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/AA/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.

UT Knoxville 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 Educational Amendments of 1972, Public Law 92-318; and Section 504 of the Rehabilitation Act of 1973, Public Law 93-112, respectively. This policy extends both to employment by and admission to the University.
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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

From Congressional Districts

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<td>Ninth</td>
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From Anderson, Bedford, Coffee, Franklin, Lincoln, Moore, and Warren Counties
J. Steven Ennis 1988 June 1, 1994

From Davidson County
Michael Graves 1984 June 1, 1993

From Hamilton County
Paul J. Kinser 1969 June 1, 1996

From Knox County
Donelson M. Leake 1989 June 1, 1995
James A. Haslam, II 1980 June 1, 1995

From Shelby County
King W. Rogers, III 1990 June 1, 1996
Edward W. Reed 1990 June 1, 1996

From Weakley County
Nancy J. Overton 1991 June 1, 1996

Student Member
Bryan E. Larson 1991 July 1, 1992

Officers of the Board
Ned McWherter, Chairman
James A. Haslam, III, Vice Chairman
Beauchamp E. Brogan, Secretary
Linda Logan, Assistant Secretary

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General Counsel, Beauchamp E. Brogan, B.S., LL.B., J.D.
Treasurer, Charles M. Peccolo, Jr., B.S., MAcc, CPA, CCM
# ACADEMIC CALENDAR FOR 1992-93

## FALL SEMESTER, 1992

- **August 26**: Classes Begin
- **September 7**: LABOR DAY HOLIDAY
- **October 22-23**: Fall Break
- **November 26-27**: THANKSGIVING HOLIDAYS
- **December 10**: Classes End
- **December 11**: Study Period
- **December 12, 14-17**: Final Examinations
- **December 20**: Commencement

## SPRING SEMESTER, 1993

- **January 13**: Classes Begin
- **January 18**: MARTIN LUTHER KING, JR. HOLIDAY
- **March 22-26**: SPRING BREAK
- **April 9**: HOLIDAY
- **May 3**: Classes End
- **May 4-5**: Study Period
- **May 6-8, 10-11**: Final Examinations
- **May 14**: Commencement

## MINI-TERM 1993

- **May 12-June 1**: Mini-Term

## SUMMER TERM 1993

- **June 3**: Classes Begin
- **July 5**: INDEPENDENCE DAY HOLIDAY
- **July 7**: First Session Ends
- **July 8**: Second Session Begins
- **August 11**: Second Session Ends
- **August 13**: Commencement

