and classical periods of Indian literary history.

319 Islamic Literature in English Translation (3) Selections from the Koran, classical Arabic and Persian poetry, and classical Arabic, Persian, and Turkish prose,
including history, philosophy, mysticism, and belles-lettres.

321 Spoken Lebanese-Palestinian Arabic (4) Informal Arabic for use in daily life. Emphasis on appropriate registers and vocabulary of cultural context. All work is oral, including exams, but grammatical analysis is based on standard (written) Arabic. Prereq: 121-122 or consent of instructor.

322 Advanced Modern Standard Arabic (4) Advanced grammar and readings in modern Arabic. Prereq: 221-222 or consent of instructor.

331-332 Advanced Chinese I, II (4,4) Prereq: 231-232 or equivalent or consent of instructor. Must be taken in sequence.

351-352 Advanced Japanese I, II (4,4) Includes conversation, drill and composition practice with native speaker as well as reading and translation. Prereq: 251-252. Must be taken in sequence.

421 Readings in Islamic Literature (3) Prereq: Mastery of intermediate-level of Arabic or consent of instructor. May be repeated. Maximum 9 hours.

431 Readings in Chinese Literature (3) Prereq: Mastery of intermediate-level of Chinese or consent of instructor. May be repeated. Maximum 8 hours.

451 Readings in Japanese Literature (3) Prereq: Mastery of intermediate-level of Japanese or consent of instructor. May be repeated. Maximum 9 hours.

471 Selected Topics in Asian Studies (3) Content varies. May be repeated. Maximum 9 hours.

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

493 Independent Study (1-15) See page 96.

151-152 Introductory Astronomy (4,4) Survey of the composition, structure, and dynamics of the universe which introduces the basic vocabulary of astronomy and scientific method. Components of the solar system including results from interplanetary exploration; hypotheses and theories of the origin and evolution of our solar system in light of current knowledge and scientific reasoning; stellar birth, evolution and death as a chain of events; characteristics of galaxies and the origin of the universe examined in light of modern astrophysics and particle physics. A minimum of mathematical analysis. Must be taken in sequence. 4 hours lecture-demonstration and star chart field work. Only one of the three sequences 151-152, 161-162, or 217-218 may be taken for credit.

161-162 Introductory Astronomy with Laboratory (4,4) Survey course, with accompanying laboratory, treating the composition, structure and dynamics of the universe and introducing the basic vocabulary of astronomy and principles of scientific method. Components of the solar system including results from interplanetary exploration spacecraft: hypotheses and theories of the origin and evolution of the solar system in light of current knowledge and scientific reasoning; stellar birth, evolution, and death as a chain of events; characteristics of galaxies and the origin of the universe examined in light of modern astrophysics and particle physics. Principles for interpretation of astronomical observations are reinforced in laboratory. Must be taken in sequence. 3 hours lecture, 2 hour lab. Only one of the three sequences 151-152, 161-162 or 217-218 may be taken for credit.

217-218 Honors: Introductory Astronomy (4,4) Introduction to astronomy and astrophysics. Historical perspectives in understanding the celestial universe, with emphasis on the laws of physics as they apply to space and understanding of cultural context. All work is oral, including exams, but grammatical analysis is based on standard (written) Arabic. Prereq: 121-122 or consent of instructor.

411 Astrophysics (3) Development of analytical physical models of the galactic structure of the universe, stellar, and interstellar matter, and planetary systems. Topical and interdisciplinary approach includes consideration of quasars, pulsars, black holes and current developments in the field. Acceptable for major credit in physics. Prereq: Physics 232 and consent of instructor.

490 Special Topics in Astronomy (1-3) Topics of current interest in Astronomy and Astrophysics. May be repeated for credit with consent of department. Maximum 9 hours.

AUDIOLOGY AND SPEECH PATHOLOGY

126 Speech for Foreign Students (3) Sounds and intonation patterns of American English and relation of current knowledge and scientific reasoning; stellar birth, evolution and death as a chain of events; characteristics of galaxies and the origin of the universe examined in light of modern astrophysics and particle physics. A minimum of mathematical analysis. Must be taken in sequence. 4 hours lecture-demonstration and star chart field work. Only one of the three sequences 151-152, 161-162, or 217-218 may be taken for credit.

217-218 Honors: Introductory Astronomy (4,4) Introduction to astronomy and astrophysics. Historical perspectives in understanding the celestial universe, with emphasis on the laws of physics as they apply to space and understanding of cultural context. All work is oral, including exams, but grammatical analysis is based on standard (written) Arabic. Prereq: 121-122 or consent of instructor.

411 Astrophysics (3) Development of analytical physical models of the galactic structure of the universe, stellar, and interstellar matter, and planetary systems. Topical and interdisciplinary approach includes consideration of quasars, pulsars, black holes and current developments in the field. Acceptable for major credit in physics. Prereq: Physics 232 and consent of instructor.

490 Special Topics in Astronomy (1-3) Topics of current interest in Astronomy and Astrophysics. May be repeated for credit with consent of department. Maximum 9 hours.

465 Speech and Language of the Culturally Different Child (3) Speech and language differences of children of various background, societal impact, ethical and moral implications, and class membership and from different geographic regions.

473 Audiology II (3) Basic principles of clinical audiology; pure tone, speech, masking and overall evaluation of hearing. Prereq: 371. (Same as Special Education 473.)

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

493 Independent Study (1-15) See page 96.

494 Introduction to Aural Rehabilitation (3) Rehabilitation of acoustically impaired who have communication difficulties, stressing maximum use of residual hearing and utilizing other sensory modalities. Prereq: 473. (Same as Special Education 494.)

BIOCHEMISTRY

310 Introduction to Biochemistry (3) Biochemical principles underlying physiological events in animal tissues. Metabolism of carbohydrates, lipids, proteins, and nucleic acids. Biochemistry of body fluids. Action of drugs and hormones. Prereq: Chemistry 120-30 or 160-60 and Biology 110-20. Lectures and discussions. Not available for credit if credit has previously been received for 410 or 420. F, Sp

410 Cellular and Comparative Biochemistry (4) Electrophoretic behavior; chemistry and structure of proteins; enzyme behavior and biological function; catabolism and energy capture; synthetic metabolism; nucleic acid function, protein synthesis, and biochemical genetics; regulation of biological processes. Prereq: Chemistry 350-60-69 and Biology 110-20. Three lectures and discussion. F, Sp

419 Cellular and Comparative Biochemistry Lab (2) Experimental work with amino acids, proteins, membranes/organelles. Chromatography, kinetics, hybridization, sequencing, and immunochimical methods. Prereq or Coreq: 410. F, Sp

420 Advanced Topics in Biochemistry (3) Selected Topics of current research interest, e.g., allosteric theory and control of protein function, immunochemistry, regulation of gene expression, biogenic stress, etc. Emphasis on original literature and the experimental basis of current knowledge. Historical background, societal impact, ethical and moral implications, and future developments and technologies. Written reports required. Prereq. 410. Sp

430-440 Introduction to Physical Biochemistry (3,3) Development of concepts from physical chemistry to application to biological problems. 430 - Thermodynamics; intermolecular bonding; transport; shape and motion of macromolecules; kinetics of enzyme-catalyzed reactions. 440 - Energy; macromolecular structure and function; cell membranes/organelles; interactions of light with biological molecules; macromolecular studies through nuclear magnetic resonance and electron spin resonance; case studies of selected macromolecules. Prereq: Mathematics 141-142, Chemistry 350-360-369, and Biology 110-120. 430 - F; 440 - Sp

452 Independent Research in Biochemistry (1-6) Special experimental problems under direction of a staff member. Limited to undergraduates and by consent of instructor. May be repeated. Maximum 12 hours. Prereq or Coreq: 410, 419

BIOLOGY

110-120 General Biology (4,4) Biology 110 - Biology of cells; chemical basis of life; cell structure and function; energy metabolism; cell division; Mendelism and molecular genetics; kingdoms of monera, protista, and fungi. Biology 120 - Plant and animal anatomy (including physiology, and system biology); physiology, growth, and reproduction; ecology; population genetics; behavior; and evolution. Recommended, but not required to be taken in sequence. Students who receive credit for Biology 110-120 may not also receive credit for Biology 150, Botany 110-120, Honors Botany 118-128, or Honors Zoology 110-120.
and other environmental factors. Lecture and lab. Prereq: Botany 110-120, Botany 110-120, Honors Botany 118-128, or Honors Zoology 117-118.

210 Cell Biology (3) Organization and function of the cell. Prereq: 110-120 or 150, or Botany 110-120 or 118-128, or Honors Botany 117-118 or the equivalent of 2 years of high school biology and satisfactory ACT scores; Chemistry 120-130. 3 hours and 1 additional hour of laboratory required in any sequence or combination with 220 and 230.

220 General Genetics (3) Classical and modern principles of heredity. Prereq: 110-120 or 150, or Botany 110-120, or 118-128, or Honors Zoology 117-118 or the equivalent of 2 years of high school biology and satisfactory ACT scores; Chemistry 120-130. 3 hours lecture, 1 hour discussion each week. May be taken in any sequence or combination with 210 and 230.

230 General Ecology (3) Relations between organisms and their environment, including human environmental problems. Prereq. 110-120 or 150, or Botany 110-120 or 118-128, or Honors Botany 117-118 or the equivalent of two years of high school biology and satisfactory ACT scores; Chemistry 120-130. 3 hours lecture, 1 hour discussion/field trip each week. May be taken in any sequence or combination with 210 and 220.

BOTANY

110-120 General Botany (4,4) 110 - Introduction to taxonomy through high level identification, basic organization and function of cells; plant growth and development; physiology; respiration; photosynthesis; genetics (including business, mitosis, Mendelian inheritance, and population genetics). 120 - Origin of life, survey of plant kingdom (algae, fungi, mosses, ferns, conifers, and flowering plants); ecology; life histories; evolution; and importance to man. Students may not receive credit for both Botany 110-120 and Biology 110-120, Botany 118-128, or Biology 150. 110 - F, Su; 120 Sp, Su

118-128 Honors: General Botany (4,4) Same as General Botany 110-120 with emphasis on special topics and philosophical context including special presentations and field experiences. Prereq: Open to freshmen with a score of 27 or better on the natural science section of ACT, and sophomores who have a cumulative GPA of 3.25 (or 3.50 in the sciences) or who are approved through an interview with a member of the botany faculty. Students may not receive credit for both Botany 110-120 and Biology 110-120, Botany 118-128, or Biology 150. 118 - F; 128 - Sp

305 Socio-Economic Impact of Plants (3) Significance of plants in origin and development of human cultures, evolution of cultivated plants, and role of plants in present civilization. Occasional field trips. Sp, Su, Mini-Term

306 Genetics and Society (3) Introduction to genetics, anthropology and evolution with an emphasis on their implications for human society. (Same as Anthropology 306.)

309 Biology of Human Affairs (3) Basic biological principles involved in deterioration and preservation of an environment in which humans and their cultures may live.

310-320 Plants: An Evolutionary Survey I, II (3,3) Morphology, development, natural history, and evolution. 310 - Surveys non-vascular plants (monera, algae, fungi, and bryophytes). 320 - Surveys vascular plants (ferns, fern allies, gymnosperms, and flowering plants). Need not be taken in sequence. Prereq: 8 hours biological sciences. F, Sp

313 Introductory Plant Pathology (3) (Same as Entomology 313)

321 Introductory Plant Physiology (4) Organismic physiology of plants: water relations, mineral nutrition, morphogenesis, elements of metabolic processes, environment, age, light, natural rhythms, temperatures and other environmental factors. Lecture and lab. Prereq: One year general chemistry and one year biological science. F, Sp, Su

330 Field Botany (4) Principles of taxonomy, basic ecological concepts and the identification, recognition, selection and preservation of local, native and naturalized plants. Prereq: 8 hours in biological sciences.

346 Introduction to Oecology (5) (Same as Geology 346)

371 Undergraduate Seminar (1) At least one hour is required for a Botany major during Junior or senior standing recommended. May be repeated. Maximum 2 hours.

400 Tutorial in Botany (1-2) Individual, independent study under guidance of selected staff. By application. May be repeated with consent of department. Maximum 4 hours.

401-402 Field Studies in Botany: (Specific Topic to be announced) (3,3) Field experience and taxonomy of special plant groups. Selected field topics will vary and may include: Bryology, Lichenology, Phreatidology, Agrostology, Mycology, Phyiology, Aquatic Vascular Plants, Sarnanthrophy, Woody Plants, and Botanical Photography. May be repeated, but no specific topic may be repeated for credit. Maximum 9 hours.


412 Plant Anatomy (3) Cells, tissues and organs; their development in vegetative and reproductive structures of vascular plants—emphasis on seed plants. Prereq: 110-120 or Biology 110-120.

426 Paleobotany and Palynology (3) (Same as Geology 426.)

431 Plant Ecology (3) Interactions between individuals, species, communities and their environments. Circulation of energy and matter in ecosystems. Weekly field trips or laboratory periods, and at least two weekend field trips. Prereq: 330 or equivalent. Sp

441-442 Undergraduate Research Participation (1-2) Experience in active research projects under supervision of staff members. Prereq: Junior or senior standing, minimum grade average 3.0, consent of instructor. May be repeated. Maximum 8 hours. E

451 Plant Tissue Culture (3) Methods for the culture of cells, tissues and organs including media preparation and maintenance of cultures. Lecture and lab. Prereq: Botany 110-120 or Biology 110-120 or equivalent and Chemistry 120-130 or equivalent. Recommended: Botany 310-320, 321, 412; Microbiology 310 or 319; Ornamental Horticulture and Landscape Design 330; and Plant and Soil Science 331.

BROADCASTING

275 Introduction to Radio and Television (3) History, economics, structure and regulation of broadcasting including radio, television, cable, satellites and related technologies. Includes role of broadcasting in society. Prereq: Communications 100.

310 Radio News (3) Writing, reporting, and performing news for radio. Lecture and lab course with experience in total news operation of WUTK-FM. Prereq: 275 and Communications 200.


330 Producing for Radio (3) Functions, theories, tools, and techniques of writing, producing and producing for radio. Students write, perform and produce on WUTK-FM. Overview of audio equipment and production techniques. Prereq: 275 and Communications 200.

410 Television News (3) Writing, reporting, producing and producing news for television. Lecture and lab course providing students with experience as report/er-producers for a television news program. Includes an overview of electronic news gathering equipment and techniques as well as video editing. Prereq: 310.

420 Radio and Television Sales and Promotion (3) Problems and practices of television, radio, and cable sales and promotion. Case studies in sales, sales management, pricing, rate cards, use of ratings and sales presentation. Includes an overview and analysis of effective station promotion techniques. Prereq: 320.


490 Radio and Television Management (3) Business policies and practices of broadcast operations, departmental functions, cost and income analysis, leadership styles, management techniques, with an emphasis on mid-level management. Capstone course to be taken in student's last semester. Prereq: 275, 310, 320, 330.

492 Practicum (1) On or off-campus work and learning experience at a radio, television, cable or non-broadcast facility. 1 hour must be at WUTK-FM. 150 hours of work required for each hour of credit. Final written report required. May be repeated once. Prerequisites: 275, progression to a broadcasting major and consent of department head.

493 Independent Study (3) Area of study in broadcasting to be determined by student in consultation with faculty advisor. Ordinarily the area of study is not part of the departmental curriculum. Students must complete an application form available in the department. Prerequisites: Senior standing and consent of department head.

BUSINESS ADMINISTRATION

311 International Business (3) Survey of strategic implications of conducting business operations in an international context. Analysis of relevant cross-national environments, including cultural, political, economic and legal characteristics. Prereq: Economics 201.

320 Business Career Planning and Placement (1) Career opportunities in business. Making the career decision, preparing for and conducting a job campaign. Using the Placement Office. Satisfactory/No Credit only. Prereq: Satisfactory progression to upper-division level in Business or Liberal Arts Business Minor.

467 Honors: Corporate Executive in Residence Seminar (1-3) Interaction with top corporate executives from a wide spectrum of business disciplines. Domestic and international strategic planning as it is applied in major U.S. Corporations. Executive presentations and small group discussion on goods and services in consumer industrial settings. Prereq: Senior standing, Finance 301, Management 301, Marketing 301 and consent of instructor.

491 Foreign Study (1-15) Prereq: Consent of instructor. See page 58.

492 Off-Campus Study (1-15) Prereq: Consent of instructor. See page 57.

493 Independent Study (1-15) Prereq: Consent of instructor. See page 57.

BUSINESS LAW

301 The Legal Environment of Business (3) Intro-
duction to legal system including legal ethics (jury

401 Law of Business Organizations and Commercial

Business Transactions (3) Introduction to legal implications of business transactions. Includes contracts, property, negotiable instruments, secured transactions, bankruptcy, suretyship, insurance, and legal liability. Fundamentals of business law required for professional examination preparation (e.g., CPA exam).

406 Senior Seminar (1) Faculty and students discuss and characterize, coordination and organometallic chemistry. Requisite: 360. Prereq or Coreq: 380 or 381.

410 Introductory Polymer Chemistry (3) Fundamental principles stressing the role of chemistry in the interdisciplinary field of polymer science. Reaction of molecular structure to bulk properties of polymers. Prereq: 360. Prereq or Coreq: 380 or 381. F

CHILD AND FAMILY STUDIES

110 Introduction to Early Childhood Education (3) History, philosophy, current trends, issues, programs, program models, includes observation. F

210 Human Development (3) Conception through adulthood in various social/ecological contexts; interrelationships among various aspects of development: physical, cognitive, emotional, social, nonnormative, normative, nondevelopmental. F, Sp, Su

211 Development in Infancy (3) Normative, nonnormative aspects of development during first 24 months of life. Includes observation. F

212 Development in Childhood (3) Development from 2 to 10 years; interrelationships among cognitive, emotional, social, physical aspects of ontogeny; normative, nondevelopmental. Includes observation. Sp

220 Marriage and Family: Roles and Relationships (3) Emerging, declining roles, changing relationships among family members across life cycle from various theoretical approaches; impact of gender roles on marital relationships, marital quality, power, decision-making, communications, conflict management, coping with family roles. (Same as Women's Studies 230). F, Sp

240 Human Sexuality (3) Sexuality through cultural, social, familial, and psychological factors. F, Sp, Su

311 Development in Adolescence (3) Physiological, personality, cognitive, social, familial development in adolescence. Includes observation. F

312 Adulthood and Aging (3) Adult life in society from youth to old; adjustments to internal, environmental changes through adulthood; interrelationships among various aspects of development: physical, cognitive, emotional, social. Includes observation. Sp

320 Parent-Child Relationships (3) Reciprocal influences of parents and children within family context; selected parent training programs. Prereq: 220 or consent of instructor. Sp

345 Family Resource Management (3) Theory and application of management of resource use and management; settings; analysis of goals, resource use, information systems, constraints within families. Observation and analysis of diverse family systems. Prereq: 220 or consent of instructor. F

350 Early Childhood Education I: Environments for Children (3) Classroom management, behavior guidance, organization of day care environments, communication, interpersonal skills, interaction with children, child stress reduction and management in classroom. Includes participation. Prereq: 110 and 212 or consent of instructor. F

351 Early Childhood Education II: Curricular and Program Development for Young Children (3) Planning effective early learning programs for young children relating knowledge of children's growth and development to appropriate materials and methods in art, music, language, media, physical knowledge; planning, implementing, analyzing, evaluating activities. Includes participation. Prereq: 350 or consent of instructor. F

352 Family, School, and Community Relations (3) Techniques for developing community relationships and becoming advocate for children and families. Applications include handicapped children. Observation and program participation. Prereq: 351 or consent of instructor. Sp

356 Family Stress (3) Family's response to stressful circumstances; skills for intervention into family system: violence, abuse, divorce, illness, death. Prereq: 220 or consent of instructor. Sp

370 Interpersonal Skills in Professional Settings (3)
Organizational functions, structures, skills for managing communications, conflict, other interpersonal processes in professional settings. Prereq: Junior standing. F

380 Family Finance (3) Alternatives for meeting family financial needs.的人生哲学開 cycles across the life-cycle. Prereq: 220 for CFS majors. P

420 Families: Ethnicity, Race, Class and Culture (3) Cultural, socioeconomic, ethnic variations; emerging needs and programs. Prereq: 220, 320, Junior standing or consent of instructor. (Same as Afro-American Studies 420). A, F

440 Teaching in Community-Based Programs (3) (Same as Home Economics Education 440) A, Sp

450 Assessment in Early Childhood Programs (3) Physical, cognitive, social, language development in handicapped and nonhandicapped children birth to 5 years; early development, assessment. Includes supervised practicum in assessment. Prereq: 351 or consent of instructor. F

451 Early Childhood Education III: Mainstreaming Exceptional Children (3) Individualized curriculum planning based on knowledge of normative, nonnormative development, assessment, effective teaching strategies for facilitating development. Includes participation. Prereq: 450. F

460 Directed Study in Child and Family Studies (1-3) Individual learning experience arranged for students under supervision of faculty. May be repeated with different topics. Maximum 6 hours. Prereq: Child and Family Studies and consent of instructor. F, Sp

470 Student Teaching (15) Responsibility for planning and guiding groups of infants, toddlers, or preschoolers under supervision of head teacher. Includes 15 hours of Child and Family Studies and consent of instructor. F, Sp

475 Day Care Administration (3) Theories, methods, and materials for administrators of early childhood education programs; writing funding proposals, staff selection, financial management, recruiting and enrolling children, supervision, evaluation, public relations, communication, conflict resolution. Includes participation experience. Prereq: 351 or consent of instructor. Sp

480 Practicum in Child and Family Studies (3-15) Supervised experiences working with children or families, designed to meet special interests of the student. Prereq: 15 hours in Child and Family Studies and consent of instructor. May be repeated. Maximum 15 hours. Satisfactory/No Credit only. F, Sp, Su

485 Special Topics in Child and Family Studies (1-9) Personal or professional interest in human development or family studies. Prereq: 9 hours in Child and Family Studies, Junior or Senior standing, or consent of instructor. May be repeated. Maximum 9 hours. F, Sp, Su

487 Honors: Child and Family Studies (3-6) Issues or topics affecting children and/or families, designed to meet particular interests of the student. Prereq: 15 hours in Child and Family Studies, overall GPA of 3.25 or greater, Junior standing, or consent of instructor. May be repeated. Maximum of 6 hours.

221 Early Greek Mythology (3) Archaic Greek religion through comprehensive study of Greek myths with emphasis on how they reflect the early Greek vision of the universe and humanity's place in it. Origins and development of Greek myths and the rise of organized religion. Age to about 450 B.C. Readings include Hesiod and Aeschylus.

222 Classical Greek and Roman Mythology (3) Use of myth in literature, history, religion and philosophy of Greece and Rome from about 450 B.C. to about 330 B.C. Textbooks: Two. Tecson's Theoros, Age about 450 B.C. and the last quarter of the first century B.C. Includes Oriental intrusions into Greece and Rome, includes early Christianity. Readings include Sophocles, Euripides, Roman poetry, and modern scholarship.

232_233 Archaeology and Art of Ancient Greece (3)_234 Archaeology and Art of Roman Greece (3) Survey of Greek archaeology from prehistoric times to the Roman period (ca. 3000-100 B.C.). For prehistoric Greece, emphasis on architecture and artifacts used to recreate the culture of the Minoan and Mycenaean civilizations and that of the following Dark Ages. For Archaic, Classical, and Hellenistic periods emphasis on development of architecture, sculpture, and vase painting includes minor arts and the relationship between archaeology and art.

233 Archaeology and Art of Etruria and Rome (3) Survey of the archaeology of the Italian peninsula and the Roman World from prehistoric times to the fall of the Roman Empire (1000 B.C. - 500 A.D.). Reconstruction of the Etruscan culture from tombs, paintings, and artifacts, development of Roman architecture, and urban planning in Rome and the provinces. Prereq: 232 or consent of instructor.

253-254 Greek and Roman Literature in English Translation (3,3) 253-Greek Literature. Major literature of ancient Greece from Homer to Manander, with emphasis on the sixth and fifth centuries B.C. 254-Roman Literature. Major literary works of the Romans from Plautus, Cicero, to Ovid, and others. Prereq: 233 or consent of instructor.

273-274 Medical and Scientific Terminology (3,3) 273 Greek and Latin roots from which medical and scientific terminology is derived. Emphasis on understanding and the analysis of terms. Practice in use of Latin nomenclature.

331 Archaeology of the Aegean Bronze Age and Early Greece (3) Includes Troy, the Cycladic islands, the Greek Mainland, and Crete: ca. 3000-700 B.C. Rise and fall of the Minoan and Mycenaean civilizations and their effect on the Aegean World and Cyprus. Evidence for daily life, religion, trade, and foreign contacts. Architecture, wall paintings, and artifacts. Prereq: One of the following: 232, 381, ancient history (Ancient Near East or Ancient Greece), or consent of instructor.

334 Cities and Sanctuaries of the Ancient Greek World (3) Archaeological survey of the development of the Greek city and sanctuary from prehistoric times through the Roman period (ca. 2000 B.C. - 200 A.D.). Includes topography and plans of major cities and sanctuaries, functions of buildings, development of city planning, quality of early and later city sites and festivals including the Olympic games. Ancient sites include Mycenae, Athens, Priene, Alexandria, Perge, and Ephesus. Students are recommended to have taken one of the following: 221; 232, 233, 231, History 310.

381 Greek Civilization (3) Major aspects of ancient Greek civilization: religion, fine arts, political life, Mediterranean relations, the prominence of Athens, the role of modern archaeology in interpretation; emphasis on the sixth and fifth centuries B.C.

382 Roman Civilization (3) Major aspects of ancient Roman civilization: political institutions, art and architecture, history, culture and daily life, emphasizing the late Republic and early Empire.

383 Women in the Greek and Roman World (3) The condition of women in the apparently male-dominated world of Classical Greece and Classical Rome. Evidence from literature, vase paintings, and other arts is examined from the age of Homer to the second century A.D. with emphasis on Athens in the fifth century B.C. and Roman Italy in the first and second centuries A.D. (Same as Women's Studies 383.)

422 Seminar in Classical Studies (3) Field of Classical studies today: recent achievements in the areas of both philology and archaeology; impact of the deconstruction of linear B new understandings of the culture and politics of the "golden age" of Pericles and Augustus; Classical studies and the academic profession on both the high school and college levels. May be repeated. Maximum 6 hours.

441 Special Topics in Classical Civilization (1-3) Topics in art, literature, religion, and society of Greece and Rome. May be repeated up to three times with consent of department.

461 Studies in Classical Archaeology (3) Variable content course offering subject matter not taught in an existing course, or concentration on one aspect of the existing survey. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

462 Roman Law (2) Development of Roman law through examination of cases from the writing of the Roman jurists, the world's first legal professionals. Emphasis on understanding legal institutions in relationship to Roman society, focusing on Roman property and contract law.

491 Foreign Study (1-15) See page 97.

COLLEGE SCHOLAR HONORS

317-318 College Scholars Seminar (1,1) Sequence (in any order) limited to and required of all College Scholars each year. May be repeated. Maximum 8 hours. Satisfactory/No Credit grading only.

491 College Honors: Foreign Study (1-15) See page 97 and Director of Special Programs. Primarily for College Scholar students.

492 College Honors: Off-Campus Study (1-15) See page 96 and Director of Special Programs. Primarily for College Scholar students.

493 College Honors: Independent Study (1-15) See page 96 and Director of Special Programs. Primarily for College Scholar students.

498 Honors: College Scholars Studies 2-12 Designed for College Scholars working on their senior thesis, project, or performance. May be repeated. Maximum 16 hours.

COMMUNICATIONS

100 Introduction to Mass Communications (3) Overview of systems of mass communications, with emphasis on American media, their ownership, legal and social controls, role and effects. Advertising, broadcasting, journalism and publishing, and public relations are examined in the context of theories of mass communication. Potential majors in the College of Communications should take the course during their freshman year. E

200 Writing for Mass Communications (3) Information gathering and writing under deadline for print and broadcast media, including news and promotional copy. Preparation of news, advertising and persuasive text. Comparison of styles and organization techniques. Grammar, usage, and style workshop. Prerequisites: 100, English 102, and college admissions tests (typing, spelling and grammar).

300 Mass Communications Research Methods (3) Social science research methods, especially sample surveys, used by communications media. Applications to both internal decision-making and to external communication in media. Prereq: 200 or consent of instructor. E

400 Mass Communications Law and Ethics (3) Emphasis on legal issues directly affecting the mass media: libel, privacy, free press-fair trial, judicial controls, governmental regulations. Also includes ethical standards and practices of the mass media in America. Prereq: 200 or consent of instructor. E

COMPARATIVE LITERATURE

201 Introduction to Comparative Literature (3) Basic knowledge, techniques, and sources necessary to compare literatures of various cultures, ages, and nations.

202-203 Cross-Cultural Perspectives in World Literature (3,3) Literary perspectives in different time periods and cultures. Variable content.

301 Computer Techniques for Literary Study (3) Computer research in literary study including writing programs
401-402 Special Topics in Comparative Literature (3) Content varies. May be repeated. Maximum 9 hours.

**COMPUTER SCIENCE**

100 Introduction to Computing (4) History of computers, computer programs, hardware, software, computing tools currently available. Organization and characteristics of modern digital computers. Introduction to programming, emphasis on developing good programming habits. Problem solving and algorithm development. Building abstractions with processes and data. 100 and 102 may not both be taken for credit. 100 for students with little or no background in computing.

101 Introduction to Programming Using FORTRAN (3) Problem solving and algorithm development. Introduction to programming using FORTRAN. Organization and characteristics of modern digital computers. Emphasis on developing good programming habits. Building abstractions with procedures and data. Problem solving and algorithm development. Building abstractions with procedures and data. Programming in a modern computing language. 100 and 102 may not both be taken for credit. 3 hour lab required.

111 Computer Organization (3) Number systems, internal representation of numbers in computers, hardware components, hardware organization, introduction to assembly language, microprogramming control units. Building with register machines, introduction to digital circuits. Prereq: 100 or 102. 3 hour lab required.

112 Data Structures (3) Structured programming, data structures and applications, I/O techniques, lists, queues, trees, tables, streams, algorithms, files. 3 hour lab required.

203 COBOL (3) Computer programming in COBOL. File handling, disk data sets. Prereq: 100 or 102 or consent of instructor.


291 Lower-Division Special Topics (1-3) Topics vary. Programming languages, operating systems and application software packages. May be repeated. Maximum 9 hours.

311 Discrete Structures (3) Propositional and predicate calculus, algorithms, graphs, trees. Prereq: Mathematics 222 and either 100 or 102.

320 Problem Solving (3) General approaches to problem solving, with emphasis on formalizing intuitive heuristics. Structure of problems and goals, generation of candidate solutions with partial information. Prereq: 111 and 112 and 311. (Required core course for the Machine Intelligence Concentration). 3 hour lab required.

331 Digital Design (3) Logic design, microprocessors and microprogramming, interfacing, interrupt. Prereq: 111 and 112. 3 hour lab required.

340 Advanced Data Structures (3) AVL trees, b-trees, advanced concepts and techniques. Prereq: 111 and 112. (Required core course for the Computer Systems Concentration). 3 hour lab required.

360 Systems Programming (3) Linkers, loaders, multitasking, I/O facilities, interrupt handling, monitors, editors. Prereq: 111 and 112. (Required core course for the Computer Systems Concentration). 3 hour lab required.

380 Theory of Computation (3) Recursive functions, Turing machines, computability, halting problems, Godel theorem. Prereq: 111 and 112 and 311. (Required core course for the Theory of Computing Concentration.)

381 Formal Languages (3) Grammars of the Chomsky hierarchy and their recognizers. Properties of languages and machines. Prereq: 111 and 112 and 311.

401 Applications of Computer Graphics (3) Commercial software, techniques, hardware. Prereq: 100 or 101 or 102. May not be taken for credit by Computer Science majors. 3 hour lab required.

402 Applications for Artificial Intelligence (3) Commercial software, techniques, hardware. Prereq: 100 or 101 or 102. May not be taken for credit by Computer Science majors. 3 hour lab required.

403 Applications of Microcomputers (3) Microcomputers, OOS, commercial software and hardware. Prereq: 100 or 102. May not be taken for credit by Computer Science majors. 3 hour lab required.

404 Applications of Database Systems (3) Commercial software, systems, techniques. Prereq: 100 or 101 or 102. May not be taken for credit by Computer Science majors. 3 hour lab required.

411 Senior Thesis I (3) Frontiers of computer science technology and research. Students begin writing a senior thesis. Prereq: Senior standing.

412 Senior Thesis II (3) Continuation of 411.

421 Introduction to Artificial Intelligence (3) Introduction to AI languages. Basic techniques of heuristic search, game-playing, and theorem proving. Prereq: 320. 3 hour lab required.

422 Expert Systems (3) Production rule model and its extension into many-valued and fuzzy logics. Deriving explanations, examples of expert system tools and building expert systems. Other methodologies—frames, scripts, decision expressions. Prereq: 421. 3 hour lab required.

423 Natural Language Processing (3) Phrase-structured and slot grammars, error-correcting interfaces and semantics. Applications in database and expert systems. Prereq: 381 and 421.

424 Robotics Software (3) Software for robotic control. Prereq: 331 and Mathematics 142. 3 hour lab required.

425 Functional Languages (3) Functional, applicative and object-oriented languages such as LISP and SMALL-TALK used for research applications. Prereq: 111 and 112 and Mathematics 222. 3 hour lab required.

432 Computer Graphics (3) Interactive computer graphics. Transformations, perspectives, shading, vector graphics. Details of graphics hardware such as tablets and chips for understanding techniques to design computer systems for graphics capability. Prereq: 351. 3 hour lab required.

433 Computer Systems Architecture (3) Parallel processing, memory, I/O, pipelines, specialized architectures. Prereq: 331 and 360.

434 Networks and Communications (3) ISO open system interconnection model, protocols, study of several existing wide area networks, local area networks. Prereq: 331 and 360.

435 Microcomputer Systems (3) Disk operating systems, peripherals, local area networks and communication protocols. Microcomputer component devices. Prereq: 331 and 360. 3 hour lab required.

436 Computer Systems Hardware Design (3) Investigation of computer hardware, including bus structures, interrupt support hardware, direct memory access logic, timing budgets, and system considerations. Prereq: 331 and 360. Includes 3 hour lab.

439 Microprogramming (3) Microprogramming concepts and techniques for control systems of large and small machines. Bit-slice architecture, sequencers, etc. Prereq: 331. 3 hour lab required.

451 Pattern Recognition and Analysis (3) Elements of syntactic pattern recognition, learning algorithms, decision theory, classification rules. Prereq: 111 and 112 and 311. 3 hour lab required.

452 Image Processing and Analysis (3) Methods for digitizing, processing, and analyzing images. Exposure to image enhancement, restoration. Prereq: 451. 3 hour lab required.

460 Human Factors in Software (3) Interface between people and machines and the ease of use of software as a criterion for which it is intended. Prereq: 111 and 112.


462 Software Engineering (3) Software design and application process from initial requirement and specification statements to coding, testing, implementation, and maintenance. Prereq: 111 and 112.

463 Programming Languages (3) Study and comparison of programming languages and their environments. Human interfaces, formalisms, domain of applicability, object manipulation, syntax, etc. Prereq: 111 and 112.


465 Parallel Computation I (3) Examination of non-numeric algorithms for parallel computation, operating systems, design and classification of parallel processors, compilers, concurrent computation. Prereq: 365. 3 hour lab required.