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## JUNE

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The University of Tennessee
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<td>Carrick Hall</td>
<td>G3</td>
</tr>
<tr>
<td>Ceramics</td>
<td>J4</td>
</tr>
<tr>
<td>Child Development Laboratory</td>
<td>M1</td>
</tr>
<tr>
<td>Clarence Brown Theatre</td>
<td>J4</td>
</tr>
<tr>
<td>Claxton Education</td>
<td>K3</td>
</tr>
<tr>
<td>Claxton Education Addition</td>
<td>K4</td>
</tr>
<tr>
<td>Clement Hall</td>
<td>J1</td>
</tr>
<tr>
<td>Communications and University Extension</td>
<td>L5</td>
</tr>
<tr>
<td>Credit Union</td>
<td>L1</td>
</tr>
<tr>
<td>Day Care Center</td>
<td>N1</td>
</tr>
<tr>
<td>Dabney/Buehler Hall</td>
<td>N2</td>
</tr>
<tr>
<td>Dougherty Engineering</td>
<td>N2</td>
</tr>
<tr>
<td>Dunford Hall</td>
<td>K2</td>
</tr>
<tr>
<td>Estabrook Hall</td>
<td>M4</td>
</tr>
<tr>
<td>Facilities Planning (Architect)</td>
<td>G3</td>
</tr>
<tr>
<td>Faculty Club</td>
<td>A2</td>
</tr>
<tr>
<td>Ferris Hall</td>
<td>N3</td>
</tr>
<tr>
<td>Football Facility</td>
<td>J6</td>
</tr>
<tr>
<td>Geology and Geography</td>
<td>M3</td>
</tr>
<tr>
<td>Gibbs Hall</td>
<td>J8</td>
</tr>
<tr>
<td>Glover Business Administration</td>
<td>K3</td>
</tr>
<tr>
<td>Greer Hall</td>
<td>J2</td>
</tr>
<tr>
<td>Hearing &amp; Speech Center</td>
<td>L4</td>
</tr>
<tr>
<td>Henson Hall</td>
<td>K2</td>
</tr>
<tr>
<td>Hesler Biology</td>
<td>M3</td>
</tr>
<tr>
<td>Hess Hall</td>
<td>J3</td>
</tr>
<tr>
<td>Hodges Library</td>
<td>F3</td>
</tr>
<tr>
<td>Hopenhay</td>
<td>J2</td>
</tr>
<tr>
<td>Hoskins Library</td>
<td>L1</td>
</tr>
<tr>
<td>H.P.E.R. (Physical Education)</td>
<td>H4</td>
</tr>
<tr>
<td>Human Ecology (Jessie Harris)</td>
<td>M1</td>
</tr>
<tr>
<td>Human Ecology Graduate Center</td>
<td>M1</td>
</tr>
<tr>
<td>Humanities and Social Sciences</td>
<td>K4</td>
</tr>
<tr>
<td>Humes Hall</td>
<td>G4</td>
</tr>
<tr>
<td>International House</td>
<td>L1</td>
</tr>
<tr>
<td>Jesse Harris Building</td>
<td>M1</td>
</tr>
<tr>
<td>Kingston Apartments</td>
<td>C1</td>
</tr>
<tr>
<td>Kingston Parking Garage</td>
<td>C1</td>
</tr>
<tr>
<td>Law Center (Taylor)</td>
<td>L1</td>
</tr>
<tr>
<td>Library (Hodges)</td>
<td>K3</td>
</tr>
<tr>
<td>Library (Hoskins)</td>
<td>L1</td>
</tr>
<tr>
<td>Life Sciences (Walters)</td>
<td>L2</td>
</tr>
<tr>
<td>Mail Services</td>
<td>E5</td>
</tr>
<tr>
<td>McClung Museum</td>
<td>K5</td>
</tr>
<tr>
<td>McClung Tower</td>
<td>K3</td>
</tr>
<tr>
<td>McClung Plaza &amp; Garage</td>
<td>K4</td>
</tr>
<tr>
<td>Melrose Hall</td>
<td>J3</td>
</tr>
<tr>
<td>Minority Student Affairs</td>
<td>K2</td>
</tr>
<tr>
<td>Morrill Hall</td>
<td>F4</td>
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<tr>
<td>Music</td>
<td>J4</td>
</tr>
<tr>
<td>Neyland Stadium</td>
<td>M4</td>
</tr>
<tr>
<td>Neilson (Physics)</td>
<td>M2</td>
</tr>
<tr>
<td>Nursing</td>
<td>L4</td>
</tr>
<tr>
<td>Panhellenic</td>
<td>K1</td>
</tr>
<tr>
<td>Parking Garage</td>
<td>F5</td>
</tr>
<tr>
<td>Pasqua Nuclear Engineering</td>
<td>M4</td>
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<tr>
<td>Perkins Hall</td>
<td>H4</td>
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<tr>
<td>Physical Education (H.P.E.R.)</td>
<td>H4</td>
</tr>
<tr>
<td>Physical Plant</td>
<td>E3</td>
</tr>
<tr>
<td>Physics (Nielsen)</td>
<td>M3</td>
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<tr>
<td>Presidential Court</td>
<td>L1</td>
</tr>
<tr>
<td>Purchasing</td>
<td>E5</td>
</tr>
<tr>
<td>Reese Hall</td>
<td>G3</td>
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<tr>
<td>School of Planning Annex</td>
<td>M3</td>
</tr>
<tr>
<td>Security</td>
<td>L4</td>
</tr>
<tr>
<td>South College</td>
<td>L6</td>
</tr>
<tr>
<td>Steam Plant</td>
<td>K2</td>
</tr>
<tr>
<td>Stokely Athletics Center</td>
<td>J5</td>
</tr>
<tr>
<td>Stokely Management Center</td>
<td>J3</td>
</tr>
<tr>
<td>Strong Hall</td>
<td>J5</td>
</tr>
<tr>
<td>Student Counseling Center</td>
<td>F2</td>
</tr>
<tr>
<td>Student Health Center</td>
<td>H4</td>
</tr>
<tr>
<td>Student Services Building</td>
<td>L5</td>
</tr>
<tr>
<td>Taylor Law Center</td>
<td>L1</td>
</tr>
<tr>
<td>Temple Court</td>
<td>K2</td>
</tr>
<tr>
<td>Tennis Center</td>
<td>E3</td>
</tr>
<tr>
<td>Textiles &amp; Material Laboratory</td>
<td>M1</td>
</tr>
<tr>
<td>Textile Processing Laboratory</td>
<td>L1</td>
</tr>
<tr>
<td>Thompson-Boling Assembly</td>
<td>G3</td>
</tr>
<tr>
<td>Center &amp; Arena</td>
<td>L6</td>
</tr>
<tr>
<td>Track &amp; Recreation Areas</td>
<td>G5</td>
</tr>
<tr>
<td>Turner House</td>
<td>E5</td>
</tr>
<tr>
<td>Tyson Alumni Center</td>
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</tr>
<tr>
<td>University Center</td>
<td>L2</td>
</tr>
<tr>
<td>University Center Parking</td>
<td>J5</td>
</tr>
<tr>
<td>Garage &amp; Plaza</td>
<td>K2</td>
</tr>
<tr>
<td>Walters (Life Sciences)</td>
<td>L2</td>
</tr>
<tr>
<td>Women's Studies</td>
<td>F2</td>
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</table>
### Religious Centers