469 Non-Numeric Algorithms (3) Design and analysis of effective and efficient computer algorithms. Trees, sorting, searching, graphs, pattern matching, etc. Prereq: 111, 112 and 311.

471 Numerical Analysis (3) Same as Mathematics 471.

472 Numerical Analysis (3) Same as Mathematics 472.


476 Management of Uncertainty of Computer Systems (3) Origins of uncertainty and methods for dealing with the various classes of uncertainty. Topics may include hazards in switching circuits, vagueness in natural language processing, approximate reasoning models. Prereq: 111, 112 and Mathematics 222.

482 Graph Theory and Applications (3) Planarity,
network flow, critical paths, etc. Prereq: 111, 112 and 311.

483 Information Theory (3) Theory of communica-

493 Independent Study (1-15) Special project in area of student's primary interest. Directed by Computer Science faculty, perhaps jointly with student's faculty advisor. Intended for students with a specific project to pursue in conjunction with a faculty member. Project may be from a department other than Computer Science in which a faculty member from the appropriate department will help oversee the project. May be repeated. Maximum of 16 hours may be applied to the major. Prereq: Consent of instructor.

494 Special Topics in Computer Science (1-3) May be repeated. Maximum 9 hours.

DANCE

101 Practicum: Dance Production (1) Supervised technical and promotional production aspects of university dance company. May be repeated. Maximum 2 hours.

201 Practicum: Dance Performance (2) Preparation and presentation of university dance company performances. Participation through audition only. May be repeated. Maximum 16 hours.

210 Ballet: Level I (2) Instruction and practice in elementary classical ballet techniques. May be repeated. Maximum 4 hours.

220 Jazz: Level I (2) Instruction and practice in elementary jazz dance styles and techniques. May be repeated. Maximum 4 hours.

230 Modern: Level I (2) Instruction and practice in elementary modern dance techniques. May be repeated. Maximum 4 hours.

240 Tap: Level I (2) Instruction and practice in elementary tap dance techniques.

250 Composition I (3) Choreographic skills emphasizing form, content and music.

310 Ballet: Level II (2) Instruction and practice in intermediate classical ballet techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 12 hours.

320 Jazz: Level II (2) Instruction and practice in intermediate jazz dance styles and techniques. Available to dance majors and minors or with consent of instructor. May be repeated. Maximum 12 hours.

330 Modern: Level II (2) Instruction and practice in intermediate modern dance techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 12 hours.

340 Tap: Level II (2) Instruction and practice in intermediate tap dance techniques. Prereq: 240 or consent of instructor.

350 Composition II (3) Choreographic skills emphasizing design, use of costumes and props. Prereq: 250.

380 Special Topics (1-3) Selected disciplinary or professional areas of dance. May be repeated.

410 Ballet: Level III (2) Instruction and practice in advanced classical ballet techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 16 hours.

415 The Teaching of Creative Dance (2) Theory, methods, materials and practical experience in the presentation and integration or creative dance in grades K-6.

420 Jazz: Level III (2) Instruction and practice in advanced jazz and musical theater dance styles and techniques. Available to dance majors and minors with consent of instructor. May be repeated. Maximum 16 hours.

430 Modern: Level III (2) Instruction and practice in advanced modern dance techniques. Available to majors and minors or with consent of instructor. May be repeated. Maximum 16 hours.

450 Composition III (III) Application of choreographic and production skills culminating in the presentation of two works. Prereq: 350.

460 Rhythmic Analysis (3) Basic nature and princi-
ples of music, rhythm and rhythmic notation with emphasis on their correlation with dance movement and composition. Prereq: Consent of instructor. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

465 Dance Notation (3) Fundamentals of movement notation with emphasis on notation and reading of elementary movement studies. Senior standing or grad-
uate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

480 History of Dance I (3) Survey of the dance of various societies and cultures from pre-history through the nineteenth century. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for gradu-
ate credit.

481 History of Dance II (3) Survey of the development of dance in theater, recreation and education during the twentieth century. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

490 Philosophy of Dance and Related Arts (3) Aesthetic principles and current trends in dance emphasizing relationships with other art forms. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

493 Directed Independent Studies (1-3) Independent study in a specialized area with dance. May be repeated. Maximum 9 hours. Prereq: Consent of instruc-
tor.

495 Dance Pedagogy (3) Principles and methods of the teaching of dance with practical application in a mini-teaching experience. Prereq: Upperclass or gradu-
ate standing and approval of instructor. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

ECOLOGY

370 Environment and Conservation (2) Introduction to natural and artificial environments and natural resource conservation. Limited to students in the College of Education.

ECONOMICS

100 Survey of Economic Ideas (3) Ideas of major economists in context of socioeconomic conditions of their times. Emphasis on nontechnical treatment. May not be substituted for Economics 201.

201 Introductory Economics: A Survey course (4) Theory of consumer behavior, theory of firms, supply and demand, costs of production, market models, national income and employment theory, money and banking, money and fiscal policy, debt, and interna-
tional economics.

207 Honors: Introductory Economics (4) Honors course for students of superior ability and interest. Students accepted on the basis of their records.

311 Intermediate Microeconomics (3) Theories of consumer behavior, theory of production and costs, of price and behavior of firms in perfectly competitive, monop-
oleptic and imperfectly competitive markets, input prices, income distribution, welfare and general equilibrium. Prereq: 201.

313 Intermediate Macroeconomics (3) Measure-
ment of income and prices, aggregate demand, output, employment, price determination, inflation, business fluctuations, fiscal and monetary policies and growth. Prereq: 201.

321 International Economics (3) Balance of payments, exchange rate determination, monetary and fiscal policies, monetary arrangements, comparative advantage, tariff and non-tariff trade distortions, pro-
tection arguments, regional integration. Prereq: 201.

333 Economic Development (Third World) (3) Theo-
ries of economic development, policies and strategies used to promote economic improvement in less devel-
oped countries. Prereq: 201.

334 Comparative Economic Systems (3) Economic processes under alternative strategies and allocatio-
 mechanisms. Prereq: 201.

325 Economic History of the North Atlantic Community (3) Origins of capitalism, mercantilism, Industrial Rev-
olution, development of factory system, rise of organized business and labor, integration of the Atlantic econo-
my. Prereq: 201.

331 Government and Business (3) Antitrust and regulatory economics, problems in regulation and social control of business organization, oligopoly models. Prereq: 201.

341 Survey of Labor Economics (3) Extension of eco-
nomics principles to labor markets, public policy questions, demand and supply, theory of wage differentials, unem-
ployment, unions in the private sector, investment in individuals, education and training, mobility. Prereq: 201.

343 Labor Relations and Collective Bargaining (3) See Management 311.

351 Monetary Economics (3) Role of money in the econo-

361 Regional and Urban Economics (3) Overview of regional differences. Theory of industrial and agricul-
tural location and human migration, economic basis for land use patterns, central places, and urban form, regional and urban structure, growth, and methods of analysis, examination of urban problems. Prereq: 201.

381 Econometrics (3) Methods of specification, esti-
 mation, testing and forecasting of economic relationships. Includes specification of models, estimation meth-
ods, statistical inferences of empirical results, forecasting procedures and common econometric problems, such as multi-collinearity, heteroscedasticity, and autocor-
errelation. Prereq: 201, Statistics 201, Mathematics 121-122 or 131-132.

400 Special Topics (3) Topics vary. Prerequisites deter-
mined by department each time course is offered. Numerical grade is given to law students. Prereq: 201.

415 History of Economics (3) Methods of study of doctrinal history. Origins and evolution of major doc-
tines. Classical and Neoclassical economics, economics of Keynes and his followers, some principal develop-
ments of second half of twentieth century. Major writing requirement. Prereq: 201 and consent of instructor.

424 Political Economy of World Development (3) Topics vary. Latin America, Asia, Soviet Union and Eastern Europe. Analysis of major economic strategies, poli-

435 Industrial Organization Analysis (3) Monopoly and competition in United States economy, interrela-

442 Analytical Labor Economics (3) Problems con-
nected with labor market, intensive treatment of a small number of topics. Health economics, econom-
ic education of economics, discrimination, natural rate of unemployment, wage-price guidelines, or job search models. Major writing requirement. Prereq: 341.

462 Economics of Resources and Environmental Policy (3) Analysis of environmental policy and}
allocation of resources, benefits and costs of development of national resources and implications for environment. Major writing requirement. Prereq: 201.

471 Public Finance: Optimal Government Functions and Expenditure Analysis (3) Problems of collective action, external effects, public investment, social decision making. Prereq: 201.

472 Public Finance: Taxation and Intergovernmental Relations (3) Individual taxes and tax system, non-tax sources of revenue, fiscal federalism. Prereq: 201.

482 Introduction to Mathematical Economics (3) Application of algebra, matrix algebra, differential and integral calculus to micro and macroeconomics. Prereq: 201, Mathematics 121-122 or 141-142.

493 Independent Study (1-3) Opportunity for qualified students to pursue topics of special interest. Prereq: Senior standing, 3.0 GPA in economics courses, and consent of instructor. Maximum total credit 3 hours.

EDUCATION

302 School and American Society (3) (Same as Educational Curriculum and Instruction 302.)

303 Teacher Effectiveness and Curriculum Design (1) (Same as Educational Curriculum and Instruction.)

304 Microcomputers and Instructional Design (1) (Same as Educational Curriculum and Instruction 304.)

402 Social Theory and Educational Practice (1) (Same as Educational Curriculum and Instruction 402.)

315 Psychology of Learning and Classroom Management for Teachers (3) (Same as Educational and Counseling Psychology 315.)

325 Principles of Test Construction for Teachers (2) (Same as Educational and Counseling Psychology 325.)

370 Survey of Exceptional People (2) (Same as Special Education 370.)

EDUCATIONAL AND COUNSELING PSYCHOLOGY

210 Psychology of Human Development for Teachers (3) Understanding and application of the psychology of human development to teaching/learning process in educational settings. For students intending to enter the Teacher Education Program and Human Services students. Sp, Su

212 Career and Personal Development (3) Systematic approaches to facilitating career development and life planning. E

215 Learning Skills and Study Systems (3) Approaches to enhancing academic performance through study skills, efficient reading and understanding of personal factors. E

305 Laboratory in Educational and Counseling Psychology (1) Practice in acquiring knowledge and skill in areas such as interpersonal relations, career decision-making, communication and self-awareness. Individual and small-group format. May be repeated twice. Satisfactory/No Credit only. E

315 Psychology of Learning and Classroom Management for Teachers (3) Understanding and application of the psychology of learning and classroom management to the teaching/learning process in educational settings. Prereq: 210 or equivalent and admission to Teacher Education Program. (Same as Education 315.) F

325 Principles of Educational Test Construction for Teachers (2) Constructing classroom tests for diagnosing student learning needs and for evaluating mastery of subject matter. Prereq: 315 and admission to Teacher Education Program. (Same as Education 325.) Sp

404 Special Topics (1-3) Instructor-initiated course offered at department's discretion on various topics of current interest. Contact department for list of topics to be covered. May be repeated. Maximum 15 hours E

410 Sex Roles and Development: Implications for Education and Counseling (3) Theories and research concerning the development of sexual role and its relevance in educational and counseling settings. E

421 Personality and Mental Health (3) Perspectives of mental health with applications to education and other social services. E

432 The Disadvantaged Student: Psychoeducation- al Perspectives (3) Theory and research regarding etiology, psychosocial behavior and appropriate interventions. E

460 Self-Management in the Helping Professions (3) Applications of self-management strategies to career, social, emotional and health domains for both helping professionals and their clientele. Prereq: Introductory course in psychology or permission of instructor. E

493 Independent Study (1-15) Independent investigation of problems in educational and counseling psychology. May be repeated. Maximum credit 15 hours. E

EDUCATIONAL CURRICULUM AND INSTRUCTION

141 Efficient Reading and Study Skills (2) Improvement of reading comprehension and rate, intensive vocabulary enrichment, study skills as they relate to content area subjects. Satisfactory/No Credit only. F, Sp

203 Field Study in Education (1-3) Problems of persons in active service in the field. Includes methods of teaching, curriculum materials, school-community relationships and school organizations. May be repeated. Maximum 6 hours. E

302 School and American Society (3) Historical, philosophical and social perspectives on contemporary educational issues. Prereq: Junior level standing. (Same as Education 302.) F, Su

303 Teacher Effectiveness and Curriculum Design (1) Literature and research on effective teaching. Relationship to basic concepts, principles and processes of curriculum design. Prereq: Admission to Teacher Education Program. (Same as Education 303.) F, Sp

304 Microcomputers and Instructional Design (1) Basic operations and application of microcomputer as related to curriculum development and instructional design. Prereq: Admission to Teacher Education Program. (Same as Education 304.) F, Sp

325 Teaching Science and Social Studies in Elementary and Middle Schools (3) Methods and materials for teaching science and social studies in elementary and middle schools. Teaching approaches common to both fields including inquiry, multi-sensory activities and group approaches. Prereq: Admission to Teacher Education Program. F, Sp

326 Teaching Language Arts/Reading in Elementary and Middle Schools (3) Language and language development as applied to teaching of oracy (listening-speaking) and certain aspects of literacy (reading-process/reading and writing). Includes methods and materials. Prereq: Admission to Teacher Education Program. F, Sp

329 Teaching Developmental Reading in the Elementary and Middle Schools (3) Methods and background on how to teach word recognition skills, comprehension, study skills and how to use materials. Includes unit on phonics, evaluation and basal readers. Prereq: Admission to Teacher Education Program. F, Sp

335 Teaching Elementary and Middle School Mathematics (3) Specific procedures for helping children learn mathematics. Unit planning, daily planning, grouping, classroom management are included. Prereq: Admission to Teacher Education Program. F, Sp

351 Laboratory and Field Studies in Elementary Education (3) Simulates actual experiences in which students apply concepts and skills from professional methods courses in a variety of school settings and levels. May be repeated. Maximum 3 hours. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. E

352 Field Experiences in Teaching: Secondary I (1) Field experiences in tasks related to teaching and teacher roles. Prereq: 352 and admission to Teacher Education Program. Satisfactory/No Credit only. Su

353 Field Experiences in Teaching: Secondary II (1) Field experiences in tasks related to teaching and to teacher roles. Prereq: 352 and admission to Teacher Education Program. Satisfactory/No Credit only. Sp

355 Introduction to Secondary Schools (3) Aspects of teaching in grades 7-12, including curriculum programs and roles and responsibilities of secondary school teachers and administrators. Prereq: Admission to Teacher Education Program. Sp, Su

402 Social Theory and Educational Practice (1) Concurrent with internship; designed to integrate student's own experience with foundational theory and policy. Prereq: Admission to Teacher Education Program. (Same as Education 402.) F, Sp

404 Problems in Improvement of Instruction (1-3) Special conferences, workshops or inservice programs designed for improvement of instruction. May be repeated. Maximum 6 hours. Satisfactory/No Credit. Sp

410 Pre-Internship Seminar (1) Objectives and policies of the internship program. Must be completed the term immediately preceding the internship. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. Sp, Su

419 Teaching Laboratory (3) Learning and practicing research based effective teaching behaviors. Video taping in simulated school settings. Sp, Su

421 Elementary and Middle School Science and Social Studies Instruction (2) Methods and materials for teaching science and social studies. Development of functional relationships and individual entities of the two fields. Not open to students with recent course or background in The Teaching of Elementary School Science and/or Social Studies. Prereq: Admission to Teacher Education Program. F, Sp

424 Studies in Elementary Education (1-3) Variable topics on teaching in Early Elementary (K-3), Middle Elementary (4-8), and Skills (K-8). Prereq: Admission to Teacher Education Program and permission of instructor. May be repeated. Maximum 3 hours. F, Sp

429 Language Arts/Reading in Elementary and Middle Schools (3) Language and language development as applied to teaching of oracy (listening-speaking) and aspects of literacy (reading-process/reading and writing). Not open to students who have had recent course in language arts methods. Prereq: Admission to Teacher Education Program. F, Sp

430 Elementary and Middle School Developmental Reading Instruction (3) Word recognition (including phonics), comprehension, evaluation, and materials. Not open to students who have had recent course in reading methods. Prereq: Admission to Teacher Education Program. F, Sp

434 Topics in Reading Education (1-6) May be repeated. Maximum 6 hours. Prereq: Admission to Teacher Education Program and a course in Reading Education. E

443 Elementary and Middle School Mathematics Instruction (3) Procedures for helping children learn mathematics. Unit planning, daily planning, grouping, general factors related to classroom management. Not open to students with a recent course in teaching of elementary school mathematics. Prereq: Admission to Teacher Education Program. F, Sp

445 Early Childhood Education: Program Development and Teaching in Kindergarten (3) Curriculum plan-
493 Independent Study (1-3) Topics to be assigned. May be repeated. Maximum 12 hours. E

494 Supervised Readings (1-3) Topics to be assigned. May be repeated. Maximum 12 hours. E

495 Special Topics (1-3) Topics to be assigned. May be repeated. Maximum 6 hours. E

496 Teaching Science Grades 7-12 (3) Methods, materials, recent trends in science and environmental education programs for secondary schools. Prereq: Admission to Teacher Education Program. F, Sp

517 Seminar (1-3) Curriculum, instructional technology, elementary education, secondary education, or social foundations as they relate to goals of students' programs. May be repeated. Maximum 6 hours. E

ENGINEERING AEROSPACE


362 Dynamics/Vibrations (3) Central force, transfer of energy, transfer of angular momentum, vibrations of single mass, multiple degree vibration systems. Prereq: E& 321. F


401 Thesis (3) Problem investigation and report. Prereq: Senior standing. F, Sp

422 Aerodynamics (3) Theory and design of aerodynamic bodies for desired characteristics. Potential flow theory, viscous effects, compressibility effects. Subsonic, transonic, and supersonic airfoils. Prereq. 370. F

423 Viscous Flow (3) Boundary layer theory; laminar and turbulent flow; compressibility effects: numerical solution methods. Prereq. 351 and Mech. E. 391. Sp

424 Astronautics (3) Propulsion, trajectories, guidance, control, and atmospheric reentry of space vehicle systems. Prereq. 362, Mech. E. 332. F

425 Propulsion (3) Principles of propulsion devices: turbo-jet, ram jet and rocket engines. Prereq. 351. F


429 Aerospace System Design (4) Synthesis and design of a complete aerospace system including economic and technical aspects. Participation in team design effort including formal presentations and design report. Prereq. 425, 426. Sp

431 Mechanical Engineering/Aerospace Engineering Seminar (1) Topics related to engineering including ethics. Formal oral presentations by students on engineering topics. Prereq: Senior standing. F

449 Aerospace Engineering Laboratory (3) Designing, conducting, and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formation of conclusions. 3 hours lab per week. Prereq. 345, 351. F

494-495 Selected Topics in Aerospace Science (1-4, F, S) Current problems and topics in aerospace science; topics in science and engineering for the several areas of aerospace science. Prereq: Consent of instructor. F, Sp

ENGINEERING BASIC

100 Seminar (1) Overview of the College, engineering as a profession, engineering ethics. Consideration of each major and the various engineering disciplines. Satisfactory/No credit


111 Fundamentals of Engineering Graphics (3) Technical sketching, geometric construction with emphasis on plane surface analysis; presentation of engineering drawing; graphical solution of three dimensional space problems; primary and secondary auxiliary views. Two three-hour periods or three two-hour periods, including one hour of lecture per week.

121 Statics (3) Vectors, forces and moments; equivalent force systems; free body diagrams, equilibrium, frames, trusses and friction. Coreq. Math 141.

131 Particle Dynamics (3) Kinematics, simple harmonic motion; kinetics, Newton's laws, work-energy, impulse-momentum, impact. Prereq. 121; Coreq. Math 142.


ENGINEERING CHEMICAL


240 Fluid Flow and Heat Transfer (3) Force, energy and mechanical energy balances, flow in tubes, piping systems, flow in ducts, fluidized beds, pumps and meters; steady and unsteady state heat conduction; heat transfer, tubes and heat exchangers; radiative transfer.

310 Chemical Engineering Laboratory (3) Thermodynamics, fluid flow and heat transfer in chemical engineering. Prereq. 240, 330.

330 Chemical Engineering Thermodynamics (3) Basic concepts and chemical engineering applications of thermodynamics; emphasis on flow processes, real gases, estimation of properties, phase equilibria and chemical equilibria. Prereq. 240.

340 Mass Transfer (3) Stage-wise operation; application of analytical, graphical and computer methods to problems of stagewise separatory operations. Differential equations-application of analytical and computer methods to the design of diffusive processes. Applications include gas absorption, distillation, extraction, humidification, ion exchange and membrane separations. Prereq. 330.

360 Process Dynamics and Control (4) Introduction to process modeling and industrial control system design. Mathematical tools for characterizing dynamic behavior of processes; theory and practice of operating and controlling such systems. Includes laboratory work. Lab. Prereq. 240.

380 Seminar (1) Presentation and discussion of topics in the practice of chemical engineering. Satisfactory/No credit.

401 Chemical Engineering Data Analysis (3) Analy-
sis of experimental data; identification of system parameters; statistical properties of samples; empirical modeling of processes; statistical process control; optimization techniques.

403 Introduction to Optimization (3) Principles and applications of optimization techniques to chemical processing. Emphasis on constrained optimizations, linear programming, dynamic programming, and geometric programming. Prereq: Math 345.

410 Chemical Engineering Laboratory II (3) Laboratory investigations of mass transfer and chemical reaction phenomena in chemical engineering. Prereq: 440, 450.

415 Computer Applications in Chemical Engineering (3) Introduction to computer solution of chemical engineering problems. Primary focus on the application of personal computer programs. Includes flow sheet simulators, statistics, spreadsheets, graphics and process modeling.


440 Transport Phenomena (3) Overview of momentum, energy, and mass transport; the analysis, differential and macroscopic balances, applications involving molecular diffusion, including simultaneous mass and energy transport. Prereq: 340.

450 Chemical Reactor Fundamentals (3) Homogeneous and heterogeneous reaction kinetics; idealized homogeneous reactor models, both for closed and flowing systems. Calculations for ideal and non-ideal reactors for gas and liquid systems by principles of transport; distributions; identification of scaling parameters; catalyst effectiveness factors and conversion in fixed bed catalytic reactors. Prereq: 340, Chemistry 350.


469 Engineering Internship in Process Control (4) Selected students work in small groups on industrial problems in process dynamics and control. Directed by faculty members from host company. Prereq: 360 and consent of instructor.

475 Fundamentals of Bioreactor Design (3) Reactor modeling, analysis and design for microbial fermentations in pilot and small scale; reactor analysis; scale up; reactor design. Prereq: 340, 350.

476 Principles of Biochemical Separations (3) Selection and design of separation and purification processes; analysis of separation processes; methods of separation; design of separations processes including chromatography, electrophoresis, centrifugation, membrane processes, and conventional and supercritical fluid extraction.


485 Hydrocarbon Processing (3) Chemical and physical properties of selected hydrocarbons and processes utilized in conversion of natural gas into various fuels and petrochemical products. Prereq: 340.

486 Coal Processing to Liquid Fuels (3) Characterization of various coals with respect to current gasification and liquefaction technologies; modeling of conversion processes and estimation of product yields and the associated water, oxygen, and energy requirements; catalytic hydrogenation and reactor design considerations; economic assessments. Prereq: 485.


494 Special Problems in Chemical Engineering (3) Chemical engineering problems related to recent developments in industrial practice or research engineering. Prereq: Consent of instructor. May be repeated. Maximum credit 6 hours.

ENGINEERING CIVIL

210 Engineering Surveys (3) Measurement through application of surveying techniques; theory of errors and their analysis; concepts of horizontal, vertical and angular measurements and control; construction surveys; and route surveys through vertical and horizontal curves. Prereq: Sophomore standing.

251 Transportation Engineering I (3) Transportation problems and perspectives, rural and urban; use of a systematic planning process; analysis of existing travel patterns, modeling and demand, development of alternatives and the evaluation of civil engineering projects. Civil engineering decision making and applications of economic analysis. Prereq: Sophomore standing.

261 Stresses in Framed Structures (3) Stress and strain in two dimensions; Mohr's circle; area moments of inertia; reactions, moments, shear forces, and stresses in beams, columns, and torsional members. Prereq: Basic Engr. 121.

310 Route Surveying (3) Basic principles and practical applications of horizontal and vertical alignment of transportation routes, including compound, reverse and parabolic curves and spiral transitions. Includes earthwork computations by micro-computer. Prereq: 210.


330 Introduction to Soil Behavior (3) Physical and mechanical properties of soils, theory of compaction, seepage, and foundation stress. Consolidation theory, time rate and settlement, and shear strength of sands and clays. Two lectures and 1 lab. Prereq: 261.

335 Foundation Engineering (3) Fundamentals of geotechnics applied to design and analysis of soils structure systems; subsurface investigation; design of shallow and deep foundations, foundation on rock. Lateral earth pressure and retaining structures. Analysis of homogeneous slopes. Prereq: 330.

340 Construction Methods and Equipment (3) Fundamental operations in construction and equipment selection and productivity; concrete and steel construction; and construction contracts and economics. Prereq: 330.

352 Transportation Engineering II (3) Introduction to design, construction and operation of various transportation modes, their guideways and terminals. Two lectures and 1 lab. Prereq: Senior standing and 210.

361 Analysis of Framed Structures I (3) Forces in trusses; influence lines; deflections and beams and trusses; analysis of indeterminate structures; moment distribution. Prereq: 261.

380 Water and Waste Treatment (3) Principles of unit operations employed in physical, chemical, and biological treatment of water, wastewater, and solid wastes. Prereq: Junior standing and 390.

390 Hydraulics (3) Basic laws and properties of incompressible fluids. Units and dimensional analysis; drag forces; continuity, energy, and momentum equations; pipe flow; flow measurement; open channel flow and culverts; pump characteristics. Two lectures and 1 lab. Prereq: E&M 251, Basic Engr. 101.

395 Hydrology (3) Concept of hydrologic cycle; weather patterns; precipitation measurement and distribution, abstractions, and runoff; storm hydrograph and peak flow analyses, including design floods; reservoir and channel routing; rainfall and streamflow frequency analyses; groundwater flow. Prereq: 390.

400 Senior Design Project (3) Open-ended design project including problem formulation, specifications, feasibility and feasibility analysis. Design project will include but not be limited to typical designs by Civil Engineering consulting firms. Prereq: Completion of all technical courses through junior year.


405 Seminar (2) Selected topics including historical and modern civil engineering achievements, professional and ethical responsibilities. Senior seminar and completion of all junior level non-elective engineering courses.

406 Legal and Ethical Aspects of Engineering (2) Legal principles underlying engineering work; laws of contracts, torts, real property; problems of professional registration and ethics. Prereq: Senior standing.

409 Special Topics (1-3) Recent developments and current practice in civil and environmental engineering through field internship and/or self-study. Prereq: Consent of instructor and department head. May be repeated.

410 Land Surveying (3) Procedures of locating properties; evaluating evidence; procedures to determine property, to create land description, to prepare plots of land surveying. Prereq: 210.

421 Portland Cement and Asphalitic Concrete (3) Aggregate properties and tests, tests of portland cement concrete, mix design methods for concrete and asphalt, concrete admixtures, admixtures of asphalt and asphalt mixes, and nondestructive testing. Two lectures and 1 lab. Prereq: 321.

433 Earthquake-Resistant Structures (3) Same as Architecture 433.

434 Elementary Structural Matrix Methods (3) Same as Architecture 434.

440 Civil Engineering Systems Design and Management (3) Methods of data analysis and modeling of civil engineering systems to enhance resource allocation for specific application to problems of transportation, environmental, water resources, structural analysis materials. Emphasis on micro-computer applications. Prereq: Junior standing or consent of instructor.

451 Highway Engineering (3) Design, construction, operation, and maintenance of highway facilities; includes application of various engineering principles and techniques to the process of planning, designing and building of highway facilities; covers both geometric and pavement design. Prereq: 210, 251, 352.

452 Traffic Engineering (3) Characteristics of driver, vehicle, and roadway and their interrelationship; traffic studies; basic considerations of traffic circulation and control, lighting, capacity analysis, roadway safety analysis and design. Prereq: 210, 251, 352.

453 Airport/Railroad Planning and Design (3) Airport master planning and railroad engineering. Runway configuration, airfield capacity, geometrics and terminal layout and design. Railroad capacity, geometrics and system layout and design. Prereq: 210, 251, 352.

461 Analysis of Framed Structures II (3) Maximum stresses due to moving loads; uses of influence lines; lateral forces due to earthquake and wind; analysis of structures for wind loading; concrete and steel reinforced concrete beams; use of standard specifications. Prereq: 361.

471 Introduction to Structural Design (3) Selection of rolled structural steel beams, design of structural steel members for axial load, bending, shear and deflection and reinforced concrete beams; use of computer in structural analysis. Prereq: 361.

472 Steel Design (3) Design of plate girders and composite beams; coordination of members subjected to combined stresses; design of a typical framed building including connections. Prereq: 481.

474 Reinforced Concrete Design (3) Reinforced con-
crete continuous beams and floor slabs, columns with combined axial loads and bending, footings and retaining walls. Prereq: 461.

480 Water and Waste Transport (3) Theory and design of water distribution systems, wastewater collection systems and solid waste collection systems. Prereq: 390.

490 Water Resources Project Design (3) Development of water resources, dam and flood project, including data acquisition; spillway and outlet works design; earthwork and gravity dam stability analyses; drainage and stormwater management and operation principles; and dam safety concepts, including dam break analyses. Prereq: 390, 395.

496 Urban Drainage Engineering (3) Design and management of stormwater conveyance and control structures. Application of hydrologic and hydraulic principles to design of drainage systems for urban, strip mining, and highway development; design of inlet structures, detention basins, and detention/retention basins; application of commonly-used computer run-off models; evaluation of land-use change for transient analysis, quantity and quality. Prereq: 390, 395.

495 Water Resources Development and Management (3) Institutional framework including water law; evaluation procedures for comparing and selecting among water resources development alternatives; multi-objective planning, principles of engineering economics, benefit-cost analysis, and cost allocation methods; engineering systems and processes; decisions using risk-based methods; case studies. Prereq: Senior standing.

ENGINEERING ELECTRICAL AND COMPUTER

201 Circuits I (3) Fundamental laws of circuit analysis. Ohm's Law, Kirchoff's current and voltage laws, the law of conservation of energy, circuits containing capacitors, inductors, and resistors, complex number analysis, superposition and node analysis. Prereq: Physics 201 or 203. Coreq: Mathematics 231.


209 Circuits II Laboratory (1) Use of computer in lab preparation and analysis of circuits. Use of voltmeters, ammeters, and oscilloscopes; PIC transients; active element - operational amplifier: measurement of voltages and the phasor plots. Frequency response of RLC circuits, simulation of RLC circuits with operational amplifier, steady state and transient analysis.ميعن, 컴퓨터, تهيئة, الصفحات, طريقة, نموذج, مقياس, طاقة, الصمامات, الدوران, الأنابيب, التحول, المصطلحات, التحليل, التحلال
442 Antennas and Propagation (3) Linear antennas, and their simple antennas. Antenna gain, impedance, communication link parameters. Wave propagation in earth bound free space, earth's troposphere and ionosphere. Reflections from earth, effects on link reliability. Prereq: 346.

443 Microwave Circuits and Electronics (3) Scattered wave description of circuits to include isolators and amplifiers, couplers and power dividers, circulators, and matched loads. LO and interconnection of systems. Power generation and amplification by vacuum and solid state (bark and junction) devices. Microstrip design, patch, filtering and multiplexing devices. Transmission line and waveguide components. Prereq: 342. Coreq: 449.


445 Microwave Circuits and Electronics Laboratory (1) Experiments and projects demonstrating microwave circuit and electronics discussed in 443.

451 Microprocessors in Computer Engineering (3) Project oriented using a microcomputer kit having a monitor program and development system with cross-assembler and emulator. Simulation of memory and interface. Interfacing and hardware/software trade-offs in interrupt driven applications. Grade is dependent upon number of projects performed, development of software solutions, and engineering notebook. Acceptable as a designated design course. Prereq: 352. Coreq: 455.


453 Data Acquisition Systems (3) Digital-to-Analog conversion techniques; Quad and R-ZR ladder networks; error analysis of D/A converters; Sample/ Hold circuits; analog-to-digital conversion techniques; open loop systems; direct and matrix converters; closed loop systems; dual slope and successive approximation; error analysis of A/D converters; accuracy, linearity, drift, dynamic range, frequency response, gain, grounds and shielding; automated testing of A/D and D/A converters; device service routines; signature analysis. Prereq: 352. Coreq: 459.

455 Microprocessor Laboratory (1) Experiments and projects demonstrating microprocessors discussed in 451.

456 Digital System Design Laboratory (1) Experiments and projects demonstrating digital systems discussed in 452.

459 Data Acquisition Systems Laboratory (1) Experiments and projects demonstrating digital communications discussed in 453.

461 Plasma Magnetohydrodynamic Engineering (3) The MHD approximation; MHD waves and instabilities; MHD in static and dynamic systems; MHD in pulsed and steady-state power generation. Applications to fusion energy, industry, and astrophysics. Prereq: 361.

462 Plasma Kinetic Theory Engineering (3) Introduction to kinetic theory; beam-plasma system; driven waves in a plasma transverse to multiple beams to a continuum; Vlasov and Landau theory; microwave generation in plasmas and traveling wave tubes; free electron laser and relativistic principles. Design of plasma devices. Acceptable as a designated design course. Prereq: 361; 461 or consent of instructor. (Same as Nuclear Engineering 463.)

464 Introduction to Fusion Energy II (3) Continuation of 463. Exploration of tokamak reactor, alternate magnetic confinement concepts, advanced fusion fuels, fusion technology, plasma engineering, and development studies. Includes design project which integrates material in 463 and 464. Acceptable as a designated design course. Prereq: 464 or consent of instructor. (Same as Nuclear Engineering 464.)

465 Plasma Laboratory (1) Experiments and design projects illustrating material covered in 461, 462 and EXCE/Nuclear Engr. 463 and 464.


489 Electro-Optics I Lab (1) Experiments and projects demonstrating electro-optics discussed in 481.

490 Special Problems in Electrical Engineering (1-3) Problems in Electrical Engineering involving library and experimental research. May be repeated. Maximum nine hours. Prereq: Consent of instructor.

495 Senior Seminar (1) Topics vary. May be repeated once. Prereq: Senior standing or consent of instructor.

499 Electro-Optics II Lab (1) Experiments and projects demonstrating electro-optics discussed in 482.

ENGINEERING INDUSTRIAL

200 Fundamental Computer Applications in Industrial Engineering (3) Application of modern computer hardware and software to enhance professional productivity. Spreadsheets, word processing, graphics, and library IE programs applied to Industrial Engineering. Includes FORTRAN programming and numerical analysis. Prereq: Basic Engr. 101.


301 Operations Research (3) Introduction to mathematical programming includes classical optimization theory, linear programming (simplex method, transportation), non-linear programming, and dynamic programming. Prereq: Mathematics 231 and 200.

302 Work Methods and Measurement (4) Job analysis, job evaluation, design of wage structures, design of work, layout of flow charts, activity charting and methods improvement. Work measurement tools such as time study, predetermined time systems, work sampling, data analysis, development of standard time data, learning curves and wage incentive systems. Prereq: Statistics 251.

304 Senior Seminar (1) Discussions, lectures and trips to unify students educational experience. Prereq: Senior standing in Industrial Engineering.

405 Engineering Economy (2) Methods and problems in selection or replacement of equipment. Decisions among engineering alternatives involving capital recovery, economic life of equipment, and rate of return on investment.


412 Quantitative Methods in Project Management (2) Project planning, scheduling, and control based on networking and precedence diagramming methods. Involves resource allocation and time-cost trade off algorithms, multi-project control. Computer applications, and PERT methods of handling uncertainty in activity total times. Prereq: 402, senior standing.

413 Research Methods in Industrial Engineering (3) Methods to collect and analyze data as related to industrial engineering. Topics such as process control, regression modeling, and design and implementation of random sampling, single subject experimental designs, classical experimental design methods, and time series modeling experiments. Validity and reliability concepts as related to measurement and collection of data. Strategies to control rival hypotheses such as regression, matching, randomization, and building extraneous variables into an experiment. Selection of appropriate experimental designs for given research problems. Measurement error and detection of data. Prereq: 300 and senior standing. Statistics 251.
Recommended for engineering science and mechanics majors. Prereq: 201.

ENGINEERING MECHANICAL

331 Thermodynamics I (3) Energy and laws governing energy transformations; thermodynamic properties; thermodynamic cycles; applications to engineering problems. Prereq: Chemistry 130, and Mathematics 231, F, Sp, Su

332 Thermodynamics II (3) Properties of gases and mixtures; chemical reactions; equilibrium; compressible flow; applications to engineering problems. Prereq: 331, F, Sp, Su

341 Fluid Flow (3) Development of mass, momentum, and energy principles for fluid systems; dimensional analysis, internal and external viscous flows. Prereq: ESM 231, Mathematics 231, F, Sp, Su

344 Heat Transfer (3) Heat transfer by conduction, radiation, forced and free convection. Prereq: 341, 341, 391, F, Sp, Su

345 Mechanical Engineering Instrumentation and Measurement (3) Fundamentals of measurement systems; standards; dynamic characteristics of instruments; statistical data treatment; transducers; signal conditioning; strain, pressure, temperature and flow measurement. Prereq: ESM 231, Aerospace Engr. 362, 341, Electrical Engr. 301, F, Sp


366 Manufacturing Processes (2) Processes related to design of machine parts. Casting, hot and cold forming, metal removal and weldments. Manufacturing tolerances and surface finishes. Prereq: Materials Science 201, F, Sp

391 Engineering Analysis (2) Analysis techniques for problems of mechanical and aerospace engineering. Emphasis on approximate solutions. Prereq: Basic Engr. 201 and Mathematics 231, F, Sp, Su

401 Thesis (3) Problem investigation and report. Prereq: Senior standing, F, Sp, Su

415 Energy Conversion Systems (3) Fossil fuel energy conversion systems with emphasis on coal technology. Coreq: 475.

416 Turbo-Machinery (3) Basic principles of turbo-machinery; systematic methods of analysis, design, performance evaluation. Prereq: Aerospace Engr. 351.

422 Environmental Noise (3) Acoustics - measurement and control of noise in industrial and community environments. Prereq: Senior standing in engineering or consent of instructor.

431 Seminar (1) Topics related to engineering including ethics, Formal oral presentation by students on engineering topics. Prereq: Senior standing, F

445 Lubrication (3) Hydrodynamic theory of lubrication of sliding bearings; application of Navier-Stokes equations to infinite and finite bearings, analytical and numerical solutions; applications to design. Prereq: 344, Aerospace Engr. 351.

449 Mechanical Engineering Laboratory (3) Design, execution and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formation of conclusions. 3 hours per week. Prereq: 332, 344, 345, Coreq: 475, Sp, Su

451 Systems and Control (3) Analytical models of physical systems; comprised of combinations of mechanical, fluid, electrical, and thermal components; feedback control systems, transient and frequency response, stability analysis; non-linear control of linear system, sampled data systems, digital filters. Prereq: 341, 353, Electrical Engr. 301-392, F, Sp

455 Introduction to Machine Design (2) Engineering principles of structural integrity, design, reliability, and design for automation and testing. Prereq: 345, F, Sp, Su

465 Introduction to Thermal Design (2) Engineering economy, optimization, design for automation, reliability, and design for suitability. Design of mechanical engineering thermal-fluid systems. Participation in team design effort; requires design report. Prereq: 332, 344.


466 Elements of Machine Design II (3) Application of strength of materials principles to practical problems and theories of failure to design of machine elements. Mini project design experiences. Prereq: Materials Science 201, ESM 321, F, Sp


471 Refrigeration and Air Conditioning (3) Vapor compression and absorption cycles, heat pump systems; psychrometric processes; air washers; cooling towers; solar radiation; building heat transmission. Prereq: 332, 344.

474 Solar Energy Utilization (3) Nature and availability of solar radiation; review of heat transfer topics pertinent to solar energy collection and use; design analysis of solar energy collectors and heat exchangers. Prereq: 332, 344 or consent of instructor.

475 Thermal Engineering (3) Thermal systems with emphasis on turbomachinery, heat exchangers, combustion and system analysis and design including second law and economic analysis. Prereq: 332, 344, F, Sp

478 Thermal Engineering Design (4) Design of a complete thermal-fluid system including economic, technical and optimization aspects. Participation in team design effort including formal presentations and design report. Prereq: 456, 475, Sp

481 Internal Combustion Engines (3) Thermochemical phenomena in combustion and propulsion engines. Combustion, detonation; equilibrium; dissociation; Analysis of internal combustion engines using ideal and real fluids. Prereq: 332, 344.

494 Selected Topics in Mechanical Engineering (1-4) Problems and topics related to development and practice in mechanical engineering. Prereq: Consent of instructor. F, Sp, Su

ENGINEERING METALLURGICAL

301 Physical Metallurgy (3) Phenomenology and micromechanisms of plastic deformation in single and polycrystalline materials. Applications of crystallography and x-ray diffraction. Diffusion in solids, solidification equations, point defects and atomic mechanisms of diffusion. Prereq: Materials Science 201, 3 hours or 2 hours and 1 hour lab. Prereq: 302, 344.

302 Physical Metallurgy II (3) Recovery and recrystallization processes of cold worked structures in metals and alloys. Thermodynamics of phase equilibria. Kinetics and morphology of phase transformations. Prereq: 301, 3 hours or 2 hours and 1 hour lab. Sp
Courses of Instruction/Engineering Nuclear

302 Metallurgical Thermodynamics (2) First and second laws; free energy, activity; Racah's and Henry's laws of activity; equilibrium of condensed phase equilibria; phase stability; phase rule; multicomponent systems. Prereq: Chemistry 371. F

371 Metallurgical Applications in Manufacturing and Processing (3) Fabrication methods and standards and specifications; principles of thermomechanical processing for finished and semi-finished products; casting, forming, joining, welding; product quality assurance; corrosion control. Prereq: Materials Science 201. F

401 Thesis (3) Investigation and report on a research problem in metallurgical engineering. May be repeated once. Prereq: Consent of instructor.

402 Special Project Laboratory (1-3) Group or individual investigation of problems related to metallurgical engineering or materials science. May be repeated to a maximum of 6 credits. Prereq: Materials Science 201, 202, 203 and consent of instructor.

411 Materials Process Design (3) Property control through composition, thermal and mechanical processing; material and property selection; steels and nonferrous alloys. Prereq: Materials Science 201. F

412 Design and Analysis (3) Lecture and laboratory sessions on design and performance analysis; standard test specimens, failure analysis, design projects. Prereq: Senior standing. Sp

421 Fabrication (3) Principles and processes of welding, casting and powder metallurgy; solidification, segregation, defects; residual stress, thermal treatments including sintering; non-destructive testing. Prereq: 301, 302. 3 hours or 2 hours and 1 lab. F

422 Chemical Process Metallurgy (3) Application of chemical engineering principles to metallurgical processing. Ferrous and nonferrous pyrometallurgical refining, slag-metal equilibria, solidification, gas-metal processing. Prereq: 303. Sp

431 Mechanical Metallurgy (I) (3) Mechanical properties from tensile test; elastic behavior, description of stress, strain, and stress-strain relations; plane stress and plane strain loading; failure by yield; stress concentration; brittle fracture due to loading rate and to part and flaw geometry. Prereq: Materials Science 201, ESM. 321. Suggested for mechanical engineering and engineering science and mechanics majors. F

432 Mechanical Metallurgy II (I) (3) Brittle fracture due to metallurgical and environmental factors; stress-life and strain-life fatigue analysis; residual stresses; creep and stress rupture; frictional strain; ductile fracture; fabrication by forging, rolling, deep drawing, stretch forming; formability testing; Prereq: 431 or Mech. Engr. 461, or equivalent. Prereq: Materials Science 201, ESM. 321. Suggested for mechanical engineering and engineering science and mechanics majors. Sp

441 Seminar (1) Presentation and discussion of economic, political, social, ethical and other topics of significance to practicing materials engineers. Satisfactory/No credit.

451 Fracture-Safe Design (3) (Same as Engineering Science and Mechanics 423.)

ENGINEERING NUCLEAR

201-202 Seminar (1) Topics related to nuclear engineering. Satisfactory/No credit.

203 Thermodynamics I (3) First law of analysis of open and closed systems. Properties of ideal gases and real fluids. Prereq: Mathematics 142.

204 Thermodynamics II (3) Second law, development of entropy concept and availability. Various power plant cycles and systems. Prereq: 203.

301 Introduction to Nuclear Engineering (3) Nuclear systems, radioactive decay, cross sections, flux, heat physics, reactor theory. Prereq: Physics 232, Mathematics 231.

302 Introduction to Nuclear Reactor Theory (3) Fundamentals; cross sections, fission physics; standards and specifications; nuclear reactions and decay schemes; fission product decay; biological effects. Prereq: Consent of instructor.

304 Nuclear Engineering Laboratory (3) Radiation detection and counting instrumentation; counting statistics; nuclear data and decay schemes; gamma spectrometry, heat transfer experiments. Prereq: 305. Coreq: 302.

305 Energy Transport (3) Development of differential and integral energy conservation; conduction and convection heat transfer; numerical methods; application to nuclear reactor fuel elements, reactor cores, and heat exchangers. Prereq: 204.

306 Designing for Energy Transport (3) Radiation heat transport; hydrodynamics and heat transport in boiling and condensing system; boiling crises; fuel element and heat exchanger thermal design; steam generator design. Prereq: 305.

310-311 Thermohydraulics (3,3) Energies and the manner in which they are transferred and transformed. First and second laws of thermodynamics with applications from power cycles; transfer of heat through conductive and radiative mechanisms; development of fluid flow principles for the transport of energy. Prereq: Mathematics 241.

342 Thermal Science (3) Fluid statics; conservation equations of mass, momentum, and energy; applications to fluid and mass transport; methods of analysis; heat conduction, thermal radiation, free and forced convection. For non-departmental majors only.

401 Nuclear Reactor Theory (3) Thermal spectrum computational methods; nuclear data; nuclear fuel design; nuclear reactor physics; equilibrium core design; equations that relate thermal and neutronic variables; power distribution calculations and reactivity control methods. Prereq: 302.

402 Nuclear System Design (4) First order design and analysis of a nuclear system, interaction with non-nuclear aspects of system design including system reliability and economics, cost project. Prereq: 401.

403 Nuclear Engineering Laboratory (3) Cross-section measurement, diffusion processes, critical experiments, nuclear data, control rod calibration, statistical weight, shielding, xenon poisoning, dynamics and controls experiments. Prereq: 304 or equivalent. Coreq: 401, 405.

404 Nuclear Fuel Management (3) Topics relative to nuclear fuel cycle including mining and milling; fuel fabrication, in-core management, reprocessing and waste disposal. Economic and regulatory issues. Prereq: 302.


463 Introduction to Fusion Energy I and II (3) (Same as Electrical and Computer Engineering 463.)

464 Introduction to Fusion Energy III (3) (Same as Electrical and Computer Engineering 464.)

ENGINEERING POLYMER

401 Thesis (3) Investigation and report on a research problem in polymer science and engineering. May be repeated once. Prereq: Consent of instructor.

402 Special Projects (1-3) Group or individual investigation of problems related to polymer science and engineering. May be repeated to a maximum of 6 hours. Prereq: Consent of instructor.

404 Introduction to Polymer Science and Engineering (3) Basic course on polymers. Methods of synthesis; molecular characterization; crystallization and glass transition; crystal growth; techniques; characterization laboratory. Prereq: 431. Coreq: 432.

459 Polymer Processing (3) Rheological measurements; methods of analysis; flow and melt properties; extrusion; injection molding; physical and mechanical properties; morphology of polymers; structure and properties. Prereq: 431. Coreq: 432.

ENGINEERING SCIENCE AND MECHANICS

231 Dynamics (3) Kinematics of rigid bodies; center of mass; kinetics of systems of particles; mass moments of inertia; kinematics of rigid bodies; Newton's laws, work-energy, impulsive-momentum. Prereq: Basic Engr. 131, Mathematics 142.

271 Introduction to Biomedical Engineering (3) Overview of biomedical engineering; anatomy, physiology, biochemistry, biophysics, instrumentation, and biomaterials. Coreq: Mathematics 241 or consent of instructor.

301 Seminar (1) Engineering professionalism and career planning; seminars on current topics. Satisfactory/No credit. Prereq: Junior standing in ESM.


322 Mechanics of Materials II (3) Analysis and design of beams; singularity functions, energy methods, inclined walled pressure vessels, inelastic bending and torsion, theories of failure and fatigue. Prereq: 321.

341 Fluid Mechanics I (3) Basic conservation laws of fluids; hydrostatics; integral forms; energy, work; similarity; viscous turbulent flow through pipes; open channel flow; turbomachinery, performance/similarity, demonstration/lab. Prereq: 321. Coreq: Mathematics 241.

351 Engineering Analysis (3) Integration of fundamental physical laws and mathematical methods of analysis with emphasis on numerical analysis and digital computer solutions of engineering problems. Prereq: 321, 341, and Basic Engr. 101.

421 Materials of Engineering (3) Mechanical properties of engineering materials; data collection and processing; time and cyclic dependent properties. 3 hours or 2 hours and laboratory. Prereq: 321, Materials Science 201.

423 Fracture-Safe Design (3) Critical view of variables controlling fracture toughness; part and flaw geometry; temperature, loading rate, size, material; characterization of fracture toughness by stress intensity factors, strain energy release rates, J integral, COD data, transition temperature tests; use of fracture toughness in design. 3 hours or 2 hours and laboratory. Prereq: 321 and Materials Science 201. (Same as Metallurgical Engineering 451.)

425 Principles of Nondestructive Testing (3) Principles and theory of nondestructive testing methods; liquid penetrant, magnetic particle, ultrasonic, acoustic emission, and radiographic methods. Laboratory. Prereq: 321, Materials Science 201. (Same as Physics 425.)

431 Fundamentals of Vibrations (3) Free and forced vibrations of single and undamped lumped parameter systems; energy methods; free vibration of continuous bodies. Prereq: 231, Mathematics 231.

432 Dynamic Systems (3) Three dimensional dynamical systems and chaos; bifurcations, digital simulation of nonlinear systems; chaos; forced vibrations. Prereq: 231, Mathematics 231.

434 Acoustic Engg. Acoustics (3) Concepts of acoustics,
measures of sound and their units; noise generation and transmission, noise control principles and applications, materials and procedures for noise abatement. Prereq: 431.

442 Fluid Mechanics II (3) Differential forms of the basic laws: compressible flow, isentropic flow, shocks, duct flows with heat transfer and friction; open channel flow, critical flow, energy methods; internal and external flows. Prereq: 341, Mathematics 231.

451 Similar and Dimensional Analysis (3) Dimensional analysis, Buckingham's theorem, dynamic similarity, steady and unsteady problems of fluid mechanics, resistance forms of well-known equations, invariance of differential equations under transformation groups; reduction of systems using group invariants. Prereq: 231, 341, Mathematics 231

453 Project in Design and Development (3) Conceptualization, analysis, design, and presentation of an engineering science project. Prereq: 301, senior standing in E&SM, and a grade of C or better in 231, 321, 341, and 351.

455 Computer-Aided Design (3) Computer graphics and analysis programs for design of selected machine and structural components and systems; evaluation of design alternatives. Prereq 351.

461 Experimental Stress Analysis (3) Theory, techniques, instrumentation of strain gauges; theory and techniques of brittle coating method; introduction to other strain measuring devices. 2 hours and laboratory. Prereq: 321, E&CE 301.

463 Photomechanics (3) Photoelasticity, photoelastic coating method, Morey's method, interferometry and holography. 2 hours and laboratory. Prereq: 321, Physics 232.

465 Dynamic Data Acquisition (3) Use and calibration of instrumentation for measuring and recording dynamic phenomena. Fourier analysis, transfer function analysis, digital signal processing, transduction, experimental parameter estimation with applications to modal vibration analysis. 2 hours and laboratory. Prereq: 431, ECE 301.

471 Clinical Engineering and Bioinstrumentation (3) Function and characteristics of health care delivery systems including hospital organization and health care economics; development and management principles for a hospital-based clinical engineering program. Biomedical instrumentation system operational characteristics; human factors in system design; automation and computer control systems; equipment maintenance and control programs for hospitals. Ethical issues and professionalism in clinical engineering. Prereq: 271, E&CE 302.

473 Biomechanics (3) Mechanical properties of living tissue; forces and stresses; failure of biological systems; material compatibility of prosthetic devices; biomechanical problems related to impact. Prereq: 321.

475 Design of Artificial Internal Organs (3) Design, development and evaluation of artificial internal organs; analysis of transport processes in therapeutic devices for design optimization; review of currently available devices and federal regulation and ethical considerations. Prereq: 341, Mathematics 231.

476 Transport Phenomena in Living and Life Support Systems (3) Application of mass, momentum and heat transport theory to quantitative analysis of in vivo physiological function; analysis of transport phenomena in life support systems including design considerations for artificial organs; application to blood rheology, cardiovascular dynamics, mass diffusion in biomembrane systems, and heat transfer in living systems and extracorporeal blood flow devices. Prereq: 271, Mathematics 301.

484-495 Special Engineering Science Topics (3,3) Problems related to recent developments and practice. May be repeated once for credit. Prereq: junior or senior standing, consent of instructor.

ENGLISH

101 English Composition I (3) Expressive, informative, and persuasive writing, with emphasis on invention, organization, style, and revision; practice in writing journals, letters, and reports, as well as expository and persuasive essays; intensive study of prose for meaning and ways of expressing meaning; conferences on individual writing problems. A,B,C,NC grading.

102 English Composition II (3) Analytical writing based on the study of literature and the study and practice of research writing in individual conferences. Prereq: 101. A,B,C,NC grading.

103 Writing Workshop (1) Self-paced laboratory course only for students remediated to it at the beginning of the semester by their English Composition teachers. Individual instruction in grammar, mechanics, sentence patterns, and paragraph development. To receive credit, a student must participate at least two hours per week and must also pass the 101 class in which he or she is currently enrolled. Satisfactory/No credit grading.

118 Honors English Composition (3) Open only to those students selected on the basis of placement score and high school record. Grading is A,B,C,NC, and workload the same as regular sequence. Expository and analytical writing based on the study of literature and non-fiction prose; the study and practice of research writing; individual conferences. Students receiving a grade below B must complete the A year's work in English composition by taking 102. Students receiving a grade of A or B will complete their freshman English requirements by choosing 102, a sophomore literature course in the English Department or 355. A,B,C,NC grading.

121 English Grammar Review for Foreign Students (4) Comprehensive review of English grammatical structures. Required during their first semester in the University of all foreign students who demonstrate on the English Placement Examinations a need for work in English structures. Admission to this course is by the English Placement Exam only. Meets four hours a week. A,B,C,F grading.

131 Composition for Non-Native Speakers of English (3) Paragraph and composition organization and development with emphasis on informative and persuasive writing. Includes grammar and mechanics. Individual conferences. Admission to this course is by the English Placement Exam only. A,B,C,NC grading.

132 Composition for Non-Native Speakers of English II (3) Writing based on reading and discussion. Emphasis on research techniques and writing research papers. Individual conferences. Admission to this course by the English Placement Exam only. A,B,C,NC grading.


207 Honors British Literature I (3) Enriched section of 201 designed for students with a 3.25 or higher GPA.

208 Honors British Literature II (3) Enriched section of 202 designed for students with a 3.25 or higher GPA.

211 Literature of the Western World I: Ancient, Medieval, and Renaissance (3)

222 Literature of the Western World II: Enlightenment, Romantic, and Modern (3)

227 Honors Literature of the Western World I (3) Enriched section of 221 designed for students with a 3.25 or higher GPA.

228 Honors Literature of the World World II (3) Enriched section of 222 designed for students with a 3.25 or higher GPA.

231 American Literature I: Colonial Era to the Civil War (3) Development of American literature from its beginnings to the Civil War.

232 American Literature II: Civil War to the Present (3) Development of American literature from Civil War to the present.

233 Major Black Writers (3) Black American literature as a literary tradition.

237 Honors American Literature I: Colonial Era to the Civil War (3) Enriched section of 231 designed for students with a 3.25 or higher GPA.

238 Honors American Literature II: Civil War to the Present (3) Enriched section of 232 designed for students with a 3.25 or higher GPA.

248 Honors Introduction to Poetry (3) Enriched section of 351 designed for students with a 3.25 or higher GPA.

251 Introduction to Poetry (3) Poetry as a distinct mode of artistic expression. Critical tools for perception and reading of poems.

252 Introduction to Drama (3) Critical tools for perception of play texts.

253 Introduction to Fiction (3) 5-7 novels from the eighteenth through the twentieth centuries, with emphasis on English and American authors. Critical tools necessary for judging longer works of fiction.

258 Honors Introduction to Drama (3) Enriched section of 252 designed for students with a 3.25 or higher GPA.

263 Introduction to Creative Writing (3) Practice in writing poetry and fiction, combined with study of models and techniques.

268 Honors Introduction to Fiction (3) Enriched section of 253 designed for students with a 3.25 or higher GPA.

269 Introduction to Film Studies (3) Selected world cinema feature films. Critical techniques necessary for understanding and analysis of narrative cinema. Basic elements of film expression and contours of film history. Writing assignments.

301 British Culture to 1660 (3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history.

302 British Culture: 1660 to present (3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history.

306 Introduction to Shakespeare (3)

322 Women in American Literature I (3) Women as writers and as subjects in American literature from its beginnings to the present. (Same as Women's Studies 332.)

323 Black American Literature and Aesthetics (3) Black American literature and aesthetics since 1899, with emphasis on cultural evaluations and the principles of being "American".

334 Film and American Culture (3) American films as both works of art and social documents. Relationship between the medium of film and American culture in the twentieth century. (Same as American Studies 334.)


355 Advanced Expository Writing (3) Strategies of writing on personal and academic subjects. Discussion of student and professional writing. Open to sophomores with instructor's consent.

363 Writing Poetry (3) Introduction to writing poetry.

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

365 Writing Drama and the Screenplay (3) Introduction to writing one-act and full-length plays, as well as screenplays.

371 Foundations of the English Language (3) Phonology, morphology, and syntax of English. History of the English language to 1800. (Same as Linguistics 371.)
372 The Structure of Modern English (3) Survey of approaches—traditional, descriptive, and generative/transformational— to the structure of modern English. (Same as Linguistics 372.)

376 Colloquium in Literature (3) Methods and objectives of literary study, conferences to plan student's program in major.

379 Literary Criticism (3) Historical survey of major works of literary criticism.

381 Introduction to Folklore (3) Essential terms and concepts in modern folklore-folk-life studies. Emphasis on North American, folklore, folk song, myth, legend, proverbs, riddles, superstitions, dance, games, and architecture.

385 Literature of Adolescence (3) Reading of contemporary fiction and non-fiction written expressly for adolescents.

389 Literature of the English Bible (3) Types of literature in the Bible: legend, folk tale, history, biography, poetry, prophecy, apocalyptic. (Same as Religious Studies 369.)

401 Medieval Literature (3) Reading and analysis of selected medieval literary masterpieces in modern English.

402 Chaucer (3) Reading and analysis of the Canterbury Tales and Troilus and Cressida in Middle English.

404 Shakespeare I: Early Plays (3) Shakespeare's dramatic achievement before 1601. Selected plays from the romantic comedies (e.g., Twelfth Night), the English histories (e.g., Henry IV) and early tragedy (e.g., Hamlet).

405 Shakespeare II: Later Plays (3) Shakespeare's dramatic achievement between 1601 and 1613. Selected plays from the great tragedies (e.g., Othello), the problem plays (e.g., Measure for Measure), and the dramatic romances (e.g., The Tempest).

406 Renaissance Drama (3) English theatre between 1590 and 1646. Representative plays by Shakespeare's contemporaries (e.g., Marlowe, Webster, Jonson).

409 Spencer and his Contemporaries (3) Principal achievements in prose and poetry of the sixteenth century, including authors such as Spenser, Wyatt, Marlowe, More, Sidney and Bacon.

410 Milton, Donne and their Contemporaries (3) Principal achievements in prose and poetry of the first two-thirds of the seventeenth century such as the poetry of Milton, Donne, Marvell, and the prose of Browne, Bacon, Walton.

411 Restoration and Eighteenth-Century Poetry and Prose (3) Dryden, Donne, Marvell, Johnson, and their contemporaries, with emphasis on major works such as MacFlecknoe, Rape of the Lock, Gulliver's Travels, and Rasselas.

412 British Drama from 1660 to 1800 (3) Playwrights from Dryden and Wycherley to Goldsmith and Sheridan, including formal developments such as heroic play, cynical comedy, affective tragedy, and exempla
drama.

413 The Eighteenth-Century British Novel (3) Selected British novels from Defoe and Austen.

414 Romantic Poetry and Prose I (3) Emphasis on Wordsworth, Coleridge, and Blake, with readings from Lamb, De Quincey, and other prose writers.

415 Romantic Poetry and Prose II (3) Emphasis on Keats, Shelley and Byron, with readings from Hazlitt, Peacock, and other prose writers.

416 Victorian Poetry and Prose I (3) Emphasis on authors such as Browning, Arnold, Hopkins, Hardy, Ruskin, Darwin, and Wilde.

418 Victorian Poetry and Prose II (3) Emphasis on authors such as Browning, Arnold, Hopkins, Hardy, Ruskin, Darwin, and Wilde.

420 The Nineteenth-Century British Novel (3) Major novelists from Scott to Hardy.

421 Modern British Novel (3) Includes such authors as Lawrence, Joyce, Woolf.

422 Women Writers in England (3) Emphasis on the literary consciousness and works of British women writers in the nineteenth and twentieth centuries. (Same as Women's Studies 422.)

431 Colonial, Federal, and Early National American Literature (3)

432 American Romanticism and Transcendentalism (3)

433 American Realism and Naturalism (3)

434 Modern American Literature (3) World War I to the present.

435 American Novel Before 1900 (3) From earliest sentimental novels through Brown and Cooper, and major figures to 1900, including Hawthorne, Melville, Stowe, Clemens, and James.

436 Modern American Novel (3) Authors such as Faulkner, Steinbeck, Welty.

441 Southern Literature (3) Southern writing from colonial period into the twentieth century, including frontier humorists, local color writers, and southern literary renaissance.

442 American Humor (3) Development of American humor from the early nineteenth century into the twentieth century, with particular emphasis on Mark Twain.

443 Topics in Black Literature (3) Contents vary according to particular genres, authors, or theories from 1845 to the present, including Langston Hughes and the Harlem Renaissance, Richard Wright and Gwendolyn Brooks, writing by black women, international black literature in English, and Black American autobiography.

450 Classical Drama (3) Plays in English translation by major European writers from the five centuries to the present, with some emphasis on the twelfth-century accomplishment.

451 Modern British and American Poetry (3) From Yeats and Frost to Auden, Stevens, and more recent poets.

452 Modern British and American Drama (3) O'Neill's works as precursors to modern dramatists, such as Williams, Miller, Albee, and representatives of Black theater, like Bullock and Baraka.

453 Continental Drama (3) Plays in English translation by major European writers from the five centuries to the present, with some emphasis on the twelfth-century accomplishment.

454 Twentieth-Century International Novel (3) Such authors as Joyce, Camus, Kafka, Nabokov.

455 Persuasive Writing (3) Persuasive strategies in student and professional writing. Practice in mastering effective and emotional appeals.

456 Professional Writing (3) Principles and practices of writing for publication, dissertation, theses, articles, and reports in science and technology. Prereq: 459 or consent of instructor.

459 Advanced Technical Writing (3) For students planning careers in industry, education, and government who need technical writing skills. Writing of definitions, process descriptions, sets of instructions, descriptions of mechanisms, recommendation reports, abstracts, proposals, and major reports. Prereq: Junior standing in student's major or consent of instructor.

460 Technical Editing (3) Editing technical material for publication. Principles of style, format, graphics, layout, and production management. Prereq: 455 and 459, or consent of instructor.

463 Advanced Poetry Writing (3) Development of skills acquired in basic Writing Poetry course. Prereq: 363 or consent of instructor.

464 Advanced Fiction Writing (3) Development of skills acquired in basic Writing Fiction course. Prereq: 364 or consent of instructor.

470 Sociolinguistics (3) Language in relation to society. Empirical and theoretical focus. Emphasis on large-scale units: tribes, nations, social groups. Prereq: 371 or 372 or Linguistics 200 or consent of instructor. (Same as Linguistics 470 and Sociology 471.)

471 Numerology (3) Numerological and magical healing. Prereq: 371 or 372 or Linguistics 200 or consent of instructor. (Same as Linguistics 471.)

472 American English (3) Phonological, morphological, and syntactic characteristics of major social and regional varieties of American English, with attention to phonology, their origins, functions, and implications for cultural pluralism. Prereq: 371 or 372 or Linguistics 200 or consent of instructor. (Same as Linguistics 472.)

473 Teaching English as a Second or Foreign Language (3) Grammar and pronunciation with emphasis on particular grammatical difficulties of non-native learners of English. Basic phonological structures of English. Teaching grammar and phonology to non-native speakers with some attention to contrastive analysis of English with other languages. Prereq: Second year of a foreign language. (Same as Linguistics 474.)

475 Teaching English as a Second or Foreign Language (3) Language acquisition theory. Issues in teaching the four language skills to learners of English. Materials and methods of language teaching and testing with emphasis on preparation of materials. Observations of and team teaching with experienced staff member. Prereq: 474. (Same as Linguistics 475.)


481 Studies in Folklore (3) Topic varies. May be repeated with different topic. Maximum 6 hours.

482 Major Authors (3) Content varies. Concentrated study of at least one of the most influential authors in British and American literary history: e.g., Donne, Tennyson, Jane Austen, Whitman, Faulkner, Baldwin or Lawrence.

483 Special Topics in Literature (3) Topic varies. May be repeated. Maximum 6 hours.

484 Special Topics in Writing (3) Original writing integrated with reading, usually taught by a professional author. Topics vary. May be repeated. Maximum 6 hours.

485 Special Topics in Language (3) May be repeated. Maximum 6 hours with consent. (Same as Linguistics 485.)

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

489 Special Topics in Film (3) Content varies. Particular directors, film genres, national cinema movements, or other topics. May be repeated with consent of department. Maximum 6 hours.

491 Foreign Study (1-15) Seeing, studying, and writing about drama as performed in London and Stratford-upon-Avon during the summer. See page 97.

492 Off-Campus Study (1-15) Seeing, studying, and writing about drama as performed in New York City. See page 96.

493 Independent Study (1-15) Tutorial in subjects not adequately covered in regular courses. See page 96.

497 Senior Honors I (3) Admission by consent of department.

498 Senior Honors II (3) Admission by consent of department.

ENTOMOLOGY AND PLANT PATHOLOGY

306 Forest Protection (2) Biological, economic, and legal considerations of fire, pathogens, insects, vertebrates, wind, and pollutants in the forest ecosystem. 2 hours and 1 lab. Sp, E.

313 Plant Pathology (3) Principles of plant pathology illustrated by diseases of common agricultural crops. Prereq: Six hours of Biological Science. 3 hours. (Same as Botany 313.)

321 Economic Entomology (3) Structure, life history, habits and principles of control of important insect
301 Financial Management (3) Principles of financial management. Investment, financing and asset management functions of the firm.

400 Special Topics (3) Seminar. Topic(s) announced prior to offering.

421 Investment Analysis (3) Principles and concepts of asset valuation in competitive and efficient financial markets. Basic analytical tools are developed and used to study valuation of different types of securities. Major writing requirement.

422 Portfolio Analysis and Management (3) Portfolio theory and evidence of behavior of security returns with a view to determining rational investment policy. Includes statistical analysis for risk and return of portfolio, portfolio evaluation and revision, capital market theory, and extensions of portfolio analysis. Prereq: 421.

430 Financial Markets (3) Role of short and long term financial markets in the process of capital formation and allocation. Theories and mathematics of interest rates in money and capital markets.

431 Financial Institutions (3) Management policies of financial institutions including asset, liability and capital management. Legal, economic and regulatory environment and their implications for management. Financial institutions' structure and competition and changing trends in the U.S. Financial System.

450 Financial Management: Theory and Practice (3) Decision making topics in financial management including valuation, capital budgeting under uncertainty, cost of capital, capital structure theory and dividend policy. May be repeated; maximum 3 credit hours. Prereq: 451.

460 Advanced Topics in Financial Management (3) Contemporary issues in corporate finance, liquidity and current asset management, corporate growth and control, international financial management, and pension fund management. Prereq: 450.

470 Risk Management and Insurance (3) Identification, measurement and decision making with regard to insurance-type risks facing the firm. Emphasizes handling of risk in the most cost-efficient manner.

471 Estate and Financial Planning (3) Process of estate accumulation, safekeeping, and distribution, with particular emphasis on impact of insurance and taxation.

481 Real Estate Finance and Investment Analysis (3) Principles of financing and investing in real property. Utilizes discounted cash flow models and ratio analysis. Current federal tax law applicable to real property. Limited partnerships and other joint ventures. (Same as Urban Studies 481.)

482 Urban Development and Finance (3) Economic analysis of determination of urban land value and use, and discussion of current urban problems in the United States. Primary and secondary mortgage market and economic analysis of the effects of these markets on urban development. (Same as Urban Studies 482.)