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baptist Student Center</td>
<td>H3</td>
</tr>
<tr>
<td>Catholic Student Center</td>
<td>H3</td>
</tr>
<tr>
<td>Christian Student Center</td>
<td>H3</td>
</tr>
<tr>
<td>Christian Student Fellowship</td>
<td>F2</td>
</tr>
<tr>
<td>Episcopal Student Center</td>
<td>J2</td>
</tr>
<tr>
<td>Hillel Foundation, B'nai B'rith</td>
<td>F3</td>
</tr>
<tr>
<td>Latter Day Saints Institute</td>
<td>K1</td>
</tr>
<tr>
<td>Lutheran Campus Ministries</td>
<td>J2</td>
</tr>
<tr>
<td>Methodist Student Center</td>
<td>H2</td>
</tr>
<tr>
<td>Presbyterian Student Center</td>
<td>H3</td>
</tr>
<tr>
<td>Seventh Day Adventist Student Center</td>
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</tr>
</tbody>
</table>

### Fraternities

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alpha Chi</td>
<td>H3</td>
</tr>
<tr>
<td>Alpha Phi Alpha</td>
<td>G2</td>
</tr>
<tr>
<td>Alpha Tau Omega</td>
<td>H5</td>
</tr>
<tr>
<td>Beta Theta Pi</td>
<td>H2</td>
</tr>
<tr>
<td>Beta Theta Delta</td>
<td>F6</td>
</tr>
<tr>
<td>Delta Upsilon</td>
<td>G2</td>
</tr>
<tr>
<td>Farmhouse</td>
<td>G2</td>
</tr>
<tr>
<td>Kappa Alpha</td>
<td>H6</td>
</tr>
<tr>
<td>Kappa Sigma</td>
<td>J2</td>
</tr>
<tr>
<td>Lambda Chi Alpha</td>
<td>F6</td>
</tr>
<tr>
<td>Phi Delta Theta</td>
<td>H3</td>
</tr>
<tr>
<td>Phi Gamma Delta</td>
<td>G6</td>
</tr>
<tr>
<td>Phi Kappa Phi</td>
<td>H3</td>
</tr>
<tr>
<td>Phi Kappa Tau</td>
<td>H2</td>
</tr>
<tr>
<td>Phi Sigma Kappa</td>
<td>H6</td>
</tr>
<tr>
<td>Pi Kappa Alpha</td>
<td>G6</td>
</tr>
<tr>
<td>Pi Kappa Phi</td>
<td>G6</td>
</tr>
<tr>
<td>Sigma Chi</td>
<td>G5</td>
</tr>
<tr>
<td>Sigma Epsilon</td>
<td>G6</td>
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</tbody>
</table>