699 Meat Evaluation and Grading (2) Grading standards for meats and cuts; principles for evaluating beef, pork and lamb carcasses and cuts. Prereq: 412 or equivalent. 2 hours and 1 lab. F, E

360 Meat Science (2) Carcass characteristics of meat animals, muscle structure and composition, cut identification, curing, freezing and cookery. Sp

365 Meat Science Lab (1) Slaughter and processing methods for beef, pork, lamb and poultry. Prereq: 360 or concurrent enrollment. Sp

401 Food Technology and Science Seminar (1-2) Review of scientific literature, oral and written reports. May be repeated; maximum 3 credit hours. Prereq: Senior standing or consent of instructor. F, Sp

410 Food Chemistry I (3) Reactions of proteins, enzymes, and additives in foods. Study of physico-chemical interactions of food materials. Prereq: Chemistry 110 or equivalent. 2 hours and 1 lab. F

411 Food Chemistry II (3) Reactions of inorganic compounds, carbohydrates, lipids and vitamins in foods. Prereq: Chemistry 110 or equivalent. 2 hours and 1 lab. Sp

420 Food Microbiology (2) Physical, chemical and environmental factors moderating growth and survivability of foodborne microorganisms; pathogenic and spoilage organisms; quality of foods and their control. Prereq: Microbiology 210. Coreq: 429. F


430 Sensory Evaluation of Food (3) Principles and methods of sensory evaluation of foods. Prereq: Basic statistics. 2 hours and 1 lab. Sp

440 Preservation of Food (3) Prevention of deterioration and spoilage of foods. Methods of preservation. Prereq: Agricultural Engineering Technology 422. 2 hours and 1 lab. Sp

450 Dairy Products I (3) Procurement, processing and distribution of dairy milk. Manufacture of butter, frozen and condensed dairy products. Prereq: 140 or consent of instructor. 2 hours and 1 lab. F

451 Dairy Products II (3) Manufacture of cheese and specialized dairy products. Market standards and grades, product defects, scoring of dairy products. Prereq: 140 or consent of instructor. 1 hour and 2 labs. Sp

460 Meat Products Technology (4) Processing methods for making cured, smoked, fresh, fished and formed products. Effect of processing methods on product characteristics. Prereq: 360 or consent of instructor. 3 hours and 1 lab. F

470 Food Crop Products (3) Food products from plants emphasizing types, manufacturing systems, quality attributes and utility. 2 hours Biological Science. 2 hours and 1 lab. Sp-E

480 Cereal Science and Bakery Products (3) Chemistry and technology of processing cereal grains; interactions of ingredients during production and storage of baked products. Prereq: 410 or 411 or equivalent. 2 hours and 1 lab. F-O

493 Special Problems in Food Technology and Science (1-3) Research problems in student’s area of interest. Prereq: Analyzed field experience in approved food technology industry. May be repeated; maximum 6 credit hours. Prereq: Consent of instructor. E

321 Forest Recreation (3) Philosophical foundation of recreation; planning, development, and management of forest recreation resources; interpretation of forest recreation. Overnight weekend field trips may be required. F

322 Applied Silviculture (3) Application of silvicultural techniques; tree improvement; use of herbicides; fire management. Prereq: Forestry, Wildlife and Fisheries 312. Coreq: 323, 324, 325, and Entomology and Plant Pathology 306. Sp


324 Forest Resource Analysis (3) Growth and yield prediction; harvest determination; goal setting under multiple use concepts; approaches to regulation; financial aspects of forestry with computer simulation. Prereq: Forestry, Wildlife and Fisheries 315. Coreq: 322, 323, 324 and Entomology and Plant Pathology 306. Sp

325 Forest Resource Inventory and Surveying (3) Volume and growth estimation; timber appraisal; surveying techniques; road layout and construction as applied to forestry; timber harvest techniques. Prereq: Forestry, Wildlife and Fisheries 313. Coreq: 322, 323, 324 and Entomology and Plant Pathology 306. Sp

331 Wood Properties and Uses (2) Fundamental structure, production and uses of wood. Prereq: 321, 323, or consent of instructor. Coreq: 332 for Forestry and Wood Utilization majors. Sp

332 Wood Identification (1) Macro and micro identification of important commercial softwoods, hardwoods, and foreign woods. Prereq: Forestry, Wildlife and Fisheries 311 or consent of instructor. Coreq: 332 for Forestry and Wood Utilization majors. 1 hour and 2 labs. Sp

421 Forest and Wildland Resource Economics (3) Production functions, supply-demand and market analysis; non-market programs and projects; economic analysis and decision-making. Prereq: Basic economics. Prereq: Consent of instructor. F

422 Forest and Wildland Resource Policy (3) Policy formulation; criteria for policy determination; forest and wildland law and regulation; theory of conflict resolution; formal and informal resolution. Prereq: Senior standing. F

423 Forest Recreation Planning and Management (3) Planning processes, master and site planning, site design projects; management strategies, methods of visitor and recreation site management; case studies. Weekend field trips may be required. Prereq: 321, 332, 333, Ornamental Horticulture and Landscape Design 280, or consent of instructor. 1 hour and 2 labs. F

431 Solid Wood Processing (3) Production processes for solid wood products including sawmilling, secondary machining, drying and preservation. Prereq: 331 and 332, or consent of instructor. 2 hours and 1 lab. Sp

433 Pracitcum in Wood Products (2) Standard laboratory procedures used in the evaluation of wood and wood products. Plant visitations including sawmills, pulp, plywood, flooring, furniture, composite panel, and wood products. Prereq: Consent of instructor. F

434 Measurement and Marketing of Wood Products (3) Wood properties and measurement of wood; wood products marketing. Prereq: Consent of instructor. F

493 Off-Campus Internship in Forestry (1-6) Supervised experience at departmental-approved internship site. Prereq: Junior standing. Satisfactory/No credit only. E

493 Independent Study in Forestry (1-15) Special research or individual problem in forestry. E

FOOD TECHNOLOGY AND SCIENCE

140 The Food Industry (3) Role of the food industry in providing an adequate, safe food supply for the United States and international markets. Interaction of related industries and governmental agencies and consumers. 2 hours and 1 lab. F

280 Food Chemistry (3) Physical, chemical and environmental factors moderating growth and survivability of foodborne microorganisms; pathogenic and spoilage organisms; quality of foods and their control. Prereq: Microbiology 210. Coreq: 420. F

320 Food Microbiology (2) Physical, chemical and environmental factors moderating growth and survivability of foodborne microorganisms; pathogenic and spoilage organisms; quality of foods and their control. Prereq: Microbiology 210. Coreq: 420. F

420 Food Microbiology (2) Physical, chemical and environmental factors moderating growth and survivability of foodborne microorganisms; pathogenic and spoilage organisms; quality of foods and their control. Prereq: Microbiology 210. Coreq: 420. F


430 Sensory Evaluation of Food (3) Principles and methods of sensory evaluation of foods. Prereq: Basic statistics. 2 hours and 1 lab. Sp

440 Preservation of Food (3) Prevention of deterioration and spoilage of foods. Methods of preservation. Prereq: Agricultural Engineering Technology 422. 2 hours and 1 lab. Sp

450 Dairy Products I (3) Procurement, processing and distribution of dairy milk. Manufacture of butter, frozen and condensed dairy products. Prereq: 140 or consent of instructor. 2 hours and 1 lab. F

451 Dairy Products II (3) Manufacture of cheese and specialized dairy products. Market standards and grades, product defects, scoring of dairy products. Prereq: 140 or consent of instructor. 1 hour and 2 labs. Sp

460 Meat Products Technology (4) Processing methods for making cured, smoked, fresh, fished and formed products. Effect of processing methods on product characteristics. Prereq: 360 or consent of instructor. 3 hours and 1 lab. F

470 Food Crop Products (3) Food products from plants emphasizing types, manufacturing systems, quality attributes and utility. 2 hours Biological Science. 2 hours and 1 lab. Sp-E

480 Cereal Science and Bakery Products (3) Chemistry and technology of processing cereal grains; interactions of ingredients during production and storage of baked products. Prereq: 410 or 411 or equivalent. 2 hours and 1 lab. F-O

493 Special Problems in Food Technology and Science (1-3) Research problems in student’s area of interest. Prereq: Analyzed field experience in approved food technology industry. May be repeated; maximum 6 credit hours. Prereq: Consent of instructor. E

FORESTRY/Courses of Instruction 153
FORESTRY, WILDLIFE AND FISHERIES

211 Introduction to Forestry, Wildlife and Fisheries (3) History of natural resources policies and practices, social perspectives and attitudes concerning natural resources and their use; techniques of integrated natural resources management, ecological principles, current policies, social trends, and forest and wildlife resource use. Day-long field trips may be required. Sp

250 Conservation (3) Use and abuse of wildlife resources. Historical perspectives and current management of forests, wildlife, and fish of North America including aspects of outdoor recreation and pollution problems.

300 Current Issues in Renewable Natural Resources (1) May be repeated. Maximum 3 hours. Satisfactory/unsatisfactory only. F

311 Dendrology/Ecology/Silvics (4) Principles of plant identification, ecological principles, characteristics of forest and associated ecosystems. Prereq: 1 year of Botany or Biology. 2 hours and 2 labs. F

312 Silviculture (2) Principles for treating forest stands to achieve selected objectives. Prereq: 311. Coreq: 313, 314, 1 hour and 1 lab. F

313 Measurements and Sampling (2) Measurement techniques and sampling methods for vegetation; estimation of animal populations; map and aerial photography. Prereq: Statistics 201. Coreq: 313, 315, 1 hour and 1 lab. F

315 Forest Soils and Watershed Management (3) Soil information, properties, water relations and the basis for cation exchange, nutrient cycling, classification, and management of forest soils. Hydrology and management of water in the forest ecosystem. Coreq: 312, 313. 2 hours and 1 lab. F

316 Principles of Forest and Wildland Management (3) Land management tools and systems including planning use of forest resources, environmental impact statements and geographic information systems. Analysis of land management determinants - legal, institutional, economic and social. Theory and practice of management of organizations that administer and use forest and wildlands. Prereq: 211, 2 hours and 1 lab. F

317 Principles of Wildlife and Fisheries Management (3) Ecological relationships of wild animals with other animals and their habitats. Biological, social and economic aspects of wildlife management. Coreq: 312, 313 and 315, or consent of instructor. F

416 Planning and Management of Forest and Wildland Resource (3) Integrated forest and wildland resource management through developing land management plans and analyzing case studies including conflict resolution. Prereq: Senior standing, 1 hour and 2 labs. Sp

FRENCH

111-112 Elementary French (3,3) Introduction to French. May not be repeated for credit by students with two years of high school or one year college French. Must be taken in sequence. Language Laboratory required.

211-212 Intermediate French (3,3) Sequence stresses the reading, writing, listening, and speaking of French to prepare for upper division courses in the language. Must be taken in sequence. Language Laboratory required.

217-218 Honors: Intermediate French (3,3) For students of superior ability in French. Incoming freshmen admitted on basis of diagnostic test; high school average, and performance on ACT. Class held to a maximum of 15 for individual attention. Students follow enriched program with emphasis on speaking ability and reading, including literary selections. Students with a grade of A in 211 may enter 218 with permission of instructor. Credit for 300 given to students receiving a grade of A or B in the course.

291-292 French Literature in English Translation (3,3) 291-From the origins through the Age of Voltaire. Rabelais, Montaigne, the Classical period, and Voltaire. 292-Diderot, 19th and 20th centuries; Flaubert, Rembrandt, and Dumas. May not be counted toward the major or minor.

300 French Transition (2) Development of linguistic skills necessary for satisfactory work in courses above 300. Recommended for students who would benefit from additional training beyond 212 in basic skills of reading, speaking and writing French. May not be counted toward the major or minor.

301-302 Elements of French for Upper Division and Graduate Students (3,3) Elements of language, elementary and advanced readings. Open to graduate students preparing for language examinations, and upper division students desiring reading knowledge of the language. Undergraduate credit only. Not for credit for those having had 111-112 or equivalent. No auditors.

311-312 History of French Literature (3,3) Chronological view of French literature in relation to the specific historical developments that have influenced it. Prereq: 212, 218 or equivalent.

313 Aspects of French Literature (3) Study of masterpieces from the great literary movements and countermovements. Prereq: 212 or equivalent.

324 Women in French Culture (3) Role of women in shaping French history and culture. Feminists (George Sand), royal mistresses (Mme de Maintenon), intellectuals (Mme de Stael); actresses (Sarah Bernhardt), scientists (Marie Curie). Taught in English. May not be counted toward the major or minor. (Same as Women's Studies 324.)

341-342 Intermediate Composition and Conversation (3,3) Grammatical analysis of modern French prose; review of grammatical principles and their application in translation from English to French, both written and oral; exercises in free composition. Prereq: 212, 218 or equivalent. Credits of 341 or 345 may be applied toward the major, but not both.

345 French for Business (3) Contemporary French language as it applies to business transactions. Understanding and composing business letters; oral communication and elements of French culture related to good business practices. Either 342 or 345, may be applied toward the major but not both. Prereq: 341 or consent of instructor.

400-401 Consecutive and Simultaneous French-English Conversation Translation (3,3) 400-Consecutive Translation to and from English. Introduction to simultaneous translation to English. 401-Simultaneous Translation to and from English, training of students with good knowledge of French for consecutive and simultaneous translation from French into English. Open to upper division students only. Credit for neither language as it applies to business transactions. Undergraduate credit only. Prereq: 342 or 345. Either 342 or 345 may be applied toward the major or equivalent. Preferably taken in sequence.

410 Medieval French Literature (3) Major representative works of Medieval French literature. Texts in modern French. Prereq: 212, 218 or equivalent. (Same as Medieval Studies 410.)

411 French Literature of the 16th Century (3) Highlights of 16th century French literature. Excerpts from Rabelais, Montaigne; readings of poems from the writers from Lyon and members of the Pleiade. Prereq: 212, 218 or equivalent.

412 French Literature of the 17th Century (3) Masterpieces of 17th-century French literature. Prereq: 212, 218 or equivalent. (Same as Medieval Studies 412.)

413 French Literature of the 18th Century (3) Major works of the Enlightenment. Prereq: 212, 218 or equivalent.


416 Survey of Francophones Literature (3) Introduction to writing in French outside of France. Prereq: 212, 218 or equivalent.

419 Readings in French Literature (3)

420 French Cinema (3) The French cinema from its earliest days through the New Wave directors. Prereq: 212, 218 or equivalent. Can be applied to major.

421 Phonetics (3) Foundation in the science of phonetics. Practical exercises and individual performance. Laboratory training highly recommended. Prereq: 212, 218 or equivalent.

422 Advanced Grammar (3) Improving one's own study style basic and more refined structures of the French language. Writing creative free-style compositions. Prereq: 342 or 345.

423-424 Advanced Conversation (1,1) Informal conversation with native speaker on contemporary topics. Stress in class contact rather than outside preparation. Meets two hours a week for one semester credit. Prereq: 342 or 345.

425 Introduction to Descriptive Linguistics (3) Phonetics and phonemics, morphology and syntax. Types of languages, linguistic groups, dialects, and dialect geography. Application of descriptive linguistics - field linguistics, dialect study, its practical use in learning languages and in language teaching. Introduction to transformational grammar. Prereq: six hours of upper division English or six hours of upper division courses in a modern or ancient language (exclusive of German and French 391-302, courses in literature in translation, and general courses in Latin and Greek requiring no knowledge of these languages), or consent of department. (Same as German 425, Russian 425, Spanish 425 and Linguistics 425.)

426 Methods of Historical Linguistics (3) (Same as Russian 426, German 426, Spanish 426 and Linguistics 426.)

429 Romance Linguistics (3) Development of Classical Latin through Vulgar Latin into major Romance languages. (Same as Spanish 429 and Linguistics 429.)

430 Theatrical French (2-3) Performance in one or more French plays. Prereq: 212, 218 or equivalent and consent of instructor. Can be applied to major.

431 Highlights of French Civilization (3) Survey of French Civilization from the Gauls to World War II. Historical events, daily life, all forms of arts. Prereq: 212, 218 or equivalent.

432 Contemporary French Culture (3) French contemporary civilization and culture since World War II. Problems, trends and organization of French society today. Prereq: 212, 218 or equivalent.

440 Capstone Experience in French (4) Synthesizing knowledge of French language and culture, and general courses in Latin and Greek requiring no knowledge of these languages, or consent of department. (Same as German 425, Russian 425, Spanish 425 and Linguistics 425.)

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

493 Independent Study (1-15) See page 96.

GEOGRAPHY

101-102 World Geography (3,3) Selected topics and world regions, especially those with problems or situations of contemporary interest, to illustrate geographical points of view, concepts, and techniques. Must be taken in sequence.

131-132 Geography of the Natural Environment (4,4) Characteristics and processes of the earth's surface and lower atmosphere; the interaction of living organisms with the world pattern of distinctive environments significant to humanity. Must be taken in sequence. 3 hours lecture and 2 hours lab per week. Not open to students who have taken 330.
141 Introduction to Economic Geography (3) Location and analysis of business, jobs, and the major types of economies: agriculture, energy and mineral production, manufacturing, transportation, trade, and services.

310 Introduction to Maps, Aerial Photographs, and Cartography (3) Properties, sources, uses, design and production, and other forms of spatial images as tools for geographical analysis. 2 hours lecture and 2 hours lab per week.

320 Cultural Geography: Core Concepts (3) Background and method of cultural geography; basic concepts of culture, and the interaction of cultural and geographic space, culture regions, cultural ecology, innovation and diffusion, cultural integration, and world patterns of cultural phenomena.

323 Behavioral Geography (3) Types of human behavior, such as shopping, territory, commuting, residential mobility, and regional consciousness as they relate to distance, natural environment, and culture. (Same as Urban Studies 323.)

324 Political Geography (3) Importance of geographical factors in understanding political relationships within and among nations; spatial implications of political decision-making processes; geography of administrative units.

330 Physical Geography: Core Concepts (3) Topics in physical geography emphasizing climate, land forms, and the circulation of water. Not open to students who have taken 131 or 132.

334 Meteorology (3) Dynamic atmosphere and resulting weather events. Nature of individual weather elements, their measurement and analysis over time and space.


361 Regional Geography of the United States and Canada (3) Physical, economic, and social distributions as they interrelate to give distinctive character to regions of the United States and Canada.

363 Geography of the American South (3) Geographical appraisal of the southeastern United States, including physical environment and human resources. Origin and development of contemporary economic and cultural traits of the area.

365 Geography of Appalachia (3) Interrelation of physical, economic, and social patterns that give distinctive character to regions in southern Appalachia. Appalachia in perspective in the current American scene.

372 Geography of Middle America (3) Physical, cultural, and economic characteristics of Mexico, Central America, and the West Indies. (Same as Latin American Studies 372.)

373 Geography of South America (3) Physical, cultural, and economic characteristics of the countries of South America. (Same as Latin American Studies 373.)

375 Geography of the Soviet Union (3) Geographical appraisal of the Soviet Union, including physical environment, economic patterns, and human resources.

379 Geography of Africa (3) Physical, cultural, and economic characteristics of Africa, with particular emphasis on the area to the south of the Sahara. (Same as Afro-American Studies 379.)

411 Computer Mapping and Geographic Information Systems (3) Concepts, management, and presentation of digital data for spatial analysis, with emphasis on cartographic data structures. 2 hours lecture and 2 hours lab per week. Prereq: 310 and knowledge of a computer language or consent of instructor.

412 Cartography (3) Cartographic techniques applied to the design, compilation, and reproduction of maps and other graphics. 2 hours lecture and 2 hours lab per week. Prereq: 310 or consent of instructor.

413 Remote Sensing: Types and Applications (3) Principles and uses of remote sensing imagery, digital data, and spectral data, with particular emphasis on geographic interpretation and mapping techniques. Prereq: 310 or consent of instructor.

415 Quantitative Methods in Geography (3) Geographical application of statistical techniques, point pattern analysis, and analysis of areal units. Prereq: Mathematics 115 or two semesters of calculus or consent of instructor.

419 Practicum in Cartography/Remote Sensing (2-6) Supervised practical experience involving use of maps and other graphic materials in the Cartographic Services Laboratory or a similar organization. Prereq: Written consent of department prior to registration.

421 Geography of Folk Societies (3) Geographical study of folk culture, emphasizing traditional material culture and rural settlement, with examples drawn from eastern North America and selected foreign areas. Prereq: 101-102 or 320 or consent of instructor.

425 Historical Geography of the United States (3) Survey of the changing human geography of the United States during four centuries of settlement and development. Emphasis on changing population patterns, development of agricultural regions, and patterns of urban-industrial development. Prereq: 361 or consent of instructor.

433 The Land-Surface System (3) Nature and regional variations in relationships among surface form, water, vegetation, and surface materials. People as evaluators and agents of change. Prereq: 131-132 or 330 or consent of instructor.

434 Climatology (3) General circulation system leading to world pattern of climates. Climatic change and modification, and interrelationships of climate and human activity. Prereq: 131-132 or 330 or 344 or consent of instructor.

441 Urban Geography (3) Concepts and theories concerning development and significance of systems of cities and internal morphology of cities. Prereq: 101-102 or 141 or 340 or consent of instructor. (Same as Urban Studies 441.)

443 Rural Geography (3) Geographical appraisal of rural areas of the United States, including small towns and urban fringes. Problems and potentials of rural America. Prereq: 191-192 or 141 or 340 or consent of instructor.

445 Geography of Resources (3) Factors related to variations in resource availability from time to time and place to place, with particular emphasis upon energy and metallic resources. Prereq: 101-102 or 141 or 340 or consent of instructor.

449 Geography of Transportation (3) Examination of transportation systems, emphasizing their effects on trade patterns and types of enterprises, and development. Prereq: 141 or 340 or consent of instructor.

500 Process Geomorphology (3) (Same as Geology 450.)

491 Foreign Study (1-15) Prereq: Written consent of department required prior to registration. See page 97.

492 Off-Campus Study (1-15) Prereq: Written consent of department required prior to registration. See page 96.

493 Independent Study (1-15) Prereq: Written consent of department required prior to registration. See page 96.

499 Proseminar in Geography (3) Major themes in geography, especially trends over the past 40 years. Required for majors. Not open to graduate students. Prereq: Senior standing and completion of at least 12 hours of major or minor requirements in geography.

GEOL0GY

100 The World's Oceans (3) Geophysical, physical, and biological aspects of oceans and human interactions with the marine environment. 3 lecture hours per week.

101-102 General Geology I, II (4, 4) 101-Physical processes within and upon the Earth's surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. 102-Fossils, evolution and current environments. May be taken in sequence or sampled for the purpose of earth history. Must be taken in sequence. 3 lecture hours and one 2-hour lab or field period.

201 Fossils and the Meaning of Evolution (3) Theories and evidence of evolution presented in a non-technical manner, with references to modern society. Topics include creationism, purpose of life, progress, 2 lecture hours and one 2-hour lab. May be applied to the Geology major.

203 Geography of Natural Parks (3) Geologically spectacular landscapes and geologic history of national parks of the world. Human attempts to preserve the Earth's historic heritage. 3 lecture hours, plus a field trip during the term. May not be applied toward the Geology major.

210 Basic Geology for Engineers (2) Materials and structures of the earth. For College of Engineering students only. 2 lecture hours and one 2-hour lab or field period.

310 Mineralogy (3) Crystallography and study of minerals. Laboratory includes hand specimen, optical, and x-ray methods of identification. Prereq: 101, Chemistry 120-130 or equivalent. 2 lecture hours and one 2-hour lab.

320 Paleobiology (3) Fossils and their uses in functional morphology, paleoecology, biogeography, biostratigraphy, and evolution. Prereq: 102 or consent of instructor. 2 lecture hours and one 2-hour lab or field period.

325 Geological History of Land Organisms (3) Origin and development of terrestrial organisms in space and time, with emphasis on the fossil record of land plants and vertebrates. Prereq: Elementary biology sequence or consent of instructor. 2 lecture hours and one 2-hour lab or field period.

330 Igneous and Metamorphic Petrology (3) Classification and properties of igneous and metamorphic rocks, the processes that produce them, and the tectonic environments in which they form. Prereq: 310, 2 lecture hours and one 2-hour lab.

340 Stratigraphy and Sedimentation (3) Stratigraphic principles and practices; physical sedimentary processes and interpretation of depositional environments. Prereq: 101, 102 and 310. 2 lecture hours and one 2-hour lab or field work.

345 Geology of East Tennessee (1) Geology of the Southern Appalachians in Tennessee. Prereq: Completion of major core courses or consent of instructor. 1 lecture hour plus field trips.

346 Introduction to Oceanography (4) Physical, chemical, biological, and geological processes including tides, waves, ocean circulation, ocean basin processes, marine sedimentation, biogeochemical cycles, and food webs. Prereq: Chemistry 120-130 or equivalent. 101-102 or 310. 2 lecture hours and one 2-hour lab. (Same as Botany 346.)

370 Structural Geology (4) Common geologic structures (folds, faults, cleavage) and their genesis. Laboratory includes map interpretation, cross-sections, projections, stereonets. Prereq: 101-102, Mathematics 141-142. 3 lecture hours and one 2-hour lab.

380 Resources Crises - Minerals and Energy (3) World and United States resources of minerals and energy, price and production trends, future supply of minerals and energy, national mineral and energy policies. Emphasis on appraisal of conventional and alternative energy resources. 3 lecture hours.

410 Advanced Mineralogy (3) Crystal chemistry of the rock-forming minerals. Interaction of electromagnetic radiation and crystalline solids. Optical properties of minerals, visible and infrared spectroscopy, and x-ray diffraction. Laboratory exercises emphasize thin section and x-ray diffractometer methods in mineralogy. Prereq: 310, 2 lectures, one 2-hour lab.

420Paleoecology (4) Principles of ecological analysis as applied to fossils and fossil assemblages with emphasis on data collection and interpretation. Laboratory is designed around preparation of scientific reports.
421 Invertebrate Paleontology I (3) Preservational processes and conceptually important representations of Protista, Porifera, Cnidaria, Bryozoa, and Brachiopoda. Emphasis is on functional morphology, skeleton structures, ecology, and stratigraphic distribution. Prereq: 320 or consent of instructor. 2 lecture hours and one 2-hour lab.

422 Invertebrate Paleontology II (3) Higher invertebrates: - Annelida and other worms, Mollusca, Echinodermata, Graptolita, Corda, Chordata. Emphasis is on functional morphology, skeletal structures, ecology, and stratigraphic distribution. Prereq: 320 or consent of instructor. 2 lecture hours and one 2-hour lab.

425 Evolution and the Geologic Record (3) Evolution of life viewed from the fossil record. Includes mass extinctions, macroevolution, and evolutionary rates. Prereq: 320. 2 lecture hours and 1 seminar.

426 Paleobotany and Palynology (3) Evolutionary history of terrestrial plant life through examination of the fossil record of macrobotanical remains, spores, and pollen grains. Origin and diversification of Gymnosperms and Angiosperms; changes in floristic provinces through geologic time. Prereq: 102; Botany 310-320 or consent of instructor. 3 lecture hours and one 2-hour lab. (Same as Botany 426.)

440 Field Geology (6) Summer field course for advanced undergraduate geology majors and first-year graduate students in geology. Taught off-campus at the Geology Field Station and requires the full time of the student. Field techniques demonstrated, practiced, and completed to the solution of geologic problems. Prereq: Completion of major core courses and consent of instructor.

445 Regional Geology of the United States (3) Evolution of geologic provinces within the United States with emphasis on the integration of several types of geologic data. Prereq: 330, 340, 370; 3 lecture hours.

450 Process Geomorphology (3) Integrative approach to the development of the surface of the Earth based upon case histories, maps, remote sensing imagery, 2 lecture hours and one 2-hour lab. Prereq: 101-102. (Same as Geography 450.)

455 Basic Environmental Geology (3) Applications of the geological sciences toward a comprehension of the effects of geologic processes on humans and the effects of human activities on the earth's environment. Prereq: 12 hours of geology courses. 2 lecture hours and one 3-hour lab or field period.

460 Principles of Geochemistry (3) Application of chemical principles to geologic problems. Emphasis on crystal chemistry and relation between basic atomic structures and behavior of elements in the Earth's crust. Prereq: Chemistry 120-130; recommended: Geology 330. 2 lecture hours and one 2-hour lab.

470 Applied Geophysics (3) Basic principles and applications of seismic, gravity, magnetic, and electrical prospecting methods. Recommended: Math 141-142 or 147-148 and Physics 131. 2 lecture hours and one 2-hour lab.

480 Principles of Economic Geology (3) Ore-forming processes, classification of mineral deposits, survey of different types of mineral deposits with examples, and economic aspects. Prereq: 310 and 330 or equivalents. Recommended: 460. 2 lecture hours and one 2-hour lab.

485 Special Problems in Geology (1-3) Directed study or special topics. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

493 Independent Study (1-15) See page 96.

GERMAN

101-102 Elementary German (3,3) Must be taken in sequence.

107-108 Honors: Elementary and Intermediate German (6,6) Honors course for students of superior ability. Prereq: Freshman admittance on the basis of high school average and performance on the American College Testing Program. Upperclass students must have a B average. A grade of A or better must be achieved in 107 in order to continue German 208. A student obtaining a grade of D or better in 107 may continue with German 208, but must complete both 107 and 201-202 and its completion allows the student to enter all 300-level German courses.

201-202 Intermediate German (3,3) Must be taken in sequence. Prereq: 102 or equivalent.

221-222 German Literature in Translation (3,3) Traces major literary movements and periods of the German literature. No foreign language credit. Writing-essays are mandatory.

301-302 Introduction to German Literature (3,3) Prereq: 202 or equivalent. Need not be taken in sequence.

304 Elementary Dutch (3) Prereq: Reading knowledge of German. Primarily for graduate students in German. No graduate credit allowed.

305 Readings in German (3) Topics in both literary and non-literary fields. Students or student groups are encouraged to suggest topics for future courses. May be repeated with instructor approval of department. Prereq: 202 or equivalent.

311-312 Conversation and Composition (3,3) Prereq: 202 or equivalent.

325 Modern German Novel in English Translation (3) Great nineteenth-century German novels, including study of novel theory and criticism. No foreign language credit.

326 German Drama in English Translation (3) German drama from the Enlightenment to the present, including study of dramatic theory and criticism. No foreign language credit.

331-332 Elements of German for Upper-Division and Graduate Students (3,3) Elements of language, elementary and advanced readings and a final 10,000 word translation project. Open to graduate students preparing for language examinations, and upper-division students desiring reading knowledge of the language. Undergraduate credit only. No credit for students who have completed 101-102 or 107.

363 Modern German Culture (3) German culture from the middle-nineteenth century to the present: customs, art, music, literature, society, state. Readings in English. No foreign language credit. A writing-essays course. Fulfills Upper Level Distribution Requirement for Foreign Studies for those who have not satisfied the history requirement with western civilization.

411-412 Advanced Conversation and Composition (3,3) Prereq: 311-312 or equivalent or consent of department.

420 Selected Topics in German Literature from 1750 to the Present (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.

421 German Lyric Poetry (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.

422 German Drama (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.

423 German Narrative Prose (3) Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.

424 German Literary Movements (3) Major periods in the development of German literature since 1750, with emphasis on the problems and pitfalls of periodization.

425 Introduction to Descriptive Linguistics (3) (Same as Russian 425, French 425, Spanish 425, and Linguistics 425.)

426 Methods of Historical Linguistics (3) Phonetics, distinctive features, analysis and change, sound change, nature of sound change, principles of reconstruction and fundamental assumptions about language change through time. Non-phonological linguistic change, language contact, lexical borrowing. Prereq: 6 hours of upper division foreign language courses excluding courses in translation or graduate reading courses. (Same as Russian 426, French 426, Spanish 426 and Linguistics 426.)

435 Structure of the German Language (3) Contrastive English-German segmental and suprasegmental phonemes, contrastive English-German linguistic structures, selected topics in advanced German grammar and syntactic analysis. Prereq: 6 hours of upper division German language courses excluding courses in translation and graduate reading courses. (Same as Linguistics 435.)

436 History of the German Language (3) Development of the German language from Indo-European through Proto-Germanic, Old High German, Middle High German to New High German. Internal and external linguistic history of German speech. Prereq: 6 hours of upper division German language courses excluding courses in translation or graduate reading courses. (Same as Linguistics 436.)

485 Business German (3) German used in fields of business, government, administration and economics. Prereq: 6 hours of upper division German excluding courses in translation and graduate courses.

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

493 Independent Study (1-15) See page 96.

GREEK

121-122 Beginning Greek (3,3) Must be taken in sequence.

261 Intermediate Greek: Grammar Review and Readings (3) Systematic review of Attic Greek and readings from selected authors. Prereq: 122.


401 Greek Poetry (3) Epic, lyric, drama. Authors vary. Prereq: 261.

402 Greek Prose (3) History, philosophy, and oratory. Authors vary. Prereq: 261.

405-406 Selected Readings from Greek Literature (3,3) For advanced students in Greek. The study of plays, the historical writings, the poetry of ancient Greeks in the original Greek. May be repeated for credit. Maximum 9 hours. Prereq: 401-402 or consent of instructor.

HEALTH

110 Personal Health and Wellness (3) Information and behavior necessary to approach health and wellness scientifically and to develop confidence in judgments affecting personal health and wellness. E

200 Seminar in Human Sexuality (2) Problems and responsibilities of being male and female as they relate to health and wellness. Satisfactory/No Credit only. F, Sp

225 Alcohol/Drugs and the College Student (2) Problems related to use and abuse of substances potentially harmful to health and wellness. Covers alcohol, drugs, tobacco and other substances. Satisfactory/No Credit only. F, Sp

230 Cardiopulmonary Resuscitation (1) Theory and skills to implement basic cardiac life support followings certain cardiac arrest due to such conditions as heart attack, drowning, electrocution, suffocation, poisoning, drowning, electrocution, and other accidents. Educational and preventive aspects of controlling cardiovascular disease. Leads to basic life support certification. F, Sp

300 Health Education, Promotion, and Behavior (3) Health education goals, roles, target populations in...
Nationhood. The evolution of modern Germany through revolution, industrialization and wars, from Mertens's Second Reich, to the Weimar republic to Hitler's Third Reich, to Adenauer's Federal Republic and the present nation of two states.

336 A History of Austria and Central Europe: Fron- tier and integration in Central Europe: A cross-section of the Hapsburg collection of states, and its search for identity as it underwent drastic changes, from a multi-national empire and great power status to an unstable truncated republic, to an exploited Third Reich province, to a four-fold Allied occupation zone, to--essentially--an independent neutral nation at the crossroads of Europe. Major themes are balance of power politics, relationships with neighboring peoples, cultural achievements, economic integration and disintegration, and the problems of centralization versus national diversity.

340-341 History of Russia (3.3) 340-To the middle of the 19th century. 341-From the middle of the 19th century.

350-351 Early Modern America, 1607-1815 (3.3) A thematic approach to early American history in the formative years; 350-to 1776; 351-1776 to 1815.

352 The United States during the Jacksonian Era, 1815-1860 (3) An examination of the major economic and political developments within the bellicose American wilderness and the framework of the American government.

353 The Civil War and Reconstruction Eras, 1860-1877 (3) An examination of the major political, economic, and social developments in the United States during the Civil War and Reconstruction eras.

354 United States, 1877-1933 (3) America's political, economic, and social development from the Gilded Age through the Great Depression.

355 United States, 1933 to the Present (3) American experience from World Wars I and II to present. Emphasizes domestic history but includes military and foreign policy.

360-361 History of Latin America (3,3) 360-From the foundation of Latin America to present-day national life. 361-National Development, 1825 to present. (Same as Latin American Studies 360-361.)

362-363 History of East Asia (3,3) 362-East Asia: History and Culture to 1600. Chieflly China and Japan; Korea and Vietnam also included. Confucianism, Buddhism, social structure, political tradition, and Japanese feudalism. Comparison and contrast with Western history and culture. 363-Modernday East Asia since 1860. China, Japan, Korea, and Vietnam. Comparative modernization: Western impact, cultural transformation, communist movement, and Japan's militarism and post-war economic success.

364 History of China (3) Changes and continuities of the world's longest uninterrupted civilization with a quarter of the human race; similarities and differences between Chinese and Western civilizations; Chinese rev- olutions in historical context.

365 History of Japan (3) Japanese history from mythological origins to the postwar era, with emphasis on politics and society. Topics include the influence of disease on society, Japanese feudalism, popular culture in the 1700s, the Meiji Restoration, and Jap- anese militarism.