### Agricultural Campus

<table>
<thead>
<tr>
<th>Name</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Engineering</td>
<td>C4</td>
</tr>
<tr>
<td>Agricultural Engineering Offices</td>
<td>C4</td>
</tr>
<tr>
<td>Animal Science Laboratory</td>
<td>D5</td>
</tr>
<tr>
<td>C.E. Brinn Animal Sciences</td>
<td>B5</td>
</tr>
<tr>
<td>College of Veterinary Medicine</td>
<td>C6</td>
</tr>
<tr>
<td>Crops Genetics Laboratory</td>
<td>B4</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>B4</td>
</tr>
<tr>
<td>Ellington Plant Sciences</td>
<td>C4</td>
</tr>
<tr>
<td>Greenhouse A</td>
<td>C3</td>
</tr>
<tr>
<td>Greenhouses</td>
<td>C5</td>
</tr>
<tr>
<td>Growth Chambers Laboratory</td>
<td>D5</td>
</tr>
<tr>
<td>Library (Pendergrass)</td>
<td>C3</td>
</tr>
<tr>
<td>McCord Hall</td>
<td>B4</td>
</tr>
<tr>
<td>McLeod Hall</td>
<td>B4</td>
</tr>
<tr>
<td>Morgan Hall</td>
<td>C4</td>
</tr>
<tr>
<td>Plant Pest Annex</td>
<td>C5</td>
</tr>
<tr>
<td>Plant Sciences Annex A</td>
<td>D5</td>
</tr>
<tr>
<td>Plant Sciences Annex B</td>
<td>D5</td>
</tr>
<tr>
<td>Plant Sciences Laboratory</td>
<td>D6</td>
</tr>
<tr>
<td>Power Plant</td>
<td>C3</td>
</tr>
<tr>
<td>Printing &amp; Publications</td>
<td>D6</td>
</tr>
<tr>
<td>Tennessee Division of Forestry</td>
<td>D6</td>
</tr>
</tbody>
</table>

### Other Buildings Owned by UT

- **1809 Andy Holt Ave**: 701 Sixteenth St
- **1819 Andy Holt Ave**: 1816 Terrace Ave
- **1812 Lake Ave**: 1813 Terrace Ave
- **1814 Lake Ave**: 1830 Terrace Ave
- **2000 Lake Ave**: 1900 Terrace Ave
- **2005 Lake Ave**: 1912 Terrace Ave
- **2014 Lake Ave**: 2000 Terrace Ave
- **2016 Lake Ave**: 2019 Terrace Ave
- **2102 Lake Ave**: 2020 Terrace Ave
- **2110 Lake Ave**: 2022 Terrace Ave
- **1801 Melrose Ave**: 2048 Terrace Ave
- **1841 Melrose Ave**: 2106 Terrace Ave
- **905 Mountcastle**: 2109 Terrace Ave
- **907 Mountcastle**: 2110 Terrace Ave
- **909 Mountcastle**: 2111 Terrace Ave
- **912 Mountcastle**: 2124 Terrace Ave
- **908 Twenty-First St**: 2124 Terrace Ave
- **915 Twenty-Second St**: 2124 Terrace Ave
Administrative Officers

Chancellor, John J. Quinn, B.S., Ph.D.
Interim Vice Chancellor for Academic Affairs, William T. Snyder, B.S., M.S., Ph.D.
Associate Vice Chancellor, Ralph V. Norman, Jr., A.B., B.D., M.A., Ph.D.
Associate Vice Chancellor, LaVerne B. Lindsey, B.S., M.Ed., Ed.D.
Associate Vice Chancellor and Dean of the Graduate School, C.W. Minkel, B.A., M.A., Ph.D.
Acting Vice Chancellor for Business and Finance, Raymond L. Hamilton, B.S., M.Acct., C.P.A.
Associate Vice Chancellor, Betsy B. Creekmore, A.B., M.A., M.A.I.S.
Associate Vice Chancellor, Edward K. Bennett, B.S.
Acting Vice Chancellor for Research, Leo L. Riedinger, B.A., Ph.D.
Vice Chancellor for Administration and Student Affairs, Philip A. Scheurer, B.A., M.S.
Associate Vice Chancellor for Administration and Student Affairs, Bert E. Sams, B.S., M.S.
Vice Chancellor for Computing and Telecommunications, Fred H. Harris, B.S., M.A., M.B.A.
Vice Chancellor for Development and Alumni Affairs, Jack E. Williams, B.S.

General Administrative Officers

Athletics, Director, Doug Dickey
Physical Plant, Director, John C. Parker, B.S.
Academic Affairs:
Admissions and Records, Dean, Gerald Bowker, B.A., M.A.
Registrar, Bob Cochran, B.S.
Student Affairs:
Career Planning and Placement Service, Director, Robert Greenberg, B.A., M.S., Ed.D.
International Student Affairs, Director, James N. Gehihar, B.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, Acting Director, Gary Klukken, B.A., M.A., Ph.D.
Student Health Service, Administrator, Fred E. Young, Jr., A.B., M.C.

Other Educational and Public Service Units

Computing Center
Gordon Sherman, B.S., M.S., Ph.D.
Libraries
Dean, Paula Kaufman, A.B., M.S., M.B.A.