366 Ancient Near Eastern Civilization (3) Bronze and Iron Ages of the Levant, to Sargon's Sumerian conquest; institutional structures; imperialism, cuneiform traditions and their perpetuation.

367-369 History of the Middle East (3) 367-Rise and spread of Islamic civilization to the sixteenth century; 368-The Middle East from the sixteenth century to the present. Impact of the West and background of current problems in the area.

370-372 History of Africa (3.3) 370-Africa and the conflict and change occurring there from 1000 A.D. through the World War I era in 1919. 371-Dynamics of African independence since 1919. Achievement of independence by west African nations and the failure of Africans in the south to achieve that goal. Issues of urbanization, industrialization, and for- eign domination of the twentieth century African context. (Same as Afro-American Studies 371-372.)

373 Historical Issues (3) Broad, thematic issues in historical perspective. Lecture-discussion. Especially suitable for non-majors; also open to majors.

374 The West and the Third World Since 1870 (3) Relationships between the West and Africa, Asia, and Latin America since 1870 across a broad spectrum of critical issues, including independence, decolonization, and underdevelopment, ideologies in conflict with non-Western world views, and the search for individual identity in a competitive world system. May be repeated. Maximum 9 hours.

375 Revolutions in Historical Perspective (3) Comparative history of major revolutions which transformed political, social, and economic structures and values, such as those in France, Russia, China, Mexico, and Iran. Contrasts and common patterns in their causes, phases and outcomes. Relations between leaders and masses. Major theories of revolution.

376 History Behind the News (3) Contemporary analy- sis and the historical background of selected newsworthy events in North and South America, and the non-Western world. May satisfy history major requirements except those of geographical distribution. May be repeated by non-majors. Maximum 6 hours.

379 American Issues: Individualism and Community (3) Ways in which Americans have organized their lives so as to retain the benefits of individual and small group identity while seeking to achieve the pur- poses of larger social groups and goals. Topics include conflicting and competing tendencies toward laissez-faire and "Americanism" and ethnic identity.

380 American Issues: War and the Peaceable Ideal (3) Evolution of the dual tendency among Americans to express abhorrence to war and imperial conquests and, to engage in war and exercise economic or political dominion over other peoples. Topics include relationship between leaders and followers, patterns and dissent, mobilization for war, and post-war atti- tudes.

407-408 Honors: Senior Paper (3,3) 407-Supervised reading, bibliographical research, conceptual clarification, research; 408-Organization and writing of the senior honors paper. Both are required of students working for honors in history.

430-431 European Intellectual and Cultural History (3.3) 430-Renaissance to Revolution, 1300-1789. 431-Romanticism to Realism, 1750-1830.

432 Women in European History (3) Comparative analysis of the roles of women in Medieval, Renaiss- ance, and Victorian Europe; relationship between family structure, sexual attitudes and the economic and political roles of women with an emphasis on autobiographical writings by women. (Same as Women's Studies 432.)

433 War and Society in Europe from Medieval to Modern Times (3) Relationship between the nature of war and society in Europe which covers medieval, early modern and modern warfare, culminating in the World Wars of the 20th Century.

440 America: Mind, Mood and Society (3) Social and cultural history and thought from mythology behind colonial America, major beliefs and values which form the foundation present-day life in the United States. May be repeated. Maximum 9 hours.

441 The American Frontier and Westward Move- ment, From the Atlantic to the Trans-Mississippi West (3) Settler movement and development of the "West" through- out American history.

442 Indian-White Relations in United States History (3) Dilemma of two cultures existing side by side; background and formulation of official Indian policy; undermining of indigenous beliefs and values; Indian wars and campaigns; present-day relationship.

443-444 History of the South (3,3) 443-Old South from colonial period through the Civil War. 444-New South in Reconstruction through the Second Recon- struction.

445 The Afro-American Experience from the Colonial Period through the Present (3) The Afro-American experience from the 18th and 20th century Afro-American history, such as Pan-Africanism and the impact of education on the status of Blacks. (Same as Afro-American Studies 445.)

449 History of Tennessee (3) Tennessee's history from the 18th century to the present.

450 History of American Foreign Relations (3) Rise of United States from weak nation to global power. Ideology of expansionism and United States response to challenges of autarchy, communism and third world nationalism.

451 United States Military History, 1756 to the Present (3) The nation's broad strategic aims and means used to attain them, shifting strategy, tactics and weaponry involved in wars, and relationships between American society and its armed forces. (Same as Mil- itary Science 430.)

452 The American Experience in World War II (3) Diplomacy and warfare in Europe and Asia and the impact of the war on American society. (Team-taught course).

455 Women in American History (3) Approaches of applied to American society. (Same as Women's Studies 455.)


457 History of Sports in the United States (3) Development of sports and their significance in American life from colonial period to present. Emphasis on social, cultural, economic and political impact of both spec- tator and participatory sports in 20th century.


470 Studies in British History (3) Variable content. Selected themes and issues in British history. May be repeated. Maximum 9 hours.

471 Studies in Western European History (3) Variable content. Particular aspects of Western European history such as witchcraft, revolutions, or national- ism. May be repeated. Maximum 9 hours.

472 Studies in Central European History (3) Variable content. May be repeated. Maximum 9 hours.

473 Studies in Eastern European History (3) Variable content. Selected aspects of Eastern European his- tory such as witchcraft, nationalism, and the non-Western world. May be repeated. Maximum 9 hours.


475 Studies in Latin American History (3) Variable content. Significant issues in Latin American history. May be repeated. Maximum 9 hours. (Same as Latin American Studies 475.)

476 Studies in Asian History (3) Variable content. Particular aspects of Middle Eastern and East Asian history such as modernization in the Middle East, Revolution in China, Japanese feudalism, and others. May be repeated. Maximum 9 hours.

479 Studies in United States History (3) Variable content. Particular aspects of United States history. May be repeated. Maximum 9 hours.

480 Study of African History (3) Variable content. Different areas of the continent and diverse aspects of the African experience such as African resistance movements, African political parties, the relationship of Africa to the West, the development of colonialism, and the social and economic conditions in modern
African nations, and Apartheid and resistance in South Africa. May be repeated. Maximum 9 hours.

481 Studies in History (3) Variable content. Subject matter not covered in other courses. May be repeated. Maximum 9 hours.

482 Colloquium in History (3) Historical theme or problem; emphasis on questions and skills, with special reference to historical writing, including critical analysis of both primary and secondary sources. Recommended for seniors.

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

HUMAN ECOLOGY

210 Field Experience in Teaching Home Economics Education (1-3) May be repeated. Maximum 3 hours. Satisfactory/No Credit only. F, Sp

220 Introduction to Home Economics Educational Programs (3) School-based and community-based home economics programs. Field experience included. Sp

320 Strategies of Teaching Home Economics (3) Teaching methods, techniques, use of media. Field experience included. F

420 Curriculum Development in Vocational Home Economics (3) Program planning, evaluation, design of instruction for classroom. Prereq: 320, Admission to Teacher Education Program. To be scheduled immediately preceding student teaching. Sp

421 Teaching Occupational Home Economics (1) Methods, organization, curriculum for Home Economics Related Occupational programs. Prereq. or Coreq. 420. Sp

430 Student Teaching in Vocational Home Economics (8-15) Prereq: 420, Satisfactory/No Credit only. F

440 Teaching in Community-Based Programs (3) Planning and implementing non-formal instructional programs; methods, curriculum, delivery systems, evaluation. Includes field experience. Prereq Senior standing. (Same as CFS 440.) Sp

445 Field Experience in Community-Based Programs (1-15) Participation in Home Economics-related programs or Businesses. Includes seminar. May be repeated. May be graded. Prereq: Consent of instructor. Satisfactory/No Credit only. F, Sp

497 Honors: Home Economics Education (3-6) Issues or topics affecting home economics education, designed to meet particular interests of the student. Prereq. Junior or Senior standing and consent of instructor. May be repeated. Maximum 6 hours.

HUMAN SERVICES

220 Introduction to Human Services (3) Focus on related societal values and contemporary issues in human services. Emphasis on the various professions, settings, and roles as students examine the complexities of human needs and social problems.

240 People and Problems of Appalachia (3) Exploration of life style and institutions from contemporary human services point of view. Special emphasis placed on political and economic structures of region.

330 Thinking About People (3) Development of thoughtful, informed, and empathic attitudes toward human beings—those providing services as well as those receiving service. Prereq. Progression to the major. F

380 Human Services Methodologies I (3) Basic helping skills essential to the effective delivery of Human Services. Prereq. Progression to the major or consent of instructor. F

390 Information Interpretation and Assessment (3) Information gathering and assessment for human services are examined in depth in relation to human services practice. Formulating questions, identifying relevant data, using related resources, interpreting information and applying this information to the practical setting. Prereq. Progression to the major. Sp

420 Human Services Methodologies II (3) Includes reality therapy, behavior modification, family systems, client-centered and rational emotive therapy. Discussion and role playing of methods and skills that will be used during the field experience. Prereq. Progression to the major. 220, 330. Coreq. 440. F

430 Working Within The System (3) Capstone Experience. Context within which the need for human services arises and analysis of the process through which such services are provided. Prereq. Progression to the major; 330; senior standing or consent of instructor. Sp

440 Human Services Field Work (6) Practical field experiences in appropriately organized and directed human services settings. Develops specific helping skills; involvement in roles and function of social services; and provides direct services in a supervised learning situation. For majors only. Prereq. Progression to the major; Coreq. 420. Satisfactory/No Credit only. F

441 Human Services Field Work II (6) Practical field experiences in appropriately organized and directed human services settings. Develops specific helping skills; involvement in roles and function of social services; and provides direct services in a supervised learning situation. For majors only. Prereq. Progression to the major. 380, 420, 440. Satisfactory/No Credit only. Sp

450 Special Topics in Human Services (3) Issues, methods, values, and trends with implications for helping practitioners, such as art therapy, legal and ethical issues, and self-awareness education. May be repeated. Maximum 9 hours.

451 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

INTERIOR DESIGN

140 Introduction to Interior Design (2) Orientation to the profession; relationship to allied fields; contemporary developments; philosophical approaches. F

150 Visual Studies (3) Classification and properties of two and three dimensional visual organization; design principles; visual and spatial elements within simple and complex visual systems; role of movement in experiencing scale and volumetric space. F

200 Human-Environment Systems (3) Role of culture in defining environment—physical, social and conceptual aspects of human-environment systems. Impact of environment on human behavior, feelings and values; material-cultural properties of behavior-environment systems. (Same as Urban Studies 200.) Sp

240 Fundamentals of Interior Design I (4) Principles of spatial organization; creative problem-solving and communication techniques for micro-interior environments; perspective drawing, model building, experimentation with various media. Prereq. 140, Arch 172. F

250 Fundamentals of Interior Design II (4) Problem solving, spatial organization of micro environments, interior design related to space, color, lighting, and large scale solution, graphic, audio and photographic techniques. Prereq. 240. Sp

270 History of Interior Architecture I (3) Interior architecture, decoration and decorative arts within cultural context, ancient through seventeenth century. Emphasis on Italy, France and England. Prereq. one semester Art History. Sp

280 Micro-Computers for Interior Design (3) Electronic spreadsheets, word processing, and data-base information to relate anthropometrics to furniture dimensioning and specifications for maximizing design criteria, cost estimating and product trade-offs in meeting budget constraints. Prereq. or Coreq. 240. Interior Design students only. F

310 Survey of Interior Design (3) Planning and organizing interior spaces (rooms, apartments, residences) to meet personal and family housing needs; relation of furnishings to architectural space. Not open to Interior Design majors. Enrollment preference given to Home Economics, Interior Design, and Tourism, Food and Lodging Administration majors. A, Sp

315 Survey of Contract Interiors (3) Planning and organizing interior spaces for restaurants and lodging facilities; relation of furnishings to architectural space. Offered Fall and Spring in even years; A, F Sp.

340-350 Intermediate Interior Design I, II (4.4) Studio problems of intermediate complexity; integrates and extends previous knowledge of working drawings, materials and sources, design methods, spatial organization and planning of micro and macro environments. Prereq. Third year in Interior Design; courses must be taken in sequence. F, Sp


370 History of Interior Architecture II (3) Interior archi- tecture, decoration and decorative arts within cultural context, seventeenth through the nineteenth centuries; emphasis on France, England and America. Prereq. 270 or consent of instructor. F

400 Proxemics (3) Analysis of spatial behavior; emphasis on cultural basis of spacing behavior. Prereq. 200 or consent of instructor. A, Sp

410 Environment as Code (3) Advanced theoretical issues in environment as a medium of human communication. Prereq. 200, 400 or consent of instructor. A, Sp

417 Honors: Interior Design (1-4) Advanced research in interior design problems for juniors or seniors. May be repeated. Maximum 8 hours. Prereq. Consent of Interior Design faculty. E

420 Practicum for Interior Design (15) Supervised experience in a professional design firm; business practices, project management and design philosophy. 3rd year in Interior Design; 360 and consent of instructor. Sp

430 Computer-Aided-Design (3) Interaction between computer-aided-design process, data-base, spreadsheet software, cost estimating, construction drawings related to space planning. Prereq. 230, 340; Interior Design majors only. Sp
ITALIAN

111-112 Elementary Italian (3,3) Introduction to Italian. May not be taken for credit by students with two years of high school or one year college Italian. Must be taken in sequence. Language Laboratory required.

211-212 Intermediate Italian (3,3) Sequence stresses reading, writing, listening and speaking. Italian to prepare for upper division courses in the language. Must be taken in sequence. Language Laboratory required.

311-312 History of Italian Literature (3,3) Chronological view of Italian Literature in relation to the specific historical developments that have influenced it. Prereq: 212 or equivalent.

341-342 Intermediate Grammar, Composition and Conversation (3,3) Grammatical analysis of Italian prose; review of grammatical principles and their application in translation from English to Italian; both written and oral exercises in free composition. Prereq: 212 or equivalent.

401 Dante and Medieval Culture (3) Introduction to the life of this great Italian writer. Prereq: 212 or consent of instructor. (Same as Medieval Studies 401.)

402 Petrarch and Boccaccio (3) Prereq: 212 or consent of instructor. (Same as Medieval Studies 402.)

403-404 Literature of the Rinascimento (3,3) From Puccio to Tasso, the Quattrocento and the Cinquecento. Prereq: 212 or consent of instructor.

405 Modern Italian Poetry (3) Prereq: 212 or consent of instructor.

406 The Modern Italian Novel (3) Prereq: 212 or consent of instructor.

409 Directed Readings (3)

491 Foreign Study (1-15) See page 97.

JOURNALISM

201 Publicity and Public Relations (3) Principles and practice of writing for mass media. Prerequisite: For organizations and institutions. Not available for majors in the College of Communications. Prereq: English 102.

202 Editing (3) Methods and practice in judging news, editing copy, writing headlines and designing newspapers and magazines. Emphasis on precise word use and news display. Prereq: Communications 200.

270 Public Relations Principles (3) Theories and practices of public relations. Overview of public relations relations projects. Prereq: 201 or Communications 200.

290 Photographic Journalism (3) Principles and practice of photography as a creative tool of communication. Basic camera technique, darkroom work, historical and contemporary photojournalism. Lecture and laboratory. Prereq: 201, or Communications 200, or consent of instructor.

310 Feature Writing (3) Skills of journalism for writing feature articles for newspapers, magazines and company publications. Critiquing of students' work in writing workshops, and writing short-in-class pieces as assigned. Prereq: 203, or consent of instructor.


390 Communications Graphics (3) Principles and practice in the visual aspect of communications. Emphasis on graphic design, typography, illustration and photography. Printing and production techniques and publication design. Lecture and laboratory. Prereq: 201, or Communications 200, or consent of instructor.

403 International Communications (3) Development and operations of world mass communications channels and agencies. Comparative analysis of media, media practices, flow and news throughout the world. Production and broadcast systems studies in terms of relevant social, political, economic, and cultural factors. Relation of communication practices to international affairs and understanding.

412 Opinion Writing (3) Analysis of editorial positions, practices, and pages. Writing editorials and columns for newspapers, magazines, and company publications with emphasis upon study and use of rhetorical devices and logic. Prereq: 203 or consent of instructor.

414 Magazine Article Writing (3) Techniques of writing in-depth articles for mass circulation and specialized magazines. Organizing and presenting material, with attention to problems in management, science, agriculture, the humanities. Prereq: 203 or consent of instructor.

416 Issues in Journalism (3) Topics vary. May be repeated. Maximum credit 6 hours. Prereq: Consent of instructor.

420 Print Media Management (3) Current business practice among print news media, especially newspapers. Problems in management and production, and the outlook for new technologies. Prereq: 6 hours math and/or accounting, and senior standing.


433 Advanced Editing (3) Primary focus is on sensitivity to language and editing skills. Includes headline writing, layout and production. Prereq: 203.


LATIN

111-112 Beginning Latin (3,3) Must be taken in sequence.

251 Intermediate Latin: Grammar Review and Readings (3) Prereq: 112 or equivalent.

252 Intermediate Latin: Vergil's Aeneid (3) Prereq: 251 or equivalent.

351 Cicero and Sallust (3) Prereq: 252 or equivalent.

352 Roman Lyric Poetry (3) Poetry of Catullus, Horace, and the elegists. Prereq: 252 or equivalent.

414 Cicero and Techniques of Latin Prose Composition (3) For advanced students in Latin. Practice in prose composition, the writings of Cicero as model. Prereq: 351-352 or consent of instructor.

431-432 Selected Readings from Latin Literature (3,3) For advanced students in Latin. Oratory, historical writings and poetry of ancient Rome, in the original Latin. May be repeated for credit. Maximum 5 hours. Prereq: 351-352 or consent of instructor.

435 Medieval Latin (3) Selected readings from the Latin prose and poetry of medieval Europe. Prereq: Consent of instructor.

LATIN-AMERICAN STUDIES

251-252 Introduction to Latin American Studies (3,3) Societies of Latin America with special emphasis on dominant culture patterns, social changes, and impact of nationalism. 251-Pre-Colonial and Colonial periods through Independence era. 252-Latter 19th century and the Modern period.

311 Aspects of Luso Brazilian Literature (3) (Same as Portuguese 311.)

312 Aspects of Spanish American Literature (3) (Same as Spanish 312.)

313 Peoples and Cultures of Mesoamerica (3) (Same as Anthropology 313.)

355 Latin American Government and Politics I (3) (Same as Political Science 355.)

360 History of Latin America (3) (Same as History 360.)

361 History of Latin America (3) (Same as History 361.)

372 Geography of Middle America (3) (Same as Geography 372.)
420 The Development of Historical Linguistics as a Science (3) Development of the scientific understanding of language change. Emergence of the Neogrammarian paradigm from 19th-century intellectual trends. Impact of synchronic, descriptive, structural and transformational-generative linguistics on contemporary diachronic theory. Prereq: 6 hours of courses required for Linguistics concentration or consent of instructor.

425 Introduction to Descriptive Linguistics (3) (Same as French 425, German 425, Russian 425, and Spanish 425.)

426 Methods of Historical Linguistics (3) (Same as French 426, German 426, Russian 426, and Spanish 426.)

429 Romance Linguistics (3) (Same as French 429 and Spanish 429.)

430 The Development of Synchronic Linguistics as a Science (3) Development of the first synchronic paradigm of linguistics, impact of social sciences on the American descriptivists. Prague School. Translations. Prereq: 6 hours of courses required for Linguistics concentration or consent of instructor.

435 Structure of the German Language (3) (Same as German 435.)

436 History of the German Language (3) (Same as German 436.)

471 Sociolinguistics (3) (Same as English 471 and Sociology 471.)

472 American English (3) (Same as English 472.)

474 Teaching English as a Second or Foreign Language I (3) (Same as English 474.)

476 Teaching English as a Second or Foreign Language II (3) (Same as English 476.)

485 Special Topics in Language (3) (Same as English 485.)

MANAGEMENT

301 Principles of General and Operations Management (3) Basic functions of general management and the concepts and techniques used in operations management. Includes lectures and discussion/problem solving sessions. Prereq: Statistics 201.

303 Management Information Systems (3) Management information concepts, Organizational information needs, management decisions relating to technology and systems design. Data base management systems and applications development software.

311 Labor Relations and Collective Bargaining (3) American labor history, structure and philosophy of contemporary unions, nature of collective bargaining, and dispute settlement. (Same as Economics 343.)

321 Organizational Structure and Behavior (3) Behavioral processes in organizations; motivation, leadership, decision making, communication, behavioral consequences; group behavior, informal organizations, organizational structure, conflict, politics, change and development.


401 Business Strategy/Policy (3) Strategy and policy which affect the character and success of the total enterprise. Capstone course which integrates all functional areas in the formulation and implementation of strategy which will enable the organization to reach its objectives. Major writing requirement. Prereq: Completion of business core courses and senior standing. Must be admitted to a business major.


431 Personnel Management (3) Theory, methods and issues pertaining to successful personnel management. Prereq: 301, senior standing.

432 Implementation and Evaluation of Personnel Programs (3) Methods of identifying, developing, implementing and evaluating personnel programs. Prereq: 431, senior standing.

441 Operations Management II (3) Planning and control of operations systems. Aggregate planning; scheduling systems, materials management. Prereq: 341.

461 Database Management in Business (3) Application, logical structure, and implementation of database systems. Management of data resources to effectively support information systems in organizations. Prereq: Computer Science 261.

471 International Management (3) Factors significant to the manager in international business activities.


493 Independent Study (3) Readings, research, and special projects. Prereq: Consent of Instructor. May be repeated one time for credit.

MARKETING

301 Marketing Management (3) Institutions comprising the marketing system; principal environmental opportunities and constraints facing the marketing manager. Prereq: Economics 201.

310 Buyer Behavior - Analysis for Marketing (3) Comprehensive framework of consumer behavior concepts and processes. Application to market analysis, design and control of marketing programs. Prereq: 301.

320 Marketing Research and Information Planning (3) Marketing Research process from its inception to implementation of study results. Student should be able to critically evaluate the merit of a research project, as well as possess the ability to design a sound marketing project. Major writing requirement. Prereq: 301 and Statistics 201.

420 Promotion Management (3) Principles and practices of promotion management and their relationship to overall marketing program. Managerial focus emphasizing types of decisions continually confronting promotion executives. Prereq: 301.


443 Organizational Psychology (3) (Same as Psychology 440.)

493 Independent Study (1-6) Directed research on subjects of mutual interest to student and staff member. Prereq: Consent of instructor.

497-498 Honors I & II (3,3) Topics may include nonbusiness marketing applications, macroenvironmental issues, market segmentation, international marketing, services marketing, marketing channels and related issues. Prereq: Consent of instructor.

MATHEMATICS

110 Algebraic Reasoning (3) Algebraic functions, their properties and uses, including applications in financial mathematics and other areas. No student who has earned a grade of C or better in any Mathematics course numbered 121 or higher may subsequently receive credit in 110. Prereq: Two years of algebra and one year of geometry in high school.

115 Statistical Reasoning (3) Introduction to probability and statistics without calculus. Not available for credit to students in the College of Business Administration. Prereq: Two years of algebra and one year of
Courses of Instruction/Medical Biology

geometry in high school, plus satisfactory placement tests.

121 Calculus A (3) For students not planning to major in science, engineering, mathematics, or computer science. Calculus of algebraic, exponential, and logarithmic functions. No student who has received credit for Math 141 or 151 with a grade of C or better may subsequently receive credit for 121. Prereq: Two years of algebra and one year of geometry in high school, plus satisfactory placement test scores, or not 110, or 130.

122 Calculus B (3) Sequel to 121, including elementary matrix algebra, multivariable calculus, and optimization. No student who has received credit for 241 or 251 may subsequently receive credit for 122. Prereq: 121, or 141, or 151.

130 Precalculus (4) Review of algebraic, logarithmic, exponential, and trigonometric functions for students who satisfy the course prerequisites for 141 or 151, but whose placement test scores indicate additional preparation is necessary. Students who have earned a grade of C or better in 141 or 151 may not subsequently receive credit for 130. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school. No student who did not study trigonometry in high school may take the noncredit course in trigonometry simultaneously with 130.

141-142 Calculus I, II (4,4) Standard first-year course in single variable calculus, especially for students of science, engineering, mathematics, and computer science. Differential and integral calculus with applications. Credit will not be given for both 141 and 151. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or not 110, or 130.

143-144 Microcomputer Laboratory (1,1) Optional supplement to 141-142 featuring computer demonstrations and projects. Coreq: Students registering for one of these lab courses must also be registered for the corresponding calculus course.

147-148 Honors: Calculus I, II (4,4) Honors version of 141-142 for well-prepared students. Qualified students are usually invited to enroll, but inquiries from other students having excellent high school mathematics backgrounds are welcome.

151-152 Biocalculus I, II (3,3) For students majoring in the life sciences. Topics from calculus of algebraic, logarithmic, and exponential functions, probability and statistics, with emphasis on applications to the life sciences. Credit will not be given for both 141 and 151. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or not 110, or 130.

200 Matrix Computations (1) Introduction to matrix calculations, including determinants, eigenvalues and eigenvectors. For students in the College of Engineering and College of Business Statistics. Credit not given for both 200 and 251.

221-222 Discrete Mathematics I, II (3,3) Logic, sets, combinatorics and probability, functions and relations, induction and recursion, elementary number theory. Prereq: 141 or 151.


241 Calculus III (4) Calculus of functions in two or more dimensions. Includes solid analytic geometry, partial differentiation, multiple integration, and selected topics in vector calculus. Prereq: 141-142.

241 Microcomputer Laboratory (1) Optional supplement to 241, featuring computer demonstrations and projects. Coreq: Students registering for 241 must also be registered for 241.

247 Honors: Calculus III (4) Prereq: 147-148 or invitation of the department.

251 Matrix Algebra I (3) First course in the algebra of simultaneous linear equations and matrices. Includes Gaussian elimination, determinants, vector spaces, linear transformations, eigenvalues, and eigenvectors. Prereq: 141-142.

253 Microcomputer Laboratory (1) Optional supplement to 251, featuring computer demonstrations and projects. Coreq: Students registering for 251 must also be registered for 251.

257 Honors: Matrix Algebra I (3) Prereq: 147-148 or invitation of the department.

263 Probability I (3) Elementary combinatorics; discrete probability spaces, conditional probability and stochastic independence; discrete and continuous random variables; binomial, Poisson, uniform and normal; joint distributions, expectations and characteristic functions; elementary treatment of laws of large numbers and the central limit problem. Prereq: 241.

341 Analysis I (3) Introduction to the theory of the real number system, limits of sequences, and functions of a real variable. Prereq: 241.

351 Algebra I (3) Introduction to abstract algebra, emphasizing integers and polynmomial rings. Prereq: 221 and 251.

371 Numerical Algorithms I (3) Selection of algorithms and associated library software for problems selected from roots of equations, systems of linear equations, optimization, numerical integration, numerical solutions of ordinary differential equations, the finite element method and knowledge of a high level programming language, such as FORTRAN. Credit will not be given for both 371 and Basic Engineering 201.

399 Studies in Mathematics (3) May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

400 History of Mathematics (3) Development of mathematics from ancient to modern times. Does not satisfy major requirements for a B.S. or M.S. in mathematics. Term paper required. Prereq: 141-142 or equivalent.

401 Mathematics and Microcomputers (3) Primarily for students seeking certification as mathematics teachers at the secondary level. The use of microcomputers to study concepts and problems in mathematics. Does not satisfy major requirements for a B.S. or M.S. in mathematics. Prereq: 141; 221 or 504.

404 Applied Vector Calculus (3) Topics from multivariable vector calculus including line and surface integrals, the divergence theorem and the theorems of Gauss and Stokes. Prereq: 241.

405 Models in Biology (3) Difference and differential equation models of biological systems. Prereq: 141-142 or 151-152.


421 Combinatorics (3) Introduction to problems of construction and enumeration for discrete structures such as sequences, partitions, graphs, finite fields and geometries, and experimental designs. Prereq. 423 or consent of instructor.

423 Probability II (3) Law of large numbers and central limit theorems for discrete and continuous random variables; quezon processes; discrete and continuous parameter Markov chains and their applications, Kolmogorov differential equations; Brownian motion process as a limit of random walks. Prereq: 323.

425 Statistics (3) Derivation of standard statistical distributions including F and X²; independence of sample mean and variance; basic limit theorems; point and interval estimation, Bayesian estimates; statistical hypothesis testing; Neyman-Pearson theorem; likelihood ratio and other parametric and non-parametric tests; sufficient statistics. Prereq: 323.


443 Complex Variables I (3) Introduction to the theory of functions of a complex variable, including residue theory and contour integrals. Prereq. 241; one 300 or 400-level mathematics course recommended.

444 Complex Variables II Applications of complex variables to steady-state temperatures, electrostatics, and fluid flow. Prereq. 443.

445-446 Advanced Calculus I, II (3,3) Introduction to the theory of sequences, series, differentiation, and Riemann integration of functions of one or more variables. Prereq. 341 or consent of instructor.

447-448 Honors: Advanced Calculus I, II (3,3) Honors version of 445-446. Prereq. 341 or consent of instructor.

451 Topics in Algebra (3) Topics chosen from number theory and the theory of polynomial equations, such as the quadratic reciprocity law and the Riemann zeta function. Prereq. 351.

453 Matrix Algebra II (3) Advanced topic in matrix theory, including the Jordan canonical form. Prereq. 251.

455-456 Abstract Algebra I, II (3,3) Introduction to algebraic structures such as rings, fields, vector spaces and linear transformations. Prereq. 351 or consent of instructor.

457-458 Honors: Abstract Algebra I, II (3,3) Honors version of 455-456. Prereq. 351 or consent of instructor.

460 Geometry (3) Axiomatic and historical development of neutral, Euclidean, and Non-Euclidean geometries. A term paper required. Prereq. 141-142 and 221, or consent of instructor.

461 Topology (3) Topics include topology of line and plane, separation properties, compactness, connectedness, continuous functions, homeomorphisms, continua, and topological invariants. Prereq. 341 or consent of instructor.

471 Numerical Analysis (3) Introduction to computation, instabilities, and rounding. Interpolation and approximation by polynomials and piecewise polynomials. Quadrature and numerical solution of initial and boundary value problems, and ordinary differential equations, including stiff systems. Prereq. 371. (Same as Computer Science 471.)


490 Readings in Mathematics (1-3) Open to superior students with consent of department head. Independent study under faculty guidance. May be repeated. Maximum 8 hours. Prereq. Agreement of faculty mentor to supervise independent work.

499 Seminar in Mathematics (1-3) Students must register for the number of credit hours announced for a particular seminar. May be repeated. Maximum 9 hours. Prereq. Consent of instructor.

MEDICAL BIOLOGY

410 Laboratory Safety Education (2) Preparation for teachers of laboratory safety. Hazards of flammables, corrosive chemicals, isotopes, pathogens, poisons, and equipment will be discussed. Techniques of safe operation and handling will be presented.

411 Undergraduate Research Participation (1-3) Experience in active biomedical research projects under supervision of faculty and graduate students. Other biology majors may conduct their own research projects within designated areas. Prereq. Junior or senior standing; projects approved by department head. May be repeated with consent. Maximum 9 hours. Satisfactory/No Credit only.
MUSIC EDUCATION

210 Class Woodwind Methods (3) Structure, use, techniques of playing, care and repair of principal instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. Letter grade only. F

220 Class Brass Methods (3) Structure, use, techniques of playing, care and repair of principal instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. Letter grade only. F, Sp

230 Class Percussion Methods (3) Structure, use, techniques of playing; care and repair of principal instruments in school instrumental organizations. Emphasis on techniques necessary for basic understanding and effective teaching of the instruments. Practical use of current instructional materials. Letter grade only. F, Sp

300 Music for Elementary Teachers (2) Singing, rhythmic activities, instrumental activities, listening, music reading, and creative activities appropriate for the elementary grades. For elementary education majors only. Prereq: Admission to Teacher Education Program. Letter grade only. F, Sp

310 Conducting I (3) Basic skills of conducting: baton, time beating of traditional patterns, preparatory beat, cut-offs, cueing. Developing complete physical control. Rehearsal techniques. Conducting into groups. Vocal development. Letter grade only. F

320 Conducting II (3) Developing advanced baton technique. Multiple rhythms, modern beat patterns and their variations. Studying, analyzing and interpretation of full score. Conducting development. Letter grade only. F

330 Music Methods for the Elementary School (3) Materials and methods for teaching music in the elementary grades. Primarily intended for music education majors. Prereq: Consent of instructor and admission to Teacher Education Program. Letter grade only. F

350 Field Experience in Music Education (1) Prereq: Consent of instructor and admission to Teacher Education Program. May be repeated. Maximum 3 hours. Satisfactory/No Credit only. E

410 Pre-Internship Seminar (1) Objectives and policies of the internship program. Must be completed the term immediately preceding the internship. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. E

420 Music Methods for the Junior High School and Middle School (3) Methods and materials for teaching vocal, instrumental, and general music at the junior high, junior high school, middle school level. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only. Sp

430 Music Methods for High School (3) Methods and materials for vocal and instrumental music at the high school level, including conducting for the marching band. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only. F

450 Eurhythmics (3) Principles and practices of eurhythmics, as developed by Emile Jaques-Dalcroze. Prereq: Consent of instructor. Letter grade only. F

481 Internship I: Grades K-12 (3-6) Methods and theories of teaching. Internship is completed in local public schools. Application for internship should be made upon admission to the Teacher Education Program. Prereq: 410 and admission to Teacher Education Program. Satisfactory/No Credit only. F

482 Internship II: Grades K-12 (3-6) Demonstration of professional competence in planning, instruction and classroom management. Internship is completed in local public schools. Prereq: 481 and admission to Teacher Education Program. Satisfactory/No Credit only. Sp

490 Special Topics in Music Education (3) Prereq: Consent of instructor. May be repeated. Maximum 9 hours. Letter grade only. E

493 Independent Study in Music Education (2-9) Prereq: Consent of instructor. May be repeated. Maximum 9 hours. Letter grade only. E

495 Advanced Music Methods for Elementary Teachers (3) Continuation and amplification of the concepts and skills covered in Music Education 300. Intended for Elementary Education majors. Prereq: 300 or consent of instructor. Letter grade only. Sp

MUSIC ENSEMBLE

301-501 Woodwind Choir (1,1) May be repeated. 303-503 Small Jazz Ensemble (1,1) May be repeated. Maximum 12 hours. 304-504 Jazz Ensemble (1,1) May be repeated. 305-505 Studio Orchestra (1,1) May be repeated. Maximum 12 hours. 306-506 Trombone Choir (1,1) May be repeated. 309-509 Tuba Ensemble (1,1) May be repeated. 310-510 Percussion Ensemble (1,1) May be repeated. 311-511 Marimba Choir (1,1) May be repeated. 312-512 Baroque Ensemble (1,1) May be repeated. 313-513 Synthesizer Ensemble (1,1) May be repeated. 314-514 Brass Choir (1,1) May be repeated. 315-515 Chamber Music Ensemble (1,1) May be repeated. Maximum 12 hours. 320-520 UT Singers (1,1) May be repeated. 330-530 Chamber Singers (1,1) May be repeated. 332-532 Collegium (1,1) May be repeated. 334-534 Saxophone Choir (1,1) May be repeated. 340-540 Opera Theatre (1,1) May be repeated.
150 Studio Guitar Styles (2) Introduction to guitar styles in jazz, rock, country, and blues idioms. Prereq: Consent of instructor.