Colleges and Schools

AT KNOXVILLE
Institute of Agriculture
Dean, College of Agricultural Sciences and Natural Resources, O. Glen Hall, B.S., M.S., Ph.D.
Dean, College of Veterinary Medicine, Michael Shires, B.V.S.C.; M.S., M.R.C.V.S.
School of Architecture and Planning
Dean, John William Rudd, B.A., M.A.
College of Business Administration
Dean, C. Warren Neel, B.S., M.B.A., Ph.D.
College of Communications
Dean, Dwight L. Teeter, A.B., M.J., Ph.D.
Division of Continuing Education
Dean, LaVerne B. Lindsey, B.S., M.Ed., Ed.D.
College of Education
Dean, Richard Wisniewski, B.S., M.Ed., Ed.D.
College of Engineering
Acting Dean, Jerry E. Stoneking, B.S., M.S., Ph.D.
College of Human Ecology
Dean, Jacqueline De Jonge, B.S., M.A., Ph.D.
College of Law
Acting Dean, Richard S. Wirtz, B.A., M.P.A., J.D.
College of Liberal Arts
Dean, Lorman Ratner, A.B., M.A., Ph.D.
Graduate School of Library and Information Science
Director, Jose-Marie Griffiths, B.S., Ph.D.
College of Nursing
Dean, Sylvia E. Hart, B.S.N., M.S.N., Ph.D.
College of Social Work
Dean, Eunice Shatz, B.A., M.S.S.A., Ph.D.
Independent Departments
Air Force Reserve Officers’ Training Corps Professor of Air Science, Colonel Thomas N. Trotta, USAF
Army Reserve Officers’ Training Corps Professor of Military Science, Lt. Colonel, Earl Harrison, 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
Vice President, Wesley L. Harris
Dean of Academic Affairs, Kapuluru C. Reddy, B.A., M.S., Ph.D.
Dean of Research and Development, Joel W. Muehlhauser, B.S., M.S., Ph.D.
The University

The University of Tennessee, Knoxville is the state’s “campus of excellence” in undergraduate, graduate, and professional studies; research and creative activity; and public service.

The University offers more than 300 degree programs to its 25,000 students, who come from every county in Tennessee, every state in the nation, and more than 90 countries.

The faculty and staff of UT, Knoxville are constantly working to enhance the quality of students’ educational experiences, using information from student tests and surveys to improve teaching and student services. Recent improvements at the undergraduate level include an increased emphasis on advising and better training of graduate teaching assistants.

In 1988, the University moved from the quarter system to a semester system, giving teachers and students more time for special class projects. As part of the move, the faculty carefully examined each course to ensure its relevance to a changing world.

Developments in graduate education have been accompanied by expanded cooperation with Oak Ridge National Laboratory (ORNL) and the Tennessee Valley Authority and by growth of major research programs, including those in the fields of energy, biotechnology, and robotics.

The Science Alliance is the largest in Tennessee’s Centers of Excellence program for higher education. The Science Alliance’s Distinguished Scientist Program, designed to strengthen cooperative instructional and research activities, attracts many eminent scientists to joint appointments at UT, Knoxville and ORNL.

The University’s libraries, with more than two million volumes and volume-equivalents, enhance an educational program dedicated to keeping pace with a changing society. A 350,000-square-foot library in the center of the campus meets student and faculty research space needs and incorporates the latest advances in computer and automation technology.

Through public service activities, the University extends its resources throughout the state and nation. Continuing education programs, offered in more than 40 locations across Tennessee, respond to the needs of working adults who are seeking college degrees or preparing for career advancement.

HISTORICAL BACKGROUND

The University of Tennessee, one of the nation’s oldest institutions of higher education, traces its origins back to 1794—when George Washington was President of the United States. Two years before statehood was achieved, the Legislature of the Federal Territory which later became Tennessee granted a charter to Blount College, named in honor of William Blount, territorial governor.

Located near the center of Knoxville’s present business district, Blount College was non-sectarian in character, which was unusual for an institution of higher education in that day. The University has remained non-denominational and is said to be the oldest such institution west of the Appalachian Divide.

From 1800 to 1804, Blount College admitted women as students, thus becoming the first coeducational college in the United States. The institution later restricted enrollment to men, but reestablished its coeducational status in 1892.

In 1807 the state legislature changed the name to East Tennessee College, and in 1826 the present site at Knoxville, the 40-acre tract known as “The Hill,” was acquired. The college’s name changed again in 1840—to East Tennessee University. The Civil War forced the institution to close, and its buildings were used as a hospital for Confederate troops and later occupied by Union troops.