160 Introduction to Styles in Jazz Drumming (2) Examination of major composers and performers who have contributed significantly to creation of principal styles of jazz drumming.

210-220 Jazz Improvisation I, II (2,2) Study and application of principles of improvisation, including nomenclature, chord progressions, chord-scales, patterns, melodic development, and tune styles. Prereq: 110.

310 Jazz Composition and Arranging (2) Prereq: Consent of instructor.

320 Jazz Band Arranging (2) Arranging and scoring for the Big Jazz Band. Prereq: Consent of instructor.

410 Advanced Improvisation (3) Development of individual skills and solving individual problems in jazz improvisation. Prereq: 210 and 220.

420 Jazz Pedagogy (1) Methods and materials relating to teaching of jazz, designing and administering jazz programs, and rehearsal techniques for jazz ensembles. Prereq: Studio Music and Jazz major or consent of instructor.

MUSIC KEYBOARD

110-120 Class Piano I, II (1,1) Development of keyboard skills in reading, technique, repertoire, harmonization, and transposition. Must be taken in sequence.

210-220 Class Piano III, IV (1,1) Continuation of 110-120; 220 prepares piano competency requirement; must be taken in sequence.

230 Keyboard Harmony (1) Melody harmonization, figured bass realization, and improvisation. Prereq: Music Theory 110-120.

240 Church Service Playing I (1) Practical skills applicable to the use of the organ in church services, including improvisation, hymn playing, and accompanying. Prereq: 230 and organ proficiency at the 200 level.

310-320 Church Service Playing II, III (1,1) Continuation of 240. Prereq: 240.

330 Sight Reading at the Keyboard (1) Prereq: Consent of instructor.

410 Early Keyboard Literature (2) Keyboard music through the baroque period, with primary emphasis on music for the harpsichord. Prereq: Music History 210-220.

420-430 Piano Literature I, II (2,2) 420-From 1750 to 1800; 430-Middle 19th century to the present.

440-450 Piano Pedagogy I, II (2,2) Pedagogical methods and materials related to the development of principles of learning; specific programs based on pupil aptitude and background; sequential teaching experience. Must be taken in sequence. Prereq: Consent of instructor.

460-470 The Organ and Its Literature I, II (3,3) Development of the organ and organ literature from the Middle Ages to the present; problems of style and interpretation; pedagogical literature and methods; organ design. Prereq or Coreq: Music History 220 and consent of instructor.

480-490 Teaching Class Piano I, II (1,1) Historical survey and evaluation of teaching materials and methodology for college and adult beginning piano classes, with collateral teaching experience. Prereq: Consent of instructor.

495 Suzuki Piano Method (2) Study of the psychology, procedures, and literature of the Suzuki Piano Method. Prereq: Consent of instructor.
Courses of Instruction/Music Voice

and reinforcement systems. Topics include room acoustics, audio measurements, microphones, studio and real-time processing, noise reduction, mixing, editing software, monitor system usage, and performance. 3 lectures, 3 lab. Prereq: Consent of instructor. 220.

320 Instrumentation (3) Basic techniques in scoring for voices, brass, woodwind, and string choirs; and percussion. Prereq: 220.

390 Sound Synthesis Techniques (3) Studio and real-time applications of synthesizers. Historical background, theoretical concepts, equipment interface and usage, analysis of sounds and compositions. Prereq: 290 or consent of instructor.

400 Survey of Music Theory (3) Emphasis on harmonic practice of Baroque, Classic, and Romantic periods. Exercises in writing and analysis. Recommended as a review course for graduate students. Prereq: Consent of instructor.

420 Orchestration (3) Advanced techniques in instrumental writing with emphasis on scoring for the concert orchestra. Prereq: 320.

430-440 Counterpoint I, II (3,3) Species counterpoint in modal and tonal styles with emphasis on works of Palestrina and J.S. Bach. Prereq: 220. Writing of contrapuntal forms of the 18th century and fugue and other works form the 18th through the 20th centuries. 430.

493 Independent Study in Music Theory (1-15) May be repeated for credit. Prereq: Consent of department head.

MUSIC VOICE

110 Class Voice I (1) Development of basic vocal skills. May be repeated for credit. Maximum 2 hours.

120 Class Voice II (1) Prereq: Consent of instructor. May be repeated for credit. Maximum 2 hours.

210 Vocal Techniques in Popular Music (1) Development of performance techniques in Broadway and other contemporary music styles. Prereq: Consent of instructor. May be repeated for credit. Maximum 4 hours.

220 Introduction to Music Theatre Technology (2) Stage technology unique to sync stage.


240-250 Diction I, II (2,2) Sounds by phonetic symbols and selected songs used for examples. Prereq: Performance practice. 250.

330 Opera Production (1-3) Supervised work on opera productions. May be repeated for credit. Prereq: Consent of instructor. Maximum 12 hours.

410-420 Song Literature I, II (2,2) 410-German songs. 420-French, Italian, Russian, Scandinavian, Czechoslovakian, British, and American art songs.

430 Styles in Opera Acting (2) Study and practice of styles in opera acting based on historical and national characteristics. Prereq: 230.

440 Projects in Opera Theatre (1-3) May be repeated for credit. Prereq: Consent of instructor. Maximum 5 hours.

450-460 Pedagogy I, II (1,1) 450-Concepts and approaches to teaching singing (past and present). 460-Vocal teaching materials; includes collaborative teaching experiences. Prereq: Consent of instructor.

NURSING

214 Integrated Biomedical and Health Sciences (1-3) Examination and application of selected theories from physics and chemistry, microbiology, and nutrition to nursing process. Each module carries one credit. Prereq: One year of biology or chemistry and consent of instructor.

301 Pharmacology (3) Biochemical and pharmacological effects of therapeutic drugs on the human body; positive and negative reactions to drugs and their interactions. 100-10 and 6 semester hours of anatomy and physiology.

302 Introduction to Professional Nursing (9) History, philosophy, and scope of nursing practice with emphasis on nursing process; cognitive and psychomotor skills necessary for effective nurse/client interactions. Clinical experiences emphasize the nursing process and its application to the care of individuals whose health problems require in-patient services. 6 lectures, 3 lab. Coreq: 301 and 304.

304 Nursing Assessment and Health Promotion (4) Developmental, psychosocial, cultural, and physical dimensions of health assessment. Collection, analysis, and application of assessment data in formulation of health-oriented nursing diagnoses and use of the nursing process in promotion of wellness. Evolution and expansion of the nursing role in health promotion and education. Laboratory sessions for development of health assessment skills. 3 lectures, 1 lab. Coreq: 301, 302.

305 Transition to Professional Nursing (4) Current status of professional nursing; utilization of the nursing process in a changing health care delivery system. Philosophical and conceptual framework of the baccalaureate nursing program and selected physiological and behavioral aspects of clients whose health problems require in-patient services. 3 lectures, 1 lab. Prereq: Coreq: 301, 302 and 304.

311 Acute Care Nursing I (3) Continuation of 302 with emphasis on medical and behavioral deviations which underlie or are associated with more complex and critical illnesses of adults and children. Clinical laboratory experiences in adult and pediatric acute care settings for enhanced knowledge and skill in nursing care for children and adults with complex and critical illnesses. 6 lectures, 4 lab. Prereq: Coreq: 301, 302 and 304.

312 Acute Care Nursing Theory (6) Theoretical component of 311. For RN's only. Prereq: Coreq: 301, 302 and 304.

313 Introduction to Nursing Research (3) Language of research; types of research designs, methodological approaches, sampling, data analysis, and significance of findings. Evaluation of existing and ongoing nursing research studies. Prereq: 302 or consent of instructor.

315 Clinical Nursing Practice (3) Application of nursing theories, principles, and concepts to care of hospitalized clients. Prereq: 305. Prereq: Or Coreq: 312. For RN's only. SATISFACTORY/NO CREDIT only.

317 Wellness and Lifestyle (3) Models of wellness and holistic health within the framework of modern medicine, eastern philosophy, and recent discoveries about the interaction of mind and body. Biopsychosocial interactions of lifestyle and genetic risk factors for cardiovascular and malignant diseases, wellness potential, and potential longevity. Process of lifestyle changes will be facilitated by faculty. Open to undergraduate students in all colleges.

401 Family Health Nursing (3) Nursing needs of families in health and illness. Preparation of comprehensive care to families in the childbearing and childrearing phases of family development. Application of theories of human growth and development, family dynamics, and crisis intervention to provision of nursing care to families with children born prematurely. Prereq: 301 or 312. For student nurses or consent of instructor.

402 Family Health Nursing Theory (3) Theoretical component of 401. For RN's only. Prereq: Coreq: 312.

403 Community Health Nursing (4) Application of the nursing process to communities. Is to care of individuals, families, and groups in home and community settings with special emphasis on health promotion, disease prevention, and coping with communicable diseases. Epidemiological approach is used to identify aggregates within the population that are at risk for illness, disability, or prematurity, and athletic issues related to community health nursing. 2 lab. 2 lab. Prereq: All 300 level nursing courses.

404 Nursing Management and Strategies (8) Theories, concepts, and principles of organization, planning, decision making, and management relevant to management of nursing care for groups of clients; exposure to a variety of nursing service organizations for understanding of management structures and practices, and social trends and nursing issues with implications for nursing practice; in depth study of a topic of particular interest to the student. 5 lectures, 3 lab. Prereq: 10 credits of 400 level nursing courses.

406 Nursing Leadership (3) Theories, concepts, and principles utilized to deliver and manage nursing care for individuals who require skilled, complex, and maintenance intensive care. Prereq: Or Coreq: 401 or 411. For generic MSN students only.

411 Psychosocial Long-Term Nursing (6) Nursing needs of clients whose health problems are of a developmental, behavioral, or long-term nature. Equal emphasis on prevention, health promotion, and rehabilitation. Nursing laboratory/clinical experiences with a psychiatric and chronic illness emphasis in a variety of acute, extended care, and rehabilitation facilities. 3 lectures, 3 lab. Prereq: All 300 level nursing courses.

412 Psychosocial Long-Term Nursing Theory (3) Theoretical component of 411. For RN's only. Prereq: Coreq: 412.

450 Physiological Principles (3) Concepts and principles of normal human physiology; tissue and organ physiology as a basis for integration of system physiology; review of cellular mechanisms. Prereq: RN status or consent of instructor. No credit for students who have taken 302, 305, 311 or 312.

451 Computers and Nursing Care (3) Computerized information processing with application to patient care, health care administration, nursing education, and nursing research. 2 lectures, 1 lab. Prereq: All 300 level nursing courses or consent of instructor.

453 Oncology Nursing (3) In-depth exploration of cancer problem; relates cellular kinetics to theories of carcinogenesis and metastasis; treatment modalities and nursing interventions employed in all phases of the disease. Prereq: Consent of instructor. Prereq: 411. RN status or consent of instructor.

493 Independent Study (1-3) Nursing or health-related topic not covered in other nursing courses. Prereq: Senior standing or permission of instructor.

NUTRITION AND FOOD SCIENCES

100 Introductory Nutrition (3) Nutritional concepts; current consumer issues in nutrition; nutritional needs through life cycle; international nutrition concerns and/or issues. A student who has received credit for NFS 107 or 300 may not receive credit for this course. F, Sp

101 Food Principles (3) Food selection, safety, preparation, evaluation, meal planning, service. 2 hours and 1 lab. Sp

105 Food for the Next Century (3) Interdependence of people on this planet for food; global perspective from United States point of view. F

107 Honors: Introductory Nutrition (3) Nutritional concepts; current consumer issues in nutrition; nutritional needs through life cycle; international nutrition concerns and/or issues. A student who has received credit for NFS 107 or 300 may not receive credit for this course. F, Sp

120 Introduction to Tourism, Food and Lodging Administration (4) Lodging, travel, and tourism economy; basic operating systems, organization structure; problem areas in hospitality complex. F

126 Front Office Management (3) Front office procedures within context of overall operation of a hotel/motel; includes reservation systems, equipment, accounting
Courses of Instruction/Philosophy

410 Nursery Management and Production (3) Management methods as applied to retail and wholesale nurseries and landscape contracting firms. Methods of producing liners, container and field-grown woody ornamental plants. Prereq: 220, 330, and Plant and Soil Science 210. 2 hours and 1 lab. Sp

440 Advanced Turfgrass Management (4) Principles and scientific basis of turfgrass culture; adaptation, ecology, physiology, soil fertility, and grass nutrition; climatic influences on grass culture; physiology of clipping and water management; design, construction, and management of golf courses; physiological influences of pest infestation and control measures. Prereq: 340 or consent of instructor. 3 hours and 1 lab. Sp

450 Specialty Landscape Construction (2) Design, material, and construction techniques for special- ized components of the landscape industry. Irrigation systems, outdoor lighting, pools and other water features, and interscapes construction. Prereq: 350. Two hour two labs. F

460 Professional Practices in Landscape Construction and Management (2) Professionalism, salesmanship, proposals, bidding, estimating, specifications, and contract management in landscape services industry. Computer technology applicable to landscape construction and contracting industry. Includes principles of business by industry representatives. Prereq: 350 or consent of instructor. 2 hours. F

480 Advanced Landscape Design (4) Comprehen- sive application of landscape design skills. Design applications involving site layout, landscape grading, applied landscape construction, and planting design. Analysis, programming, design, detailing, estimating, and specifying applicable to a variety of landscape projects. Prereq: 280, 350, and 380. 1 hour and 2 three hour labs. Sp

490 Seminar (1) Current problems in ornamental horticulture and landscape design. Prereq: Senior standing. Sp

492 Off-Campus Internship (1-3) Work experience in applied ornamental turf or landscaping industry. May be repeated. Maximum of 6 credits. E

493 Individual Problem Study (1-3) May be repeated. Maximum of 6 credits. E

PHILOSOPHY

110 The Human Condition: Value and Reality (3) The meaning of the existence of God, freedom of the will, human nature and value. 110

111 The Human Condition: Knowledge and Reality (3) The place of mind in a material universe and the nature and possibilities of human knowledge. May be taken before 110. 120

120 Foundations of Western Thought: Antiquity through 1500 (3) Plato, Late Antiquity and the Medieval Period. Prereq: 110

121 Foundations of Western Thought: 1500 through Early Twentieth Century (3) Development of Ratio- nalist and Empiricist thought. Nineteenth Century and early Twentieth Century Philosophy. May be taken before 120. 120

130 Informal Logic (3) Analysis, evaluation, and construction of reasoning in ordinary language. 130

135 Formal Logic (3) Introduction to formal deductive systems: propositional and predicate logic. 135

200 Special Topics (3) When content varies, may be repeated. Maximum 6 hours. 200

240 Ethics (3) Theories of ethical values. 240

290 Social and Political Philosophy (3) Basic problems and concepts of social and political philosophy. 290

320 Ancient Western Philosophy (3)

322 Medieval Philosophy (3) Development of medie-ieval thought from St. Augustine to William of Occam. Secondary and primary sources. (Same as Medieval Studies 322.) 322

324 Seventeenth- and Eighteenth-Century Philoso- phy (3)

326 Nineteenth- and Twentieth-Century Philosophy (3)

335 Intermediate Formal Logic (3) Metatheory of formal logic and philosophy of logic. Prereq: 135 or consent of instructor. 335

342 Business Ethics (3) Ethical problems as they confront both business as a social institution and individu- als in business. 342

344 Professional Responsibility (3) Critical analysis of selected classic texts from philosophy, religious studies, and social sciences dealing with responsibili- ty and the nature of professionalism. Theoretical principles and analytical skills applied to selected case studies and other detailed descriptions of professional practice from engineering/architecture; business/accounting; and at least one of law/politics; helping professions (social work, human services, ministry); teaching. (Same as Religious Studies 344.) 344

345 Medical Ethics (3) Ethical issues in medicine such as abortion, euthanasia, human experimentation, fairness in health care delivery and the doctor-patient relationship. (Same as Religious Studies 345.) 345

349 War and Morality (3) Moral justification for war (just a bellum). Legal and moral constraints in war (just in bello). 349

350 Aesthetics (3) Philosophical discussion of art. 350

353 Philosophy and Literature (3) Nature of litera- ture; philosophical assumptions in literary works. 353

360 Introduction to Philosophy of Science (3) Standard topics in philosophy of science: scientific method, nature of laws and theories, problem of induction, explana- tion, measurement. No background in logic is presupposed. 360

363 Conceptual History of Science (3) Historical evolu- tion of thought in astronomy, mechanics, and the study of living things from the Greeks through the early twentieth century. Prereq: 8 hours of physical science or consent of instructor. 363

370 Philosophy of Religion (3) Analysis of basic issues of religion. (Same as Religious Studies 370.) 370

374 Philosophy and Religion of India (3) (Same as Religious Studies 374.) 374

375 Buddhist Philosophy and Religion (3) (Same as Religious Studies 375.) 375

379 Religion and Philosophy in China (3) (Same as Religious Studies 379.) 379

380 The Concept of Woman (3) The nature of woman as it has been conceived by major western philoso- phers from Plato to Simone de Beauvoir. (Same as Women's Studies 380.) 380

382 Philosophy of Feminism (3) Various feminist the- ories and their application to social issues of concern to women today. (Same as Women's Studies 382.) 382

390 Philosophical Foundations of Democracy (3) Philo- sophical problems relating to the nature and justification of the central values, principles, and concepts of dem- ocratic society. 390

393 Marxism (3) Basic philosophical issues in Marxist thought: ideology, dialectics, praxis, the critique of modern society. 393

395 Existentialism (3) Themes related to freedom and finitude in the tradition that begins with Kierke- gaard and Nietzsche, and extends to Heidegger and Jaspers, Sartre and Merleau-Ponty. 395

400 Special Topics (3) When content varies, may be repeated. Maximum 6 hours. 400

411 Modern Religious Philosophies (3) (Same as Reli- gious Studies 411.) 411

412 Classical Indian Systems of Philosophy: The Moksha Tradition (3) (Same as Religious Studies 412.) 412

420 Topics in History of Philosophy (3) One or more figures or movements from antiquity through mid-twentith century. Prereq: 6 hours of philosophy or consent of instructor. When content varies, may be repeated. Maximum 9 hours. 420

425 American Philosophy (3) Colonial to early 20th Century. Prereq: 6 hours of philosophy or consent of instructor. 425

430 Topics in Logic (3) Prereq: 6 hours of logic or consent of instructor. When content varies, may be repeated. Maximum 6 hours. 430

440 Contemporary Ethical Theory (3) Topics in meta- ethics or ethics. Prereq: 6 hours of philosophy or consent of instructor. 440

446 Theoretical Issues in Medical Ethics (3) Prereq: 240 or 345 or consent of instructor. (Same as Reli- gious Studies 446.) 446

450 Philosophy of Science (3) Methodological and conceptual issues in the natural and social sciences: patterns of theory modification and replacement, the nature of explanation and causation, the status of theoretical entities. Prereq: 360 and one year of natural or social science, or consent of instructor. 450

465 Philosophy of History (3) Speculative and critical aspects of philosophy of history. Prereq: 6 hours of philosophy or consent of instructor. 465

473 Philosophy of Mind (3) Problems of mind and body in relation to consciousness and personal iden- tity. Prereq: 6 hours of philosophy or consent of instructor. 473

475 Analytic Metaphysics and Epistemology (3) Topics in metaphysics and epistemology in recent Anglo- American tradition. Prereq: 6 hours of philosophy or consent of instructor. 475

476 Philosophy of Language (3) Survey of issues such as meaning, reference, and truth. Prereq: 6 hours of philosophy or consent of instructor. 476

479 Studies in Recent Continental Philosophy (3) Selected thinkers or topics from areas such as Existentialism, Phenomenology, Hermeneutics, Structuralism, Post-Structuralism. Prereq: 6 hours of philosophy or consent of instructor. When content varies, may be repeated. Maximum 6 hours. 479

491 Foreign Study (1-15) See page 97. 491

492 Off-Campus Study (1-15) See page 96. 492

493 Independent Study (1-15) See page 96. 493

PHYSICAL EDUCATION

100 Orientation to Physical Education (2) Overview of the professional and disciplinary areas in physical education with special emphasis on introductory field experiences. 100

102 PE Major: Basketball (1) Fundamentals of bas- ketball, including individual and team skills with concern of techniques for effective teaching of these fundamentals. 102

103 PE Major: Tennis (1) Development of skills, rules and game strategies to an intermediate level in tennis with application to the various techniques of teach- ing. 103

104 PE Education Major: Gymnastics I (1) Beginning skills, rules and techniques for effective teaching of gymnastics. 104

105 PE Major: Folk and Square Dance (1) Basic folk and square dance steps, patterns and designs with emphasis on skill development, terminology, eti-奎te and teaching techniques. 105

106 PE Major: Track and Field (1) Basic skills of track and field with consideration of techniques for effective teaching. 106

271 PE Major: Soccer/Softball (1) Basic fundamen- tals, including individual and team skills with consider- ation of techniques for effective teaching. 271
322 Fitness Activities (1) Elementary and intermediate volleyball skills, general rules, and strategy related to the game of volleyball with particular emphasis on teaching techniques and skill development.

273 PE Major: Golf (1) Fundamental skills, general rules, and strategies related to the game of golf with emphasis on skill development and teaching techniques.

274 Physical Education Major: Gymnastics II (1) Beginning to intermediate skills in tumbling and on selected men’s and women’s gymnastics apparatus. Tumbling skills will include twisting skills, kips, and combinations of previous skills. Apparatus will include uneven bars, horizontal bar, parallel bars, and still rings.

275 PE Major: Ballet Dance I (1) Basic ballet dance patterns and designs, terminology and etiquette with application to the various techniques of teaching.

290 Human Motor Behavior (3) Theories and principles explaining motor behavior; psychological factors related to and/or affecting motor skill acquisition and performance. Prereq: At least sophomore standing.

291 Sport in American Society (3) For all university undergraduates on the study of sport in American society from a sociological perspective. (Same as Sociology 291.)

319 Field Studies I (3) Builds on observational techniques from Physical Education Orientation. Provides opportunities to lead, instruct, manage and test individuals and/or small groups in K-12 physical education settings. Includes peer teaching and video-taped analyses. Prereq: 100.

311 Coaching Football I (Theoretical and practical application of various coaching techniques in football for the prospective secondary/college coach. Includes analysis and selection of appropriate game plans, specific conditioning and training programs, practice organization, player evaluation, scouting, individual and team offense and defensive. Prereq: Consent of instructor.

312 Coaching of Basketball I (Individual and team fundamentals for the high school coach; conditioning, schedule making, and other business arrangements. Prereq: Consent of instructor.

313 Coaching of Track and Field I (Coaching methods and training techniques for various track and field events, including experience observing and working at meets and practices. Prereq: Consent of instructor.

314 Coaching of Gymnastics I (Fundamentals used in the coaching and judging of competitive men’s and women’s gymnastics. Emphasis on the safety and specificity of competitive gymnastics skills. Prereq: Consent of instructor.

315 Coaching of Baseball/Softball I (Theoretical and practical application of various coaching techniques in baseball/softball for the secondary/college coach. Includes analysis and selection of appropriate game plans, specific conditioning and training programs, practice organization, player evaluation, scouting, individual and team offensive and defensive strategies. Prereq: Consent of instructor.

321 World History of Sport and Physical Education (2) Historical survey of the development of sport and physical education from ancient primitive to twentieth century civilization. Prereq: Admission to Teacher Education Program or progression to the major.

322 Fitness Activities (2) Methods of instructing and leading fitness activities, including jogging, exercise to music, water activities, and fitness game. Prereq: At least junior standing and progression to the major.

325 Athletic Training Techniques (2) Prevention of athletic injuries through sound conditioning programs and practices; recognition and immediate treatment of injuries. Prereq: Progression to the major.

326 Practicum in Preschool Aquatics (2) Individualized planning and teaching of aquatic experiences to 3 to 5 year-old children within the context of a broad-based motor development program.

330 Wellness Through Health, Leisure, and Physical Activity (3) (Same as Health 330.)

332 Applied Anatomy (3) Structure and roles of bones, joints and muscles in human movement and exercise. Prereq: Major and admission to Teacher Education Program or progression to the major.

335 Approaches to Physical Education for Children (3) Contemporary approaches with emphasis upon movement education. Prereq: Admission to Teacher Education Program.

336 Human Growth and Motor Development (4) Evolution of movement patterns in the context of structural and functional development; analysis of changes in motor performance and underlying attributes across the lifespan. Prereq: Admission to Teacher Education Program or progression to the major.

372 Philosophy of Sport and Physical Education (2) Theories of reality and value as they apply to sport with emphasis on ethical issues. Prereq: Admission to Teacher Education Program or progression to the major.

380 Special Topics I (1-3) Study in selected disciplinary or professional areas of Physical Education. May be repeated. Prereq: Progression to the major.

391 Psychology of Coaching (2) Major topics and theories dealing with social-psychological factors affecting athletic performance; with practical implications and applications to teaching and coaching. Prereq: Admission to Teacher Education Program or progression to the major.

405 Sociology of Sport (3) Social meaning, organization and process of sport. Difference between sport and play, social stratification and sport, sport as an occupation, place of sport in mass culture, sport sub-culture, and the influence of sport and cultural milieu. Prereq: 291 or Sociology 285, or permission of instructor. (Same as Sociology 465.)

409 Measurement and Evaluation of Physical Education I (Relationships between teaching and evaluation in Physical Education. Critique, selection, and administration of appropriate affective, sport skill, and knowledge assessment instruments for children through adult age group. Prereq: Junior standing and admission to Teacher Education Program or progression to the major.

410 Pre-Internship Seminar (1) Objectives and policies of the internship program, and experiences in the community to support and clarify career goals. May be repeated. Maximum 10 hours. Prereq: Consent of instructor and progression to the major.

424 Program Planning in Physical Education (2) Curriculum, program planning and organization appropriate to physical education with opportunities to develop and evaluate K-12 physical education programs. Prereq: Admission to Teacher Education Program.

426 Practicum for Physical Education Majors I (1-10) Experience in the community in exercise science and related responsibilities. May be repeated. Maximum 10 hours. Prereq: Consent of instructor and progression to the major.

442 Administration of Physical Education and Athletics I (1) Organizational concepts and management strategies as related to physical education programs and athletics in the public schools. Prereq: Admission to Teacher Education Program or progression to the major.

450 Field Studies II (3) For physical education majors to design and implement learning units and evaluation techniques appropriate for K-12 physical education settings. Includes video-taping of learning experiences in the school setting. Prereq: 292 and 466 and admission to Teacher Education Program.

466 Motor Development Laboratory: Preschool or Primary (3) Application of selected perceptual-motor development, movement education, and pedagogical concepts to performance assessment and motor task organization and practice to normalize physical development of preschool or primary grade children. Participation in intra- or inter-disciplinary research projects. Prereq: 100 and admission to Teacher Education Program.

481 Internship I: Grades K-12 (3-6) Methods and theories of teaching. Internship is completed in local public schools. Application for internship should be made upon admission to Teacher Education Program. Prereq: 410 and admission to Teacher Education Program. Satisfactory/No Credit only. F

482 Internship II: Grades K-12 (3-6) Demonstration of professional competence in planning, instruction, and classroom management. Internship is completed in local public schools. Prereq: 481 and admission to Teacher Education Program. Satisfactory/No Credit only. F

493 Directed Independent Study I: Independent study in a specified area with physical education. Prereq: May be repeated. Maximum 9 hours. Prereq: Consent of advisor and progression to the major.

415 Field Evaluation of Physical Fitness I (Measurement and evaluation of cardiorespiratory function, body composition, and flexibility. Emphasis on specific tool for evaluating the physical fitness of young adults. Prereq: Progression to the major. Coreq: 414. (Same as Health 415.)

416 Athletic Coaching Field Experience I (1) Practical experience in coaching and related responsibilities. May be repeated. Maximum 2 hours. Prereq: Approval of instructor.

420 Methods in Physical Education I (3) Application of theory and styles of teaching to teaching/learning environment, including planning, presenting, and evaluating lessons concerning knowledge, strategies, and skills for physical activity, games, and sport. Microteaching, macro teaching and field experiences. Prereq: Minimum 6 credits in Physical Education Major and completion of courses and admission to Teacher Education Program.

422 Applied Kinesiology I (3) Human movement with emphasis on biomechanical principles and their application to movement and neuromuscular fitness. Prereq: 322 and admission to Teacher Education Program or progression to the major.

423 Readings in Physical Education I (3) Current and classic literature in physical education.

424 Program Planning in Physical Education II (Curriculum, program planning and organization appropriate to physical education with opportunities to develop and evaluate K-12 physical education programs. Prereq: Admission to Teacher Education Program.

426 Practicum for Physical Education Majors II (1-10) Experience in the community in exercise science and related responsibilities. May be repeated. Maximum 10 hours. Prereq: Consent of instructor and progression to the major.

442 Administration of Physical Education and Athletics II (1) Organizational concepts and management strategies as related to physical education programs and athletics in the public schools. Prereq: Admission to Teacher Education Program or progression to the major.

450 Field Studies II (3) For physical education majors to design and implement learning units and evaluation techniques appropriate for K-12 physical education settings. Includes video-taping of learning experiences in the school setting. Prereq: 292 and 466 and admission to Teacher Education Program.

466 Motor Development Laboratory: Preschool or Primary (3) Application of selected perceptual-motor development, movement education, and pedagogical concepts to performance assessment and motor task organization and practice to normalize physical development of preschool or primary grade children. Participation in intra- or inter-disciplinary research projects. Prereq: 100 and admission to Teacher Education Program.

481 Internship I: Grades K-12 (3-6) Methods and theories of teaching. Internship is completed in local public schools. Application for internship should be made upon admission to Teacher Education Program. Prereq: 410 and admission to Teacher Education Program. Satisfactory/No Credit only.

482 Internship II: Grades K-12 (3-6) Demonstration of professional competence in planning, instruction, and classroom management. Internship is completed in local public schools. Prereq: 481 and admission to Teacher Education Program. Satisfactory/No Credit only.

493 Directed Independent Study II (1-3) Independent study in a specified area with physical education. Prereq: May be repeated. Maximum 9 hours. Prereq: Consent of advisor and progression to the major.

PHYSICAL EDUCATION SERVICE PROGRAM

200 Special Topics (2)

201 ARC WSI-Handicapped (1)

202 Badminton (2)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>203</td>
<td>Elementary Ballet I (2)</td>
<td>For students whose major is outside the physical sciences. Concepts of physics developed by observation of phenomena and logic, using a minimum of mathematical analysis. 121: Description of motion, forces, energy and momentum, properties of light. 122: Electricity, magnetism, light. Topics from modern physics including properties of atoms and nuclei. May be taken in sequence. 3 hours lecture including demonstration lab. Prereq: Algebra.</td>
</tr>
<tr>
<td>204</td>
<td>Elementary Ballet II (2)</td>
<td>121-122 Introductory Physics (3,3) For students whose major is outside the physical sciences. Concepts of physics developed by observation of phenomena and logic, using a minimum of mathematical analysis. 121: Description of motion, forces, energy and momentum, properties of light. 122: Electricity, magnetism, light. Topics from modern physics including properties of atoms and nuclei. May be taken in sequence. 3 hours lecture including demonstration lab. Prereq: Algebra.</td>
</tr>
<tr>
<td>205</td>
<td>Basketball (1)</td>
<td>131-132 Fundamentals of Physics: Mechanics and Heat (4,4) For engineers and liberal arts majors in mathematics and the physical sciences. Basic Engineering 131-132 is equivalent course for engineers. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 2 hours lab.</td>
</tr>
<tr>
<td>206</td>
<td>Bowling (2)</td>
<td>137-138 Honors: Fundamentals of Physics: Mechanics and Heat (4,4) Honors course for physics and engineering physics majors and qualified students from other disciplines. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 3 hours lab.</td>
</tr>
<tr>
<td>209</td>
<td>Flag Football (1)</td>
<td>141-142 Nature of the Physical World (3,3) Concepts, vocabulary, and principles of physical sciences to establish a unified picture of the physical universe. 141: Principles of mechanics, electricity, and wave motion are developed and applied to fields such as solar systems, atomic and molecular behavior, radiation, dynamic changes in atmospheres and in earth’s crust. 142: Principles applied to topics such as stellar and galactic phenomena, nuclear energy, cosmology, atmospheric and oceanic phenomena, drifting continents, and science and society. Must be taken in sequence. 3 hours lecture including demonstration lab.</td>
</tr>
<tr>
<td>210</td>
<td>Folk and Square Dance (1)</td>
<td>145 Physics of Athletic Activity (3) Principles of physics, particularly mechanics and energy with emphasis on athletic events. 131-132: Electricity and magnetism, modern physics. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 2 hours lab.</td>
</tr>
<tr>
<td>211</td>
<td>Golf (2)</td>
<td>151-152 Elements of Physics for Computer Scientists (4,4) For students majoring in computer science. Principles of mechanics, heat and thermodynamics, wave motion and sound, electricity and magnetism, light, relativity, and modern physics. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 2 hours lab.</td>
</tr>
<tr>
<td>212</td>
<td>Handball (2)</td>
<td>181 Physics of Music (3) Production, transmission, and reception of sound waves. Frequency, intensity, timbre. Basic acoustics of instruments and voice. 3 hours lecture and demonstration.</td>
</tr>
<tr>
<td>213</td>
<td>Ice Skating (1)</td>
<td>221-222 Elements of Physics (4,4) Basic principles and applications required in pre-medical, pre-dental, pre-pharmacy and pre-veterinary programs. 221: Electric motion, heat, wave mechanics. 222: Electricity and magnetism, modern physics. Must be taken in sequence. 3 hours lecture, 3 hours lab. Prereq: Mathematics 121-122 or 141-142 or 151-152.</td>
</tr>
<tr>
<td>214</td>
<td>Elementary Jazz 1 (2)</td>
<td>231 Fundamentals of Physics: Electricity and Magnetism (3) For engineers and liberal arts majors in mathematics and the physical sciences. Required of all engineering students. Prereq: 131-132 or Basic Engineering 131-132. Coreq: Mathematics 231. 2 hours lecture, 3 hours lab/recitation.</td>
</tr>
<tr>
<td>216</td>
<td>Martial Arts: (Special Topics) (1)</td>
<td>233 Fundamentals of Physics: Wave Motion and Modern Physics (4) For students majoring in physics and engineering physics majors and qualified students from other disciplines. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 3 hours lab.</td>
</tr>
<tr>
<td>221</td>
<td>Elementary Modern Dance I (2)</td>
<td>235 Social Dance I (1)</td>
</tr>
<tr>
<td>225</td>
<td>Elementary Modern Dance II (2)</td>
<td>226 Physical Fitness: Exercise to Music (1)</td>
</tr>
<tr>
<td>227</td>
<td>Paddleball (1)</td>
<td>229 Physical Fitness: Exercise and Weight Control (1)</td>
</tr>
<tr>
<td>229</td>
<td>Personal Safety and Self-Defense (1)</td>
<td>232 Racketball I (1)</td>
</tr>
<tr>
<td>230</td>
<td>Physical Fitness: Swimming (1)</td>
<td>239 Swimming I: Elementary (2)</td>
</tr>
<tr>
<td>244</td>
<td>Tennis I (1)</td>
<td>245 Tennis II (1)</td>
</tr>
<tr>
<td>253</td>
<td>Coed Gymnastics: Women's Apparatus I (1)</td>
<td>254 Yoga and Relaxation (1)</td>
</tr>
</tbody>
</table>
PLANT AND SOIL SCIENCE

210 Introduction to Soil Science (4) Differences in soil formation, climate, vegetation, and biological properties of soil: relation of soils to land use and pollution; soil management relative to tillage, erosion, moisture supply, aeration, fertility, and plant nutrition. Introduction to fertilizer chemistry and use. Prereq: Chemistry 130 or equivalent. 3 hours and 1 lab. F

220 Field and Forage Crops (3) Agronomic principles of crop production and management. Crop improvement, cropping systems, tillage, fertilization, pest management, harvest and utilization of major field and forage crops. Prereq: 210 or 230. 2 hours and 1 lab. Sp

230 Soil Morphology (1) Intensive course involving description, classification, growth and reproduction of higher plants and use of plant products basic to plant science. Principles and methods of growing several of the world's important agronomic, fruit and vegetable crops, detailing their origin and cultural requirements. Prereq: Botany 110, 120 or Biology 110, 120. Sp

312 Popular Culture and American Politics (3) Popularity of consumer goods and mass media in U.S. society, effects of mass media on popular culture, and changes occurring in pop culture. Prereq: Math 121 or equivalent. F

401 Seminar (1) Current topics in the plant and soil sciences. Techniques of effective oral and written professional presentation; professional ethics; review of literature; assignments for written and oral presentations. Senior standing. Sp

411 Soil Microbiology (3) Soil microbial population and the soil ecosystem; microbial transformations of inorganic and organic compounds; decomposition of residues; dynamics of soil organic matter. Prereq: 210 and B- average or consent of instructor. F

412 Soil Genesis, Classification and Mapping (3) Soil genesis and formation; observing and describing morphology of agricultural and forest soils; chemical and physical properties, classification; mapping. Two Saturday field trips required. Prereq: 210 or consent of instructor. 2 hours and 1 lab. Sp

413 Soil Chemistry (3) Structure and chemical properties of soil materials with emphasis on the colloidal fraction as it relates to exchange, chemical equilibria, soil acidity, oxidation-reduction, weathering, nutrient availability and waste disposal. Prereq: 311 or consent of instructor. F

414 Soil, Land Use and the Environment (3) Soil as an environmental component and soil properties affecting land use. Soil as a resource in development planning including nonengineering aspects of site selection for residential use and conservation and preservation of land use, recognition and prevention of soil pollution. Prereq: 210 or consent of instructor. Sp-A

431 Crop Physiology and Ecology (3) Plant physiology and ecology applied to crop production. Effects of environmental factors on physiological processes. Prereq: 230, Botany 321. 2 hours and 1 lab. F-A

433 Agricultural Pesticides (3) Regulation of pesticide development, manufacture, transportation, marketing and use. Structure, mode of action, degradation and environmental impact of pesticides used in agriculture, forestry and related areas. Prereq: 1 year biological sciences and 1 semester chemistry. 2 hours and 1 lab. Sp

453 Principles of Plant Breeding (3) Genetic principles and techniques used in crop improvement. Prereq: Botany 220 or equivalent. 2 hours and 1 lab. Sp

471 Statistics for Biological Research (3) Notation, descriptive statistics, probability, distributions, confidence intervals, student's t and chi-square tests, analysis of variance, mean separation procedures, linear regression and correlation. Prereq: Math 121 or equivalent. 3 hours and 1 rec. F

473 Problems in Plant and Soil Science (1-3) Special research or library problems in plant and soil science. May be repeated. Maximum 6 hours. E

POLITICAL SCIENCE

101 United States Government and Politics (3) Introduction to fundamental institutions and processes of American National Politics including the constitution, voting, presidency, congress and the courts.

102 Introduction to Political Science (3) Analysis of political systems and political processes in various countries.

107 Honors: United States Government and Politics (3) Analysis and exploration of the American political system for students with superior ability. Admission by permission of department for students with at least a B average; entering freshmen accepted on basis of strong placement scores and high school record.

301 Introduction to Political Analysis (3) Nature, character, and functions of research design; data collection, and statistical techniques used in the study of politics.

310 Political Community (3) Examination of a variety of value systems and social and political structures related to political community.

311 Contemporary Issues in American Public Policy (3) Selected public policy issues confronting the nation, including the background, nature, and effects of present policies, and options for the future.

312 Popular Culture and American Politics (3) Popular culture related to American politics and government focusing on submedia of film, literature, and society.

315 Tennessee Government and Politics (3) Major elements in Tennessee government and politics.

320 State Government and Politics (3) Setting, institutions, and processes of government in the fifty states: generalizations and comparisons, with emphasis on federalism and inter-governmental relations.

321 Urban Politics and Process (3) Development of politics and policy-making in the American city. (Same as Urban Studies 321.)

322 Minority Group Politics in the United States (3) Content varies. May be repeated with the consent of the department. Maximum 6 hours. (Same as Afro-American Studies 322.)

330 Law in American Society (3) Law as a process through which social problems are addressed in the United States. Examples from case law, legislation, and administrative regulation.

331 Judicial Process (3) Courts as components of political systems, and public policy formulation through judicial decision making.

340 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, personnel and financial management and administrative responsibility, the policy-making process, public environment.

350 Political Change in Developing Areas (3) Characteristics and problems of political changes with primary focus on developing areas.

355 Latin American Government and Politics I (3) Introduction to contemporary conditions in Latin America. (Same as Latin American Studies 355.)

361 Politics in Western Democracies (3) Political culture patterns, and institutions of Western democratic systems.

365 Introduction to International Relations (3) Resource availability, international economies, international security and peace (imperialism, war, diplomacy, the balance of power, international law and international organization).

366 United States Foreign Policy Process (3) Processes through which United States foreign policies are made and implemented, focusing on interaction within federal bureaucracy and the roles of the President, Congress, the press, and public opinion.

370 Contemporary International Problems (3) Analysis of current international events.

374 American Political Thought (3) Major themes and ideas in American political thought related to the development of American political institutions, values, and practices.

387-388 Junior Honors Seminar (3,3) Required of honors majors; admission with consent of department.

410 Special Topics in United States Government and Politics (3) May be repeated with consent of department. Maximum 6 hours.


420 Political Attitudes and Opinions (3) Nature, formation, development, and dissemination of politically relevant attitudes and opinions in the American political system.

421 Political Parties and Interest Groups (3) Role of political parties and organized groups in American politics and government.

422 Political Campaigns and Elections (3) Nature of...
campaigns and elections in the American political process.

430 United States Constitutional Law: Sources of Power and Restraint (3) Judicial review, constitutionality of federal and state laws, administrative and constitutional processes.


440 Public Management and Human Resources (3) Stresses reading, writing, listening, and speaking of Portuguese to prepare for upper division courses in the language. Must be taken in sequence. Language Laboratory required.

300 Portuguese for Spanish Speakers (3) Accelerated class for beginning students of Portuguese with a strong background in another Romance language. Introduction to grammar, reading and culture of Portugal and Brazil. Prereq: 3 hours at 300 level in another Romance language or equivalent.

311 Aspects of Luso-Brazilian Literature (3) Luso-Brazilian literature, with emphasis on contemporary works. Genres may vary. Prereq: 212 or equivalent. (Same as Latin American Studies 311.)

323 Conversation and Composition (3) Development of speaking, listening, and writing skills in Portuguese; some review of grammar. Prereq: 212 or 300 equivalent.

431-432 Directed Readings in Brazilian and Portuguese Literature (3,3) May be repeated with consent of instructor. (Same as Latin American Studies 431-432.)

491 Foreign Study (1-15) See page 97.

PSYCHOLOGY

110 General Psychology (3) Introduction to primary approaches to the study of human behavior and experience.

117 Honors: General Psychology (3) Enriched introduction with extra readings. Prereq: Consent of instructor.

210 Biological Basis of Behavior (3) Survey of theories and research concerning the role of genetic factors, nervous system, and other biological influences on behavior. Recommended: 110 or equivalent.

220 Behavior and Experience: Humanistic Psychology (3) Behavioral and phenomenological analysis of individuals and their development in small groups. Prereq: 3 hours at 300 level in another Romance language or equivalent.

300 Child Psychology (3) The normal child from conception through infancy, childhood, and adolescence. Physical, cognitive, social, and emotional development. Prereq: 110 or equivalent and 200 or 210.

310 Learning and Thinking (3) Survey of theory and findings of research concerning both humans and nonhumans. Prereq: 110 or equivalent. Recommended: 210, 220.

320 Motivation (3) Survey of theories and related research; discussion of applications. Prereq: 110 or equivalent. Recommended: 210, 220.


359 Laboratory in Human Relations (3) Interpersonal relations and communication through structured experiences in small groups. Prereq: 110 or equivalent, and consent of instructor. May be repeated. Maximum 6 hours.

360 Social Psychology (3) Theories, methods, and findings of research concerning individual behavior in a social context. Prereq: 110 or equivalent.

370 Ethology and Sociobiology (3) Basic concepts in the evolutionary approach to behavior, including applications to psychology, the social sciences, and the arts. (Same as Zoology 370.)

382 Contemporary Topics in Psychology (3) Current issue or problem, such as architectural psychology, impact of technology, artificial intelligence, or stereotypes. Different topic each semester. Prereq: 110 or equivalent. May be repeated. Maximum 9 hours.

385 Statistics in Psychology (3) Descriptive statistics: logic of hypothesis-testing and statistical inference. Basic parametric and non-parametric tests. Prereq: Mathematics 110. Not open to students with credit in Mathematics 116, Statistics 201, or equivalent.

395 Methods of Research in Psychology (3) Fundamentals in the design, conduct, and interpretation of research, including experimentation, observation, surveys, quasi-experiments, and program-evaluations. Focus on both laboratory and natural settings. Prereq: 110 or equivalent.

396 Laboratory in Psychology (2-3) Introduction to techniques used in the laboratory to study different topics is psychology, such as perception, memory, learning, and social behavior. Supervised experience in planning and conducting experiments. Prereq: 210, 220, 385, 395. May be repeated. Maximum 9 hours.

399 Supervised Research and Field Work (1-3) Field experience in community-based research and service settings. Prereq: 110 or equivalent, 210, 220, 385, 395. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major.


409 Group Facilitation (3) Study of theory and technique of group supervision and group experience in small groups. Prereq: 399 and consent of instructor. May be repeated. Maximum 6 hours.


420 History and Systems of Psychology (3) History of psychological thought. Classical approaches and recent developments. Prereq: 110, 210, and three upper division courses in Psychology.

424 Psychology and the Law (3) Psychological aspects of legal systems. Prereq: 110 or equivalent, upper division standing and consent of instructor.

430 Health Psychology (3) Psychological factors related to health and illness, including stress, personality, and environment. Applications of psychological treatment to physical illness. Prereq: 110 or equivalent, 210.

434 Psychology of Gender (3) Biological, psychological, and social factors in gender. Importance of gender roles and stereotypes for behavior and experience. Prereq: 110 or equivalent, 210, 220. (Same as Women's Studies 434.)

440 Organizational Psychology (3) Social-psychological analysis of organizations, emphasizing role-management and systems theory. Prereq: 360. (Same as Management 440.)

455 Comparative Animal Behavior (3) Complex psychological factors related to complex psychological processes. Prereq: 399, 491, 492, and 493 combined may be applied toward the major.

459 Laboratory in Psychological Research (3) Psychological factors related to health and illness, including stress, personality, and environment. Applications of psychological treatment to physical illness. Prereq: 110 or equivalent, 210.

460 Comparative Animal Behavior (3) (Same as Zoology 450.)

469 Comparative Animal Behavior Laboratory (3) Coreq: 450. (Same as Zoology 450.)

461 Physiological Psychology (3) Nervous system and physiological correlates of behavior. Biological basis of emotion, learning, memory and stress. Prereq: 110 or equivalent, 210, and one year of Biology or Zoology introductory sequences or equivalents.

469 Laboratory in Physiological Psychology (3) Laboratory studies of nervous system and physiological correlates of behavior. Coreq: 461.

470 Theories of Personality (3) Major theories of human personality and their development. Prereq: 230 and 300 or 330.

480 Theories of Learning (3) Classical and current approaches to learning and cognition. Prereq: 310.

482 Topics in Psychology (3) Intensive analysis of special topics, such as Afro-American Psychology or evolution of cognitivism. Prereq: 310 and 330.

PORTUGUESE

111-112 Elementary Portuguese (3,3) Introduction to Portuguese. May not be taken for credit by students with two years of high school or one year college Portuguese. Must be taken in sequence. Language Laboratory required.
RECREATION AND LEISURE STUDIES

110 Foundations for Leisure Studies and Services (3) Focuses on understanding concepts, principles, and practices relevant to providing leisure service including philosophy, history and theory, programming, economics, leadership, and a survey of leisure services organizations and occupational opportunities.

210 Dynamics of Recreation Leadership (3) Theories, practices and concepts as they apply to all roles of recreation leadership.

220 Introduction to Therapies and Medical Terminology (3) Responsibilities of recreation, occupational, physical, horticulture, art, and music therapists. Basic terminology used in medical environment.

489 Supervised Research (1-9) Prereq: Consent of instructor. May be repeated. Minimum 12 hours in 399, 491, 492, and 493 combined may be applied toward the major.

491 Foreign Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major.

492 Off-Campus Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major.

496 Senior Seminar: Great Ideas in Psychology (3) Key ideas that shaped conceptions of human kind. Exploration of historical development, scientific evolution, and larger social context. Prereq: Consent of instructor and senior standing.

PUBLIC HEALTH

300 Introduction to Public Health (3) Aspects of public health including discussion of contemporary and controversial health issues.

305 Communicable and Noncommunicable Diseases (3) Modern concepts of diseases; etiology of common communicable and chronic disease problems including prevention and control. Prereq: 1 year of biological science or consent of instructor. F, Sp

310 Environmental Management and Control (3) Contemporary principles of control of disease-producing agents in our environment. Emphasizes concepts for effective application of control principles to vocational endeavors and/or daily living activities. Includes: Drinking water quality (chemical, physical and biological), waste management (liquid, solid and hazardous), vector control, safe food management, recreational sanitation and safety to include pool management, shelter hygiene (homes, child care, schools, hospitals, etc.), occupational health and safety. F, Sp

400 Consumer Health (3) (Same as Health 400.)

410 Health in the Work Environment (3) Occupational and physical health. May be repeated. Maximum 6 hours. F, Sp

420 Principles of Therapeutic Recreation (3) Principles and practices in therapeutic recreation including activity analysis, activity and program selection adaptation, individual assessment, treatment plans and professional issues. Prereq: 350 or consent of instructor.

430 Organization and Administration of Leisure Service (3) Principles of administration applied to provision of leisure service to public, private and/or commercial enterprises. Organizational structures, personnel management, evaluation, legal authority, introduction to budgeting and fiscal procedures. Prereq: 310 or consent of instructor. F

440 Dimensions of Private and Commercial Recreation Businesses (3) Nature and function of recreation in private, commercial, and industrial settings. Development of management of recreation methods and services offered in leisure market, factors influencing participation, management considerations, and research in commercial recreation and tourism. Prereq: 110, junior standing or consent of instructor. F

450 Specialized Study in Leisure Education (1-4) Special interest leisure activities for developing positive attitudes toward leisure. Contribution of leisure to mental and physical health. May be repeated. Maximum 6 hours. E

490 Practicum in Recreation (12) Full time practice in approved recreation agency. Emphasis on supervisory and administrative procedures. Prereq: 390, 390, senior standing. Unsatisfactory/No Credit only. E

RELIGIOUS STUDIES/Courses of Instruction

101 World Religions in History (3) Introduction to religion in culture and society, including examination of religious traditions from China, India, and the Mediterranean world.

102 The Comparison of World Religions (3) Introduction to religion in culture and society, focusing on cross-cultural interaction and the treatment of common problems and themes within religious traditions.

211 Ways of Understanding Religion (3) Sources and methods used in the study of religion and religious analysis of approaches to the study of religion.

212 Criticism of Religion (3) Classical and contemporary forms of criticism of western religious thought as in the work of Marx, Freud, Nietzsche, and current feminist and liberation movements.

236 Issues in Religious Studies (3) Introduction to the study of religion through selected themes, problems, controversies, or contemporary issues. Variable content. May be repeated. Maximum 6 hours.

301 Religious Myth, Symbol, and Ritual (3) Distinctive modes of religious expression and analysis of theoretical approaches appropriate to their particular social and cultural functions in religions.

302 Religion of Primitive Peoples (3) Religions of selected non-literate peoples. Role of religion in their social and cultural systems. (Same as Anthropology 302.)

305 Contemporary Religious Thought (3) Major themes, issues, and thinkers in twentieth century religion.

309-310 Elementary Classical Hebrew (3,3) Basic elements of Hebrew phonology, script, morphology and syntax. Introduction to basic elements of text, form, and literary meaning. (Same as Modern Language 309, 310.)

311 Ancient Hebraic Religious Traditions (3) Development of ancient Israelite and early Jewish traditions with emphasis on those concerning the Exodus, Davidic kingship, and Zion in historical, prophetic and apocalyptic material.

312 Religious Aspects of Biblical and Classical Literature (3) Ways in which contemporary modes of literary study enhance appreciation of biblical and classical material. Ways in which the western literary tradition has appropriated and recast the biblical and classical heritage.

313 Religious Aspects of Modern Literature (3) Issues raised for religious inquiry in contemporary literature. Relation of religious and moral considerations to problems of literary analysis; relation between religious language and forms of human expression (symbol, metaphor, myth, image) identified in study of literature.

315 Reformation Europe, 1500-1650 (3) (Same as History 315.)

316 Topics in Religion and Literature (3) Selected themes that suggest points of intersection between literary art and the study of religion. Variable content. May be repeated. Maximum 6 hours.

319 Sociology of Religion (3) (Same as Sociology 319.)

321 New Testament Origins (3) Influence of pre-Christian Judaism and Greek culture and philosophy on early Christianity. Motivations and guiding concepts which led to the formation of the New Testament; Victory of the Christian Church over the forces of persecution and the Constantinian settlement (311 A.D.). (Same as History 321.)

322 Christian Thought (3) Principal forms of Christian thought and institutions through the interpretation of representative thinkers and movements from Augustine to Harnack.

326 Images of Jesus (3) Major portraits of Jesus Christ from the first century to the twentieth within the context of the cultural milieu which gave birth to each. Extensive use of slides, video material, recordings, and literature.

329-330 Intermediate Classical Hebrew (3,3) 329-Readings in narrative material from the Hebrew Bible. 330-Readings in poetic and prophetic material from the Hebrew Bible. Prereq: 329 or consent of instructor.
331 Judaism (3) Comprehensive introduction to the historic traditions, culture, and religious institutions of Judaism, and interactions with modern culture.

332 Islam (3) Comprehensive introduction to the origin and early history of Islam, rapid spread as a missionary religion, development of theology and culture, and interactions with modern culture.

342 Religious Ethics (3) Selected ethical theories and moral theological of religious communities and thinkers, their action-guides for individuals and institutions, their application to persons and social problems.

344 Professional Responsibility (3) (Same as Philosophy 344.)

346 Medical Ethics (3) (Same as Philosophy 345.)

351 Introduction to United States Religious History (3) Religious thought, institutions and movements in the United States, formation of denominations, church and state, American theology, non-protestant traditions, women, and fundamentalism.

352 Afro-American Religion in the United States (3) Historical and critical examination of formation and development of Afro-American religious thought and institutions in America. (Same as Afro-American Studies 555.)

353 Topics in Afro-American Religion (3) Selected figures, themes, movements, and problems in the Afro-American religious tradition. Variable content. May be repeated. Maximum 6 hours. (Same as Afro-American Studies 555.)

355 Religion and Culture in the United States (3) Selected figures, movements, and problems in American religious life, thought, and culture from pre-colonial period to present. Prereq: 351 or consent of instructor. May be repeated. Maximum 6 hours.

370 Philosophy of Religion (3) (Same as Philosophy 370.)

371 Eastern Religions and Western Thought (3) Comparative study of selected movements, thinkers, and practices of religious traditions, Asian and Western.

372 African Religions (3) Religions of the indigenous peoples of Africa, formation of denominations, church bulbs and certain cultural and political movements in Africa have been and are being informed by religious sensibilities. (Same as Anthropology 373 and Afro-American Studies 373.)

374 Philosophy and Religion in India (3) Survey of the development of the major non-Buddhist themes of philosophical and religious thought in India. (Same as Philosophy 374.)

376 Buddhist Philosophy and Religion (3) Survey of the origins of Buddhism in India and further development of Buddhist philosophy and religion in India, China, Burma, Thailand, Vietnam, Laos, Cambodia, and Tibet. (Same as Philosophy 376.)

379 Religion and Philosophy in China (3) Traditional thought and religion of China in its cultural setting as basis for understanding modern China. (Same as Philosophy 379.)

383 Religion in Japan (3) Traditional religious heritage and contemporary expressions of religion in Japan with attention to relationships of persons to nature, self-mastery and spontaneity, individual and communal and secular to sacred.

384 Zen Buddhism (3) Historical, philosophical, and meditational aspects of Zen. Special emphasis on motifs of emptiness, no-mind, and enlightenment and on practical applications of meditation and the use of koan. Recommended Prereq: One or more of the following: 376, 379, 383.

389 Literature of the English Bible (3) (Same as English 389.)

390 Topics in Religious Studies (3) Selected figures, themes, movements, and ideas in religious content. May be repeated. Maximum 6 hours.

411 Modern Religious Philosophies (3) Religious implications of major Western thinkers and movements from Nietzsche of Cusa to the nineteenth century German idealists. (Same as Philosophy 411.)

412 Classical Indian Systems of Philosophy: The Moksha Tradition (3) Selected writings and philosophical problems of the Moksha tradition, Yoga, Vedanta, Buddhism, or Jainism. Prereq: Religious Studies/Philosophy 374 or 376 or consent of instructor. (Same as Philosophy 412.)

416 Jesus and Paul Compared (3) Central ideas and concepts of each person compared with equivalent concepts in the other. Advanced study of the Gospels and Epistles of Paul, involving extensive independent research.

421-422 Elementary Sanskrit I, Elementary Sanskrit II (3,3) 421-Introduction to the grammar of classical Sanskrit. 422-Introduction to the reading of epic and classical Sanskrit texts. Prereq: 421 or consent of instructor.

425 Seminar in Western Religions (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

430 Seminar in American Religion (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

435 Seminar in Asian Religions (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

440 Seminar in Comparative Religion (3) Selected figures, themes, movements, and problems. Prereq: Consent of instructor. Variable content. May be repeated. Maximum 6 hours.

446 Theoretical Issues in Medical Ethics (3) (Same as Philosophy 446.)

462-463 Intermediate Sanskrit I/Intermediate Sanskrit II (3,3) 462-Advanced grammatical constructions and reading of epic and classical religious and narrative texts (e.g., Bhagavad Gita, Mokshadharma, Ramayana, Kathasaritsagara). Prereq: 422 or consent of instructor. 463-Continued reading of classical religious and narrative texts. Introduction to classical Sanskrit poetry (e.g., Kalidasa's Shakuntala or Meghdut.) Prereq: 462 or consent of instructor.

469 Readings in Selected Languages Related to Religious Studies (1-3) Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

490 Readings and Research in Religious Studies (3) Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15) See page 97.

492 Off-Campus Study (1-15) See page 96.

493 Independent Study (1-15) See page 96.

499 Proseminar in Religious Studies (3) For advanced students in Religious Studies; required for majors. Selected topics, names and function of myth in religion, problem of evil, transcendence, theories of religion, hermeneutics, integrating various disciplines involved in study of religion. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

499 Proseminar in Religious Studies (3) For advanced students in Religious Studies; required for majors. Selected topics, names and function of myth in religion, problem of evil, transcendence, theories of religion, hermeneutics, integrating various disciplines involved in study of religion. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

RURAL SOCIOLOGY

380 Rural Sociology (3) Topics include cultural variability, reference group theory, social stratification, major social institutions, demographic changes, rural community and decision making, diffusion of technology and rural industrialization. Prereq: Sophomore standing. (Same as Sociology 380.)

460 Diffusion of Agricultural Technology (3) Diffusion and communication processes whereby new technology spreads from scientists to change agents and then to farmers. Innovation-decision process; communication behavior, mass media, role of professional change agents, opinion leadership and consequences of diffusion. Prereq: 380 or consent of instructor. (Same as Sociology 460.)

RUSSIAN AND EAST EUROPEAN STUDIES

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

411-412 Senior Seminar (3,3) For majors in Russian: minor's admission at the discretion of the instructor. Intensive study of language, literary style, and literary criticism based on selected major novels.

491 Foreign Study (1-15) See page 97.

493 Independent Study (1-15) See page 96.

SAFETY

400 Directed Independent Study (1-3) Individual identification and study of safety or safety education problem/issue. Specific proposal must be made to instructor before registration. May be repeated. Maximum 12 hours. Prereq: Consent of instructor.

441 Driver and Traffic Safety Education (3) Preparation of teachers of driver education in schools and coll-
leges. Students are required to teach at least one course each term. Full­time graduate’s license required. 2 hours and 2 labs. E

442 Advanced Driver and Traffic Safety Education (3) Teaching driver education through use of simulation, multimedia, and multiple­car driving range. Emphasis placed on teaching skills and supervision. 2 hours and 2 labs. Sp.

443 Sports and Recreational Safety (3) Accident prevention and injury control in sports activities; philosophy of sports safety, human environmental factors and interrelationships in sports injury and control, risk­taking and decision solution strategies; and contributions of sports medicine to safety. 3 hours and 2 labs. Sp.

452 General Safety (3) Principles, practices, and procedures in general safety. Safety problems in school, traffic, recreation, industry, home, and other public areas. E

470 Special Topics (1­3) Study in selected disciplinary or professional areas of safety. May be repeated. Maximum 12 hours.

SOCIAL WORK

200 Introduction to Social Work (3) Emergence of the social work profession; professional mission; knowledge, skills, and values; practice settings; client groups; helping services; career patterns; practice methods. Designed to assist students to consider their ability for a career in social work.

250 Social Welfare (3) Development and function of the social welfare institution. Analysis of social welfare programs and impact of the institution on society.

310 Social Work Research (3) Scientific methods and research strategies to evaluate one’s practice and/or social service delivery. Knowledge of statistical techniques required. Prereq: Sociology 392 or Psychology 385. Coreq: 380.

312 Social Work Practice I (3) Knowledge, values, and skills for entry­level generalist practice in a variety of settings. The social work problem solving process, different client systems, ethnic­sensitive assumptions, and the worker’s regard for persons­in­environment configuration. Concurrent skills laboratory. Prereq: Initial progression. Pre or Coreq: 314.

313 Social Work Practice II (3) In­depth study of generalist practice with individuals and families. Practice issues involving different groups and working with people of diverse backgrounds. Concurrent skills laboratory. Prereq: Initial progression, 312. Coreq: 310 and 316.

314 Human Behavior and the Social Environment (3) Interrelations of human, social, cultural, environmental and psychological factors in human behavior. Person­in­environment over the life span with special attention to diversity, impact of racism, sexism, and other sociocultural factors. Integration of knowledge into a social work practice perspective. Prereq: Initial progression.

380 Field Practice in Social Work I (3) Eight­hour­per­week, supervised field experience with practice situations for developing professional skills, values and attitudes. Concurrent seminar focuses on integration of knowledge with practice experiences. Prereq: Initial progression. Coreq: 313 and 310.

412 Social Work Practice III (3) Generalist practice with emphasis on groups and communities, including treatment theories, techniques, and issues. Prereq: Full­time status. Coreq: 488.


460 Integrative Seminar (2) Social work content for entry­level professional practice and current issues influencing the profession. Includes development of a portfolio reflecting BSW competencies. Prereq: Full progression. Coreq: 481.

480­481 Field Practice in Social Work II, III (4,4) Sixteen­hour­per­week supervised agency field practicum for integration of theory and practice and critical examination of oneself as a professional helping person. Concurrent field seminar on integration of knowledge with practice experiences. Prereq: Full progression.

SOCIOLOGY

100 General Sociology (3) Major concepts and theoretical approaches of sociology with emphasis on culture, socialization, social organization, and social stratification. 3 hours.

110 Social Problems and Social Change (3) Increasingly acute and intense problems such as alcoholism, violence, crime, inequality, lifestyle preferences, and environmental abuse within the context of social change. Assessment of control strategies. May be taken instead of 100.

200 Sociological Analysis (3) Selected set of contemporary issues emphasizing theoretical and logical structure of the issues and development of data needed to enter into informed debate on the issues. Students are expected to develop their own analytical arguments. Prereq: English 102 or consent of instructor.

220 Interpersonal Communication (3) (Same as Speech 230.)

232 Varieties of Religious Community (3) (Same as Religious Studies 332.)

291 Sport in American Society (3) (Same as Physical Education 291.)

310 American Society (3) Institutional organization of contemporary American society with particular attention to major social values.

311 Family (3) Theoretical frameworks and methodological approaches; their application in the sociological study of past and present family forms.

319 Sociology of Religion (3) Interrelationship of society, culture, and religion. (Same as Religious Studies 319.)

320 Interpersonal Communication Processes (3) (Same as Speech 320.)

321 Sociological Theory (3) Survey of contemporary issues and problems in sociological theory with an emphasis on their historical development and their importance for the field. Students are required to form critical appraisals of the topics addressed.

330 Computers and Society (3) (History of computing and computer systems; capabilities of computer applications in various fields; social, cultural, and economic impacts.

331 Sociological Research (3) Selected issues in philosophy of social science, research design, sampling, methods of data collection, and interpretation. Requires written research report.

336 Elementary Social Statistics (3) Statistics used in social research; elementary descriptive techniques; measures of central tendency, dispersion; elementary statistical inference; tests of significance for parametric and non­parametric data.

403 Race and Ethnicity (3) Social sources of racial and ethnic cleavages and social, economic, and political consequences. Emphasis on race and ethnicity in the United States. (Same as Afro­American Studies 404.)

444 Power and Society (3) Sociological analysis of the formation and application of nation­state policies. Examination of who gets what, why and how. Emphasis on contrasting explanations of the control of the state and the relative autonomy of the state.

451 Criminal Justice (3) A critical assessment of the criminal justice apparatus and its components. Brief examination of the police, with most of the emphasis on the criminal courts and institutions and programs such as the prison, probation, and parole. Analysis of their operation and impacts. Prior completion of 350 is recommended.

455 Society and Law (3) How laws and legal processes are affected by social change, the social impact of legal sanctions, relations between law and social justice.

459 Organizational and Corporate Crime (3) Crime and deviance committed by organizations. Case studies of corporate and organizational crime, the organization of crime, and organized responses to this type of crime by governmental regulatory agencies.

462 Population (3) Demographic factors and social structure; trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.
464 Urban Ecology (3) The relation of humans to their urban environment with emphasis on conservation and the use of appropriate technology. (Same as Urban Studies 464.)

471 Sociolinguistics (3) (Same as English 471 and Linguistics 471.)

480 Diffusion of Agricultural Technology (3) (Same as Rural Sociology 480.)

491 Foreign Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours. See page 97.

492 Off-Campus Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours. See page 96.

493 Independent Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours. See page 96.

SPANISH

111-112 Elementary Spanish (3,3) (Introduction to Spanish. May not be taken for credit by students with two years of high school or one year college Spanish. Must be taken in sequence. Language Laboratory required.)

211-212 Intermediate Spanish (3,3) Reading, writing, listening and speaking of Spanish to prepare for upper division courses in the language. Must be taken in sequence. Language Laboratory required. Prereq: 111-112 or equivalent.

217-218 Honors: Intermediate Spanish (3,3) Honors course for students of superior ability in Spanish. Incoming freshmen are admitted on the basis of a diagnostic test, high school average and performance on the ACT. Classes normally held to a maximum of 15 students. Students follow enriched program with an introduction to reading literary selections. Students who earn an A or B in 218 receive credit for 212.

291 Spanish Literature in English Translation (3) From the Golden Age. Don Quixote, the picarones novel. and St. John of the Cross, to the modern, Unamuno, Lorca, Ortega, and Cela. No foreign language or major credit.

292 Spanish American Literature in English Translation (3) Contemporary Spanish American fiction: such as Borges, Fuentes, Marquez, Asturias. No foreign language or major credit.

300 Spanish Translation (3) Development of linguistic skills. Students will do factory work in courses above 300. Recommended for students who would benefit from additional training beyond 212 in the skills of speaking, reading and writing Spanish. Particular attention for preparation to read Hispanic literature and other advanced-level material.

311 Aspects of Spanish Literature (3) Introduction to Spanish literature, using selections from prose, drama and poetry of the medieval, Golden Age and modern periods. Required of all majors. Prereq: 212, 218 or equivalent.

312 Aspects of Spanish American Literature (3) Introduct to the study of Spanish American literature, with emphasis on contemporary works. Genres may vary. Prereq: 212, 218 or equivalent. (Same as Latin American Studies 312.)

323-324 Intermediate Conversation and Composition (2,2) Designed to improve proficiency in oral and written communication in Spanish.

421 Phonetics (2) Prereq: 212, 218 or equivalent.

422 Advanced Grammar (3) Finer points of grammatical structures. Required of all majors. Native speakers must receive permission from the instructor to take this course. Prereq: 212, 218 or equivalent.

423-424 Advanced Conversation and Composition (3,3) Adv. Based on previous oral and written skills in Spanish for pre-professionals.

425 Introduction to Descriptive Linguistics (3) (Same as French 425, German 425, Russian 425 and Linguistics 425.)

426 Methods of Historical Linguistics (3) (Same as Russian 426, French 426, German and Linguistics 426.)

429 Romance Linguistics (3) (Same as French 429 and Linguistics 429.)

431 Spanish Civilization (3) Major social, political, and cultural achievements of the Spanish people from the origins of their civilization until today. Prereq: 311, 312 or equivalent.

432 Cervantes (3) Emphasis upon selections from Don Quixote and study of the shorter Novelas ejemplares. Prereq: 311, 312 or equivalent.

433 Masterpieces of Spanish Literature (3) Selections from both the Golden Age and the modern period of works of all genres. Prereq: 311, 312 or equivalent.


450 20th Century Hispanic Theatre (3) Emphasis on major 20th century Spanish American dramatists. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 450.)

451 Video Colloquium in Spanish (3) An integrative experience focusing on a broad range of issues and topics that affect much of the Spanish-speaking world and also special topics of exceptional interest in Hispanic Studies. Prereq: 311, 312 or equivalent.

460 Capstone Tutorial in Spanish (1) Independent study project supervised closely by a faculty member. Prereq: Capstone Colloquium in Spanish. Prereq: 311, 312 or equivalent.

471 Latin American Civilization (3) Latin America's diverse heritage and major social and political institutions. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 471.)

472 Masterpieces of Spanish American Literature (3) Selected works by major Spanish American writers such as Darío, Paz, Borges, Fuentes and others. Genres and periods may vary. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 472.)

473-474 Survey of Spanish American Literature (3,3) Survey of the history of Latin America in the 20th century. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 473-474.)

479 Social Protest Literature of Latin America (3) Literature on current social, political, and cultural issues in Latin America. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 479.)

451 Foreign Study (1-15) See page 97.

SPECIAL EDUCATION

270 Special Education Seminar (1) Introduction to the field: career options and objectives including observation in the field.

331 Articulation Disorders (3) Prereq: Admission to Teacher Education Program. (Same as Audiology and Speech Pathology 331.)