East Tennessee University reopened after the war, and in 1869 the state legislature selected the University as the nation’s Federal Land-Grant Institution, under terms of the Morrill Act passed by Congress in 1862. This enabled the University to broaden its offerings by establishing an Agricultural and Mechanical College.

Ten years later, East Tennessee University was chosen by the state legislature as Tennessee’s State University, and its name was changed to the University of Tennessee.

The University pledged itself to the service and interest of the entire state, and the state pledged its name and reputation to the University, promising the institution a vital role in the progress of the state.

Today, the University is a statewide institution in terms of its physical locations as well as its services. The medical campus, founded in Nashville and acquired by the University in 1879, was moved to Memphis in 1911. The Martin campus, established in 1900 as a private institution, became part of the University of Tennessee in 1927. A fourth primary campus was established in Chattanooga in 1969 when the University of Chattanooga merged with the University of Tennessee. The University’s Nashville Center, established in 1947, became the fifth primary campus in 1971, but eight years later merged with Tennessee State University.

The Agricultural Extension Service, with district offices in Chattanooga, Cookeville, Jackson, Knoxville, and Nashville, has agricultural extension leaders and agents in each of Tennessee’s 95 counties. There are 15 Agriculture Experiment Stations located across the state.

In 1968, the University’s Board of Trustees reorganized the five-campus 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, particularly those of the past half century, have shown an active interest in the development of the University of Tennessee. Their 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 agreement among Southern states for sharing unique programs. Participating states can make arrangements for their residents who are fully admitted to specific programs at UT, Knoxville, 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, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Twenty-three doctoral, two Specialist in Education, twenty-eight Master's, and twenty-two Bachelor's programs at UT, Knoxville are approved by the Academic Common Market for residents of these states to enroll at in-state tuition rates. Students must be fully admitted to the appropriate degree program, and the letter of certification must be received in the Office of Graduate Admissions and Records no later than the first day of classes for the effective semester.

Residents of member states who seek further information should contact the Residency Assistant in the Office of Graduate Admissions and Records or the Southern Regional Educational Board, 592 Tenth Street, N. W., Atlanta, GA 30316-5790, (404) 675-9211.

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 administered by the Department of Intercollegiate Athletics. Doug Dickey, Director. Women's intercollegiate sports are administered through the Division of 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, cross country, indoor and outdoor track and field, baseball, swimming, tennis, and golf. Intercollegiate games are played according to the rules of the National Collegiate Athletic Association (NCAA) and the Southeastern 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 varsity games are played according to the rules of the NCAA and the SEC. Eligibility for participation is determined by the NCAA, the SEC, and the University faculty. Any full-time female undergraduate student is eligible for varsity competition. 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.

THOMPSON-BOLING ASSEMBLY CENTER AND ARENA

Thompson-Boling Assembly Center and Arena opened its doors in December, 1987. The enormous facility, which seats 24,335, is named for the late B. Ray Thompson and recently retired UT President Edward J. Boling. Thompson-Boling Arena has already attracted such events as the 1989 SEC Basketball Tournament, 1990 Southeast Regional first and second round games, and the 1990 NCAA Women's Final Four to the University of Tennessee.

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, Alice Watkins-Shields.

The stadium, built and developed by the Department of Athletics over a period of years, can now accommodate over 91,902 spectators, largest in the South.

OTHER FACILITIES

Tom Black Track is host to regional and national meets and is built to Olympic specifications. Hudson Field, seats 1,500 fans for baseball in addition to providing dugouts and press box facilities. It will be expanded to 2,500-seat stadium for the 1993 season. New tennis courts also afford an excellent vantage point for spectators.

BLACK CULTURAL CENTER

The Center is the focal point of the University's effort to retain African-American students. The Center fulfills this role through a number of services and programs. These include free tutoring, group study sessions, workshops, a collection of African-American books and magazines and a computer lab. Typical of its cross-campus work is sponsorship of Black History Month activities and the Black Arts Festival which promotes awareness of African-American contributions.

The Center is located at 812 Volunteer Boulevard. The University community is encouraged to visit the facility and take advantage of the opportunities provided by the Center.

CAREER SERVICES

Career Services helps students through individual and group assistance to choose a major, assess career alternatives, find employment, and complete the gradual transition from the University to the world of work. The Service is especially well-known for its effective placement help which includes on-campus recruitment, job referrals, and other sources of job contacts.