370 Survey of Exceptional People (2) Definition, characteristics and special needs of exceptional individuals; connecting historical and legal background of special education; cause-effect of handicapping conditions; educational settings/adaptations for instruction; professional roles and responsibilities; social adjustments of exceptional persons and others; current trends and issues in special education. Prereq: Admission to Teacher Education Program. (Same as Education 370.)

371 Audiology I (3) (Same as Audiology and Speech Pathology 371.)

404 Appraisal of Speech and Language Disorders (3) (Same as Audiology and Speech Pathology 404.)

410 Pre-Internship Seminar (1) Objectives and policies of the internship program. Must be completed the term immediately preceding the internship. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only.

423 Communication Processes for the Hearing Impaired (3) Expressive and receptive vocabulary development in sign communication. Fingerspelling and educational applications of sign language.

424 Nature of Hearing Impairments (3) Anatomy and physiology of hearing loss; causes and treatment; methods and instrumentation for assessment of hearing level; interpretation of audiologic services to medical and other rehabilitative disciplines.

425 Introduction to the Psychology and Education of the Hearing Impaired (3) Primarily for those planning to teach the hearing impaired. Research related to psychology, social adjustment, communication methodology, language development and education of the hearing impaired. Survey of literature. Visits to programs.

433-434 Clinical Practice in Speech Pathology (1-4) (Same as Audiology and Speech Pathology 433-434.)

460 Voice Disorders (3) (Same as Audiology and Speech Pathology 460.)

451 Psychology and Education of the Hardly Handicapped (3) Nature and characteristics of mildly handicapped students with learning disabilities, emotional disturbance, and mental retardation. Instructional approaches, techniques, and evaluation and development of materials. Prereq: Admission to Teacher Education Program. Coreq: 480. F

452 Psychology and Education of the Moderately and Severe Handicapped (3) Nature and characteristics of children with and moderate and severe handicapping conditions, and educational strategies necessary to accommodate them. Traditional and innovative trends and approaches. Prereq: Admission to Teacher Education Program. Coreq: 480. Sp

454 Education of the Gifted and Talented Children (3) Psychometric and behavioral studies of giftedness. Analysis of past and present school practices in reference to curriculum and program implementation. Prereq: Admission to Teacher Education Program. Sp

455 Speech and Language Basis of Learning Disabilities Corelclassroom (3) Normal communication development; understanding of speech and language impairments in school-age students; identification of oral and language communication skills into existing curricula, especially for high incidence special education students. Sp

470 Psychology of the Exceptional Child (3) General characteristics and educational needs of exceptional children. Implications of developmental variations for functioning as adults. Enrollment limited to non-education majors.

471 Internship I: Special Education (3-15) Testing methods and theories of teaching. Internship is completed in local public schools. Application for internship should be made upon admission to the Teacher Education Program. Prereq: 410 and admission to Teacher Education Program. Satisfactory/No Credit only. F

473 Audiology II (3) (Same as Audiology and Speech Pathology 473.)

480 Field Experience with Mildly Handicapped Students (3) Practicum in teaching mildly handicapped persons: planning, developing, implementing, and evaluating instruction. Prereq: Admission to Teacher Education Program. Coreq: 451. F

481 Policies, Procedures, and Practices in Special Education (3) Comprehensive review of Federal and State law and regulations which direct implementation of special education programs in all public and private facilities and agencies. Multiple service delivery models reviewed. Prereq: Admission to Teacher Education Program. Sp
### 482 Speech and Language Services in the Schools

Organizational and implementation of speech and language programs. Emphasis on the IEP process as it affects assessment, case-selection, and programming for students ages 4-21. Procedures and materials, group intervention, and classroom consultation. Prereq: Admission to Teacher Education Program.

### 483 Clinical Practice in Communication Disorders in Schools

Supervised practice with children with communicative disorders. Prereq: 482 and Audiology and Speech Pathology 433, 434 (80-100 clinical contact hours) and admission to Teacher Education Program.

### 484 Internship with Hearing Impaired Children

Supervised practicum with preschool, day school and residential students. Prereq: Admission to Teacher Education Program.

### 490 Field Experience with Moderately and Severely Handicapped Students

On-site teaching experience with moderately and severely handicapped children and youth. Prereq: Admission to Teacher Education Program.

---

### 494 Introduction to Aural Rehabilitation

(Same as Audiology and Speech Pathology 494.)

### 506 Internships in Teaching in Special Education and Rehabilitation

3-15 Placement in professional settings in public schools or agencies under supervision of master practitioners. Enrollment limited to those in their junior or senior year and permission of Teacher Education Program. Prereq: Consent of instructor.

### 539 Transition from School to Work

Development of programs and procedures to facilitate adjustment of exceptional persons to independent living. Evolving perspective of work, attributes of effective programs, and the interface between school-based programs and rehabilitation agencies.

### 541 Psychosocial Aspects of Exceptionalities

Psychosocial impact of exceptionality on the person and the person’s family. Reaction to loss, coping with disability, and societal rehabilitation.

### 543 Medical Aspects of Disability

Etiology and clinical symptoms related to disabling conditions served by special education and rehabilitation programs. Coreq: 255 or 320. Restrictive measures to eliminate or minimize resulting handicaps. Skills for communication with lay and professional persons.

### 553 Assessment of Exceptional Students

Historical and legal issues related to assessment; concepts of evaluation models, test instruments and assessment processes demonstrated, practiced, results applied to educational programming. Basic statistics relative to norm and criterion-referenced testing. Coreq: 595. F

### 595 Clinical Experience in Assessment and Instruction

Academic mediations applied in a lab/field setting; student performs tasks related to teaching such as assessment, preparation of lessons, and delivery of instruction. Coreq: 553. F

---

### SPEECH COMMUNICATION

#### 100 Introduction to Speech Communication

Fundamental theories and practices with particular reference to in-personal, interpersonal, group, organization-al, and public communication.

#### 200 Developing Speech Confidence

Principles and techniques of coping with apprehension about communicating. Recommended for students who are concurrently enrolled in 200 level speech courses and desire additional work in dealing with their anxiety about speaking.

#### 210 Public Speaking

Preparation and delivery of informative and persuasive speeches. Topics include research, organization, adapting to an audience, topic selection, reasoning, and evaluating the discourse of others.

#### 220 Interpersonal Communication

Process by which thoughts, feelings, and actions affect and are affected by the face-to-face communication situation. (Same as Sociology 220.)

---

### 240 Business and Professional Speaking

Basic principles of communication within organizations, including such topics as organizational/communication theory, group problem solving, formal presentations, written interpersonal communication.

#### 270 Argumentation and Debate

Reasoned decision-making with emphasis on analysis, evidence, reasoning, constructing and refuting arguments.

#### 271-272 Intercollegiate Forensics (1,1)

Supervised work in tournament debate and individual events. Prereq: Consent of instructor.

#### 280 Introduction to Oral Interpretation

Art of reading aloud; development of interpretive techniques and their application to selected passages of prose, poetry, and drama.

#### 300 Nonverbal Communication

Exploration of nonverbal communication from human communication perspective: origins and research, usage and coding of nonverbal behavior, research strategies, and theoretical approaches.

#### 310 Persuasion

Methods which contribute to effective and ineffective persuasion. Topics include credibility, message construction, receiver variables.

#### 320 Interpersonal Communication Processes

Social dimensions of interpersonal communication and relationships. Prereq: Consent of instructor.

#### 330 Group Communication

Small group decision-making; evidence, argumentation, leadership, roles, and norms as they affect critical thinking in groups.

#### 350 Communication Theory and Research

Survey of contemporary communication theories, their applications in society, and the process by which theories are created, tested, and changed.

#### 360 Topics in Communication and Society

Content varies. Studies in social function of such communication forms as posters, speeches, songs, plays, demonstrations. May be repeated with consent of department. Maximum 6 hours.

#### 370 Evidence and Argumentation

Concept of evidence in public controversies, uses and sources of evidence, and conditions affecting credibility.

#### 371-372 Intercollegiate Forensics

1-1 Continued of 271-272. Prereq: Consent of instructor.

#### 380 Oral Interpretation of Prose Literature

Individual oral interpretive techniques of fiction and nonfiction; ensemble interpretation including readings and chamber theatre form. Prereq: 280 or consent of instructor.

#### 385 Oral Interpretation of Poetry

Individual and group performances of poetry. Prereq: 280 or consent of instructor.

#### 400 Topics in Speech Communication

Variable content course affording opportunity to offer subject matter not covered in an existing course. Topics, scope of subject matter, and prerequisites to be determined by department. May be repeated. Maximum 6 hours. Major credit limited to 3 hours.

#### 420 Communication and Conflict

Communication as a significant factor in the development, management, and resolution of conflict at the interpersonal, small group, organizational, or societal levels.

#### 440 Organizational Communication

Organization setting and organizational communication process that affect the quality of human interaction both within and outside the organization. May be repeated. Maximum 6 hours.

#### 460 History of Rhetorical Theory

Western rhetorical theory from Plato to the present.

#### 465 Studies in Rhetorical History and Criticism

Historical and critical study of public address. Prereq: May be repeated. Maximum 6 hours.

#### 466 Rhetoric of the Women's Rights Movement

Historical and critical study of public address in campaigns for women's rights in the 1830's to present. (Same as Women's Studies 466.)

---

### 470 Theories of Argumentation

Conceptual bases of persuasion from contemporary theoretical perspectives. Prereq: Consent of instructor.

### 480 Ensemble Interpretation

Study and presentation of literary texts through group performance.

### 491 Foreign Study

See page 97 and description of major concentration.

### 492 Off-Campus Study

See page 96 and description of major concentration.

### 493 Independent Study

See page 96 and description of major concentration.

---

### STATISTICS

#### 201 Introduction to Statistics

Descriptive statistics, including bivariate trends and time series analysis; concepts of probability and probability distributions, binomial and normal distributions, linear correlation and regression, estimation and significance tests for means, contingency tables. Prereq: Mathematics 121. E

#### 221 Sampling Techniques


#### 251 Probability and Statistics for Scientists and Engineers I


#### 252 Probability and Statistics for Scientists and Engineers II

Hypothesis testing, introduction to statistical process control, reliability, analysis of variance. Simple and multiple linear regression. Prereq: 251. Sp

#### 261 Computing for Data Management and Analysis

Use of computer operating system commands and packaged programs for managing data files and statistical analysis. Prereq: 251. F

#### 365 Industrial Statistics


#### 411 Introduction to Statistical Computing

Use of computer programming languages to manage programs in statistical analysis and data management. Not acceptable for credit for statistics majors. Prereq: 251 or 251. Sp

#### 412 Regression Analysis

Linear regression and correlation, multiple regression, polynomial regression, selection of variables, use of dummy variables, analysis of residuals. Logistic regression and its applications. Use of standard computer packages. Major writing requirement. Prereq: Six hours of statistics or consent of instructor. F, Sp

#### 420 Analysis of Variance and Experimental Design

Variance techniques for single and multifactor models. Post hoc procedures. Design considerations for completely randomized, randomized block, factorial, and split-plot designs. Major writing requirement. Prereq: 252 or 461. Sp

#### 471 Random Processes and Probability Models


#### 481 Special Topics in Probability

Topics in probability theory. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

#### 483 Special Topics in Statistics

Topics vary. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

#### 485 Principles of Statistical Process Management

Control charts and other statistical techniques applied
326 Micro Business Applications (3) Operating and programming microcomputers. BASIC language is used and programming examples are oriented in business applications. Prereq: Consent of instructor. Sp

340 Pre-Student Teaching Seminar (1) Objectives and policies of the student teaching program. Must be completed the term immediately preceding student teaching. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. F, Sp

413 Special Topics in Technological and Adult Education (1-3) Topics to be assigned. May be repeated. Maximum 6 hours. E

414 Individual Study in Technological and Adult Education (3) Prereq: Consent of supervising instructor with approval form filed in the office of the department head. May be repeated. Maximum 6 hours. E

415 Coordination Techniques (3) Necessary procedures, duties and responsibilities to implement, maintain, and evaluate a successful cooperative education program. A

420 Introduction to Adult Education (3) Breadth of adult education activities and the diversity of adult clientele, including opportunities for professional practice apart from traditional instructional settings. A

421 Adult Education Program Design and Management (3) Processes of program development and special application to adult training programs.

422 Adult Development and Training (3) Application of adult development concepts to design and management of training programs for adults. Sp

430 Principles and Organization of Business Marketing Education (3) Historical background and development needs. Principles of vocational education in business and marketing, curriculum implications, establishing, evaluating, and improving the programs. Prereq: Admission to Teacher Education Program. F

431 Word Processing and Office Technology (3) Word processing concepts and applications, methodology for teaching word processing and machines. Prereq: Advanced typewriting skill and permission of instructor. Sp

432 Methods and Materials in Business and Marketing Education (3) teaching techniques, aids and evaluation in subject matter fields. Prereq: Admission to Teacher Education Program. Sp

433 Methods in Office Technology (3) Materials, methods, evaluation procedures, and recent research in typewriting, shorthand, and other office procedures.

434 Methods in Accounting and Data Processing (3) Methods, materials, evaluation procedures, and recent research in accounting and data processing. Automated accounting is introduced. Prereq: Admission to Teacher Education Program. F

436 Supervised Occupational Experience (3) Practial training experience to be associated with technical programs. May be repeated. Maximum 15 hours. Prereq: 165, 166, and admission to Teacher Education Program. F

439 Areas of Marketing (3) Marketing, personnel development, operations and management as these affect the instructional leadership program in marketing education.

440 Special Topics in Business and Marketing Education (1-3) Topics to be assigned. May be repeated. Maximum 9 hours. E

450 Seminar in Industrial Education (1-3) Current issues, innovations, problems, and other topics associated with technical programs. May be repeated. Maximum 9 hours. A

454 Training Aids Development (3) Study and preparation of instructional audio and non-print media commonly used by technical instructors and trainers. F

455 Performance-Based Evaluation (3) Assessing the effectiveness of training through the development of performance-based measures; evaluation of incumbent worker job performance. Sp

456 Organization and Operation of VICA/HOSA (3) Planning, organizing and implementing youth-club activities in vocational-technical programs. A
Developments, significant problems and recent trends in industry and functioning performed by coordinating instructor in conjunction with knowledgeable resource personnel. May be repeated. Maximum 6 hours. E

464 Methods and Mediation in Technology Education (3) Methods and media used in teaching technology education in secondary public schools. Prereq: Admission to Teacher Education Program. A

465 Materials and Processes (3) Materials relative to specifications, testing, and methods to classify and categorize materials. Determining correct processes to meet industrial product needs. Prereq: Consent of instructor.

466 Course Construction in Technology Education (3) Selection and arrangement of course content. Planning, instructional objectives, project/product selection, assignments and evaluation. Prereq: Admission to Teacher Education Program. A

469 Plastic Technology (3) Characteristics and applications of thermoplastic and thermosetting materials. Plastics production equipment related product design and processing of plastics. Prereq: 165 and admission to Teacher Education Program. A

470 Training for Human Resource Development (3) Organization and management of training, including roles, functions performed and the needs, costs, benefits, and productivity of training systems. F

471 Principles of Supervision (3) Problems of motivation, communication, interpersonal relationships and leadership. Sp

479 Internship in Human Resource Development (5-10) Supervision of a master teacher in the content area. Prereq: Admission to Teacher Education Program. E

481 Student Teaching: Grades 7-12 and Adults (10) Full-time experience in classroom and laboratory teaching and related responsibilities under the direct supervision of a master teacher in the content area. Prereq: Admission to Teacher Education Program. E

TEXTILES AND APPAREL

101 Apparel Construction (3) Garment construction focused on decision making and time management; pattern alterations, fitting and quality of construction. Not available for credit for departmental majors. F, Sp

120 Textiles I (3) Consumer-oriented textiles: fibers, fabric construction and finishes in relation to use, serviceability and care of apparel and household fabrics. Laboratory examination of fibers, yarns, fabrics and finishes. F, Sp

230 Apparel Evaluation (3) Analysis of construction techniques to ascertain cost/equity relationships; elements and principles of design in relation to garment construction. Prereq: 120. F

232 Design Analysis (3) Apparel design analysis based on flat patterns, draping, finished patterns, design and perception of methods for style variations and costing of garments. Sp

310 Principles of Merchandising (3) Buying practices, procedures, problems, activities, techniques, underlying concepts fundamental to merchandising. Prereq: Accounting 201. F

320 Textiles II (3) Recent developments in fibers, fiber structure, yarn processing, yarn structure and fabric construction; dyeing, finishing and properties of textile performance and evaluation; legislation and standards. Prereq: 120, Chemistry 100-110 or 120-130. F

350 Apparel Production (3) Industrial methods in garment production; focus on stages of production, plant layout, costing and quality control. Prereq: 230. F


345 Fashion in History (3) Development of apparel styles in western civilization from middle ages to present; factors associated with origin, adoption and abandonment including historic, social and economic settings. F

350 Consumers in the Market (3) Consumer decision-making and problems in the domestic and international marketplace; consumer issues and policies, emphasis on consumer choice, information, consumer protection and current issues. Prereq: Economics 201. Sp

390 Introduction to Field Experience (1) Interviews, placement and planning for field experience. Prereq: Approved application for field experience. Sp

410 Retail Management (3) Retail sector of economy from management perspective; decision-making in retail operations; promotion, pricing, financial planning and control, computer application, product mix-strategy. Prereq: 2 semesters Marketing. Sp

415 Fashion Promotion (3) Advertising and special purpose media used to promote fashion merchandise; evaluation of retail sales promotion activities. Sp

420 Textile Microscopy and Physical Testing (3) Microscopic techniques applied to textile fibers, yarns and fabrics; standard methods and equipment used in physical testing. Prereq: 320. F

422 Textile Fiber Chemistry (3) Chemistry of textile fibers; emphasis on structure, preparation and reactions; implications relating to dyeing and finishing of fabrics. Prereq: Chemistry 350. Sp

450 Textile and Apparel Economics (3) Economics of the United States textile, apparel and fiber industries; emphasis upon production, distribution, institutions, impact upon consumers; international and domestic issues. Prereq: 350 or consent of instructor. Sp


492 Field Experience in Merchandising, Apparel or Textiles (6) Off-campus, cooperative program with business establishments which manufacture or manufacture textiles and/or apparel. Prereq: Coreq: 490. F

493 Directed Study (1-3) Individual problems for Senior students with special interests in textiles, merchandising or apparel. Prereq: Junior or Senior standing, consent of instructor. E

495 Special Topics (3) Topics in textiles, merchandising, and/or apparel. May be repeated. Maximum of 9 hours. Prereq: Junior or Senior standing, consent of instructor. E

497-498 Honors: Textiles and Apparel (3) Individual problems for Junior and Senior students showing special ability and interest in textiles and apparel. Prereq: Recommendation of Department Head. E

THEATRE

100 Introduction to Theatre (3) Understanding theatre: thought, philosophy, aesthetics, and production practices.

210-211 Survey of World Drama (3,3) 210-19th century, 211-19th century to present. 210 Includes Greek, Roman, Medieval, Elizabethan, and Eastern forms of drama. 211-Covers 19th century, as well as realism through contemporary drama.

220-221 Acting (3,3) 220-Improvizations, theatre games, acting skills. 221-Use of acting skills in extensive scene work.

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

245 Basic Stage Costuming (3) Costume design and construction; basic theory and technique. Production participation required. Prereq: 100.

250 Introduction to Scenery Technology (3) Techniques of scenery and stage properties construction. Production participation required.

260 Fundamentals of Lighting and Sound Production (3) Survey of practical information on electricity, physics, psychology, and instrument engineering as it relates to stage lighting and sound production. Emphasis on hands-on skills in labs.

310-311 History of the Theatre (3,3) 310-Drama in production with particular emphasis in theatre architecture, scene design, and acting styles Antiquity to Renaissance. 311-The European and modern theatres.

312-313 History of the American Theatre (3,3) Development of the theatre as social institution in American life. 312-From its beginnings to 1900. 313-From 1900 to present.

320 Advanced Acting (3) Special problems in contemporary roles. Prereq: 220-221 and consent of instructor.

340 Introduction to Costume Design (3) Development of research and rendering skills. Prereq: 245 or consent of instructor.

345 Costume Construction (3) Study and practice of skills in costume construction. Includes stitching, costing, millinery, and crafts. Production participation is required.

355 Introduction to Scenic Design (3) Introduction to art and craft of scenic design.

362 Introduction to Lighting Design (3) Mechanics and theory of stage lighting; problems in basic lighting practice. Prereq: 240.

380 Theatre Practicum: Production (1-3) Supervised work on departmental productions. Available for credit only to theatre majors or with consent of department. Prereq: Consent of instructor. May be repeated. Maximum 3 hours.

381 Theatre Practicum: Performance (1-3) Supervised work on departmental productions. Available for credit only to theatre majors or with consent of department. Prereq: Consent of instructor. May be repeated. Maximum 3 hours.

401 Principles of Theatrical Design (3) Fundamental principles of design; visual and structural relationships. Projects will be assigned to develop understanding and production.

409 Stage Make-Up (2) Problems in make-up design and application; character analysis, physiognomy and chiroscuro. Prereq: 100.

410 Dramatic Theory and Criticism (3) Theatre aesthetics from Aristotle to the present.

420 Special Studies in Acting (3) Content varies. Exercises in selected concentrated areas such as stage movement, character analysis, movement, humor. Prereq: 320.

426 Advanced Phonetics (3) Phonetic aspects of contemporary dialects of the English language. Prereq: Consent of instructor.

430 Principles of Play Directing (4) Problems in conception, organization, and execution of movement. Prereq: 220, 221 and consent of instructor.


445 Advanced Costume Construction (3) Advanced construction technique, such as tailoring, vacuum forming, plastic molding, and cobbling. Prereq: 345 or consent of instructor.

446 Costume Patternmaking (3) Draping patterns for period costumes. Includes corsetry and the study of historic patterns 1500-1900. Prereq: 345 or consent of instructor.

450 Advanced Scenery Technology (1) Study and practice of theatre woodworking; production participation will be required. Prereq: 250. Graduate credit available to theatre M.F.A. students only.

451 Advanced Scenery Technology (2) Study and practice of metalworking and plastics for theatrical productions; production participation will be required. Prereq: 250. Graduate credit to theatre M.F.A. students only.
Transportation and Logistics

301 Introduction to Logistics (3) Business logistics as a functional area within the firm, and as a strategic element of the marketing mix. Role of materials management and physical distribution, and activities such as forecasting, order processing and information flow, transportation, warehousing, purchasing, inventory, and system design and organization.

302 Transportation Principles and Policies (3) Transportation and distribution as a vital part of the nation's economic and social structure; U.S. transportation system; society's demands for mobility and policies of public and private sectors to meet those demands. Prereq: 301.

400 Special Topics in Transportation and Logistics (3) Seminar in current problem areas in transportation and logistics. Topic announced prior to offering. May be repeated once for credit. Prereq: Consent of instructor.

401 Materials and Traffic Management (3) Planning and management of logistics activities including purchasing, transportation, storage and control, and supply systems. Includes general management tools and organizational structures for various industries. Prereq: 301.

402 Transportation Operations and Cost Management (3) Freight and passenger carrier operations with the development of carrier costs and their control, considered by each mode individually and in coordination with each other. Prereq: 302.


413 Seminar in Transportation Strategy (3) Senior seminar in evaluation of freight and passenger carrier strategies to compete in transportation marketplace. Major writing requirement. Prereq: 402.

419 Independent Study (1-6) Directed research on subject of mutual interest to student and staff member. Prereq: Consent of instructor.

497 Honors: Executive-in-Residence in Transportation and Logistics (3) Student interaction with top-level logistics and transportation executives. Focus on the strategic decision-making process. Prereq: Consent of instructor.

498 Independent Study (1-6) Directed research on subject of mutual interest to student and staff member. Prereq: Consent of instructor. May be repeated.

499 Independent Study (1-6) Directed research on subject of mutual interest to student and staff member. Prereq: Consent of instructor. May be repeated. Maximum 3 hours.

UNIVERSITY HONORS

118-128 Honors: First Year (3,3) Small seminar classes taught by faculty from all undergraduate colleges of the university. Open to first and second year students on three integrative, test scores, or professorial recommendation. Topics vary. May be repeated.

218-228 Honors: Second Year (3,3) Small seminar classes taught by faculty from all undergraduate colleges of the university. Not open to first year students; open to all other students with a GPA of 3.25 or greater. Topics vary. May be repeated.

318-328 Honors: Junior Colloquium (3,3) Small group studies of selected topics, issues, or problems. Open to juniors and seniors with a GPA of 3.25 or greater. May be repeated.

338-348 Tennessee Scholars Seminar (1,1) Sequence limited to and required of all Tennessee Scholars each year. May be repeated. Maximum 8 hours. Satisfactory/No Credit grading only.

418-428 Honors: Senior Colloquium (3,3) Small group studies of selected topics, issues, or problems. Open to juniors and seniors with a GPA of 3.25 or greater. May be repeated.

491 Honors: Foreign Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

492 Honors: Off-Campus Study (3-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

493 Honors: Independent Study (3-15) Open to any undergraduate honors student. May be used by Tennessee Scholars preparing their senior projects. Proposals must be approved in advance. See the Director of University Honors for further information.

UNIVERSITY STUDIES

101 Freshman University Seminar (3) Introduction to university education as an adventure in personal growth and professional development. A/B/C/N grading. Open only to freshmen, transfer students, and re-entry students. May be repeated.

210-220 Case Studies (4,4) Variable content using case studies and problem-solving approaches to explore interdisciplinary issues. Includes a one-hour learning laboratory. Open only to students enrolled in a University Learning Community.

310-320 Special Topics in University Studies (3,3) Interdisciplinary approaches to issues transcending the boundaries of a single discipline. Topics may be repeated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Extensive use of films, field trips, student discussion. May be repeated. Maximum: 9 hours.

410-420 Advanced Topics in University Studies (3,3) Interdisciplinary research approaches to major issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the university (often team-taught). Extensive use of films, field trips, student discussion. May be repeated. Maximum: 9 hours.

URBAN STUDIES

200 Human-Environment Systems (3) Same as Interior Design 200.

250 Introduction to Urban Studies (3) Multidimensional nature of urban studies. Includes lectures by specialists presenting the approach of their disciplines to Urban Studies; application of general approaches to a specific issue; and collaborative teaching involving most faculty of Urban Studies.


322 Behavioral Geography (3) Same as Geography 322.

350 Practicum in Urban Studies (3-6) Student and faculty member team, in conjunction with the East Tennessee Design Center, study a selected problem for perspective of the modern city. Prereq: 260.

401 The City in the United States (3) Same as Planning 401.

402 Survey of Planning (3) Same as Planning 402.

441 Urban Geography (3) Same as Geography 441.

450 Directed Field Work (3-15) Participant observation and directed field research. Project results are presented to Urban Studies students and faculty.

454 Cities and Urban American History (3) Same as History 454.

460 Seminar in Urban Studies (3) Variety of disciplines utilized to approach student selected problem. Prereq: 250, 350 and senior status. Student must take 450 prior to having taken 455, except with prior permission of the Urban Studies Committee.

464 Urban Ecology (3) Same as Sociology 464.

481 Real Estate Finance and Investment Analysis (3) Same as Finance 481.

482 Urban Development and Finance (3) Same as Finance 482.

WILDLIFE AND FISHERIES SCIENCE

341 Law Enforcement and Public Relations (3) Fundamentals and general principles of local, state and federal laws and regulations governing natural resources and their management. Principles and practices of interacting with the public.

441 Wildlife and Fisheries Techniques (3) Capturing and handling fish and wildlife; population restoration; food habits; sex, age, and size determination; control marking techniques; fish culture systems; management plans; track and sign identification. Prereq: Forestry, Wildlife and Fisheries 317 or Psychology 317 or Biology 230, and 6 hours of mathematics, 2 hours and 1 lab.

443 Fisheries Science (3) Quantification and management of freshwater fisheries including population estimation, age and growth, biological assessment, and stock. Prereq: Forestry, Wildlife and Fisheries 317 or Biology 317 or Biology 230, and 6 hours of mathematics, 2 hours and 1 lab.

444 Ecology and Management of Wild Mammals (3)
ZOOLOGY

117-118 Honors: Fundamentals of Zoology (4,4) For superior students in any field; open to students with a minimum ACT composite score of 27 or a minimum college GPA of 3.2, or consent of instructor. Prereq: For- estry, Wildlife and Fisheries 317 or Biology 230. 2 hours and 1 lab. F

445 Ecology and Management of Wild Birds (3) Bi- ological and ecological characteristics of game birds, endangered species, and bird pests. Current principles and practices of wild bird management. Prereq: For- estry, Wildlife and Fisheries 317 or Biology 230. 2 hours and 1 lab. Sp

493 Independent Study in Wildlife and Fisheries Sci- ence (1-15) Special research or individual problem in wildlife and fisheries science. E

WOMEN'S STUDIES

210 Images of Women in Literature: Biography and Autobiography (3) Introduction to women's journals, diaries, biographies and autobiographies.

215 Images of Women in Literature: Fiction, Poetry, Drama (3) Introduction to the study of women through the roles and stereotypes portrayed in a variety of literary genres (fiction, poetry, and drama), including works from diverse historical periods and cultures.

220 Women in Society (3) Role played by women in various societies during different historical periods, factors which have limited women's participation in society, social scientists' assumptions about women.

230 Marriage and Family: Roles and Relationships (3) (Same as Child and Family Studies 220.)

310 Emergence of the Modern American Woman (3) Role of women in the development of American civiliza- tion and values. Major topics include women's legal and political status, the emergence and development of feminism, women and the creative arts, and women's roles in industrial and post-industrial American socie- ty.

324 Women in French Culture (3) (Same as French 324.)

330 Women in Music (3) (Same as Music: History 330.)

332 Women in American Literature (3) (Same as Eng- lish 332.)

375 Gender in Society (3) (Same as Sociology 375.)

380 The Concept of Woman (3) (Same as Philosophy 380.)

382 Philosophy of Feminism (3) (Same as Philoso- phy 382.)

383 Women in the Greek and Roman World (3) (Same as Classics 383.)

400 Topics in Women's Studies (3) Content varies. May be repeated.

410 Psychology of Sex Role Development (3)

422 Women Writers in England (3) (Same as English 422.)

425 Women's Health (3) (Same as Health 425.)

432 Women in European History (3) (Same as History 432.)

434 Psychology of Gender (3) (Same as Psychology 434.)

453 Women in American History (3) (Same as History 453.)

466 Rhetoric of the Women's Rights Movement (3) (Same as Speech 466.)

483 Afro-American Women in American Society (3) (Same as Afro-American Studies 483.)

493 Independent Study (1-15) Registration by con- sent of chair of Women's Studies. See page 96.

404 Cytological Technique (2) Practical experience with a variety of techniques including microscopy, embedding and sectioning, chromosome prepara- tions, autoradiography, in situ hybridization, histochemistry, and immunofluorescence. Prereq: Biol- ogy 210, 2 labs.

405-406 Minicourse in Zoology (1) Selected advanced topics in zoology, concentrated in time and subject matter, subject to departmental listing for topics offered. Prereq: As announced. May be repeated for credit but a maximum of 3 hours may be applied toward the Zoology major.

469 Perspectives in Zoology (2) Critical analysis of selected readings in biology. Prereq: Senior stand- ing.

410 Advanced Cell Biology (3) Molecular and supramolecular structure and functions of eukaryotic cells including regulatory mechanisms, physiology, behavior, and cellular interactions. Prereq: Biology 210, 220. 2 hours and 1 lab.

415 Parasitology (3) Parasitic relationships: physio- logical, ecological, evolutionary and economic aspects. Prereq: Biology 230 or consent of instructor. 2 hours and 1 lab.

420 Cell and Tissue Structure and Function (4) Animal cells and tissues at light and electron microscope levels. Prereq: Biology 210. 2 hours and 2 labs.

430 Immunology (3) (Same as Microbiology 430.)

439 Immunology Laboratory (1) (Same as Microbiology 439.)


445 Comparative Animal Physiology (3) Comparison of diverse physiological mechanisms aiding in adap- tation to particular habitats and lifestyles. Prereq Biology 210, 230, 2 years of chemistry; recommended: 380.

449 Laboratory in Physiology (2) Prereq or Coreq: 440 or 445.

450 Comparative Animal Behavior (3) Principles and methods of ethology with emphasis on ecological, developmental, physiological and evolutionary aspects. Coreq: 459. (Same as Physiology 450.)

459 Comparative Animal Behavior Laboratory (3) Intro- duction to observational and experimental research in ethology. Coreq: 450. (Same as Psychology 459.)

460 Evolution (3) Modern concepts of animal evolu- tion.

465 Human Genetics (3) Genetic and molecular principles and problems of human inheritance. Prereq: Biology 220.

470 Aquatic Ecology (3) Introduction to the physio- chemical nature of inland waters with description of biotic communities and their interrelationships. Prereq: Chemistry 120-130 and Biology 230. 2 hours and 1 lab.

472 Arachnology (3) Biology of spiders, mites, scor- pions and relatives. Prereq: 360 or 380. 2 hours and 1 lab.

473 Herpetology (3) Biology of amphibians and reptiles with emphasis on ecology and adaptive radiation. Prereq: Biology 230. 2 hours and 1 lab.

474 Ichthyology (3) Evolution, classification, collec- tion and identification, distribution and biology of fishes with emphasis on freshwater fauna of Eastern North America. Prereq: Biology 230 or consent of instruc- tor. 2 hours and 1 lab.

475 Ornithology (3) Behavior, ecology, populations, migration and field identification of birds. Prereq: Biolog- y 230. 2 hours and 1 lab.

476 Mammalogy (3) Evolution, classification, biogeography, ecology, behavior and functional anat- omy of mammals. Prereq: Biology 230 or equivalent. 2 hours and 1 lab.

480 Physiology of Exercise (3) Functions of the body in muscular work: physiological aspects of fatigue,
training and adaptation to the environment. Prereq: 230 or 440. 2 hours and 1 lab.

490 Comparative Endocrinology (3) Comparative analysis of physiology and morphology of endocrine glands in vertebrates and invertebrates, their role and interaction in maintenance of the organism and species. Prereq: 440 or equivalent.

491 Foreign Study (1-15) See page 97.
492 Off-Campus Study (1-15) See page 96.
493 Independent Study (1-15) See page 96.
<table>
<thead>
<tr>
<th>Table of Contents, 3</th>
<th>Degree, 35</th>
<th>Vehicle Operation and Parking, 14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Certification, 33</td>
<td>Honors Categories for Graduation, 35</td>
<td>Veterinary Medicine, 36</td>
</tr>
<tr>
<td>Transportation Center, 127</td>
<td>Readmission, 34</td>
<td>Water Resources Research Center, 127</td>
</tr>
<tr>
<td>Undergraduate Retention Standards: 34</td>
<td>Second Bachelor's Degree, 35</td>
<td>Women's Center, 14</td>
</tr>
<tr>
<td>Academic Review, 35</td>
<td>Transfer Students, 34</td>
<td>Work Study, College, 18</td>
</tr>
<tr>
<td>Academic Second Opportunity, 34</td>
<td>University Honors, 120, 180</td>
<td>Writing Competence, 33</td>
</tr>
<tr>
<td>General Requirements for Bachelor's</td>
<td>University Studies, 121, 180</td>
<td>WUOT, 12</td>
</tr>
</tbody>
</table>