Included in the services offered at Career Services are two computer-assisted career guidance programs, DISCOVER and the Strong Interest Inventory; Exploring Majors and Careers, a one credit course designed to help with choosing a major; a CAREER RESOURCE CENTER that includes a comprehensive collection of career-related books, magazines, articles, and videotapes; CAREER ENQUIRER, a newspaper published each fall with the latest information about careers and the job market; COOPERATIVE EDUCATION, a program for alternating terms of school and full-time work experience for non-engineering majors; 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; an annual SUMMER JOB FESTIVAL and a SUMMER JOBS NEWSLETTER.

Also available are a GRADUATE SCHOOL INFORMATION DAY and NURSING OPPORTUNITIES DAY; EMPLOYER INFORMATION which includes types of majors sought, job descriptions, career profiles, annual reports, and other pertinent information for hundreds of companies that recruit at UT; WORKSHOPS providing instruction in skills and tactics for successful interviewing, resume preparation, Business and Dining Etiquette, and other topics; CREDIT COURSES, including Business Career Planning & Placement, Engineering Career Planning & Placement, Job-seeking Skills for Non-technical Majors, and Exploring Majors and Careers.

ON-CAMPUS INTERVIEWS are scheduled during the senior year, and require an orientation workshop for registration and participation. Thousands of interviews are scheduled each year which include approximately 375 companies, government agencies, and school systems; Two JOB NEWSLETTERS are published biweekly, one for positions in education and one for business, industry, and government. An ALUMNI PLACEMENT SERVICE offers assistance in the job search after graduation and a CREDENTIAL SERVICE is available for professions requiring documentation of career-related experiences along with letters of recommendation.

For information regarding Career Services call 974-5435.

CENTER FOR INTERNATIONAL EDUCATION

(International students interested in applying to UT Knoxville should consult the requirements listed in the International Student Applicants section of the UT Knoxville catalog for graduate studies, the Graduate Catalog.)

The goal of the Center for International Education, 201 Aconda Court, is to promote and facilitate the internationalization of the UT Knoxville campus, curriculum and community. It 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 (INS). The Center is the University’s official representative to INS, to international educational organizations and to foreign governments. It maintains current records on all UT, Knoxville holders.

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

The Center’s International House, 1515 Cumberland Avenue, provides a rich array of programs intended to bring together members of the international and the U.S. communities to share their cultures and customs and to learn of those of others. At the I-House English language classes are available for spouses, seminars of interest are taught, and area volunteers work for intercultural communication and mutual understanding.

Cultural Opportunities: The University

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 the new SMC. Each UTCC student, faculty and staff member the opportunity for computing experience through an individual UTCC account. Student accounts for use in coursework are requested by the department through which the course is offered. Faculty and staff members can request a UTCC account for research or administration by completing a request for computing services. Forms are available from the receptionist at 200 SMC. Each UTCC account is assigned a user ID and password that is required of all new international students at the University of Tennessee. It assists with all UT, Knoxville-related U.S. visa holders.

Cultural Opportunities: The University

A CalComp 1051 vector plotter is used to produce graphics output from jobs run on the IBMs and the DEC VAXcluster computers. An Imagen laser printer is used to produce high quality printed output. The Imagen printer can also produce graphics at 300 dots per inch. The UTCC network is connected to the Internet which provides access to other Internet sites via the Southeastern University Research Association Network (SURAnet). SURAnet connects to the National Science Foundation Network (NSFNET) which joins universities and research institutions as well as directly connecting to the NSF supercomputing centers. The Cornell National Supercomputer Facility, The National Center for Supercomputing Applications at the University of Illinois, the Pittsburgh Supercomputing Center, the National Center for Atmospheric Research, and the San Diego Supercomputer Center.

Cultural Opportunities: The University

UTCC is an affiliate of the Pittsburgh Supercomputing Center, the National Center for Supercomputing Applications at the University of Illinois, and the Cornell National Supercomputer Facility. The computing facilities and services provided by UTCC on those systems.

Cultural Opportunities: The University

The UTCC computing network connects to the Access University of Illinois, and the Cornell National Supercomputer Facility. The computing facilities and services provided by UTCC on those systems.

Cultural Opportunities: The University

UTCC maintains 20 user work areas on the Knoxville campus, including locations in five residence halls. Several of these areas provide high speed line printing; some also provide laser printing. Computing services are made available to the other UT campuses through remote links.

A graphic center, located in Ferris Hall on the Knoxville campus, has graphics terminals, digitizing tablets, graphics workstations with integrated tablets, and graphics plotters. Many of the terminals and microcomputers in the user work areas are capable of being used for graphics.

The Culture Opportunities/ The University

The University of Tennessee Theatres consists of the Clarence Brown Theatre Company and the University Company.

The Clarence Brown Theatre Company is the professional theatre company in residence at the University of Tennessee, Knoxville. Founded in 1974 by Anthony Quayle and Ralph C. Allen, the Clarence Brown Theatre Company is a member of the League of Resident Theatres (LORT) and Theatre Communications Group, Inc.

The University Company has, under various titles, been staging productions since the late 1930s, using UT students and faculty as well as talent from the Knoxville community.

In addition to these companies, the Department of Theater sponsors ACT (All Campus Theatre), a student organization whose aims are to provide educational opportunities in theatre, to assist in UT Theatres’ production activities, to provide students with a forum for social activities and assistance, and to sponsor their own productions as time, man power, interest, and space permit.

Cultural Opportunities: The University

The professional and university companies perform in the Clarence Brown Theatre and the Carousel Theatre. The Clarence Brown
Theatre was built in 1970, and includes the 600-seat main auditorium with a proscenium stage, and the Studio Theatre, a 125-seat proscenium thrust theatre. The Clarence Brown Theatres is also home to the costume, electrics and scene shops and box office.

The McClung Museum is actively involved in the collecting, preservation, and exhibition of objects in the fields of anthropology, archaeology, decorative and fine arts, medicine, local history, architecture, geological sciences and natural history.

Temporary and permanent exhibits are presented on those subjects. Archaeological specimens, some as old as 12,000 years, recovered during the University's extensive excavations in the Tennessee River Valley are included in a major exhibition "The American Indian in Tennessee: A million years of human evolution is presented in "Lucy and Her Relatives" on the second floor. The Museum's comprehensive medical collection is reflected in the exhibit "Late 19th-Early 20th Century Medical Practices in East Tennessee". Some aspects of the geological sciences and the natural history of Tennessee are explored in an exhibition on the main floor. Exhibits on the history of Knoxville, the University and East Tennessee are located in the Vandivier Memorial Decorative Arts Gallery. The Verhagen Gallery contains temporary exhibitions that change two or three times a year. Temporary lobby exhibits and other displays are installed throughout the year. Opening Spring 1992 is "Ancient Egypt: The Eternal Voice," a continuing exhibition about life in the Nile Valley.

ART

Exhibitions of the work of artists, craftsmen and architects are sponsored on a regular basis by the Department of Art and the School of Architecture. The Ewing Gallery of Art and Architecture, located on the ground floor of the Art and Architecture Building, hosts major exhibitions of work by national and international artists for periods of four to six weeks. A second gallery, also located on the ground floor of the Art and Architecture Building, is used for short-term exhibitions.

1010 Gallery, which is organized, sponsored and administered by the Student Art League, is located off-campus in the Candy Factory Building on the World's Fair Site. This gallery features student work in exhibitions varying from one to four weeks in duration. The Outdoor Sculpture Tour displays sculpture at various locations on campus.

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

Popular and cultural concert series provide the University community with some of the finest artists in the entertainment field.

Campus Entertainment Board. This student committee has exclusive responsibility to sponsor smaller and emerging popular entertainment at various locations across the campus. Bands, comedians, and special events are part of the fun!

Cultural Attractions Committee. A student committee, this group is responsible for the presentation of programs in the arts to include dance and music. Jazz, strings, vocal, brass, modern and classical comprise the committee's selections.

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, 91.9 FM, Knoxville, serves East Tennessee with news, information, and programs of cultural interest. WUOT broadcasts in stereo with an effective radiated power of 100,000 watts, as authorized by the FCC. 24 hours each day, WUOT presents a classical, fine arts format designed to enrich and improve 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, American Public Radio, and the Southern Educational Communication Association radio division. WUOT meets the Corporation for Public Broadcasting criteria for full service operation as a public radio station and is a member in good standing of the National Association of Broadcasters. A sample program guide may be obtained at station offices in Room 222 Communications Building.

WUTK-AM is a 50,000 watt day-time AM station located at P-103 Andy Holt Tower. WUTFK-FM is a student-oriented radio station operated by the Department of Broadcasting at the University of Tennessee, Knoxville. Broadcasting majors serve as announcers, news writers and reporters, producers, and account executives. The station is programmed as an album-oriented rock music station and is located at 90.3 on the FM band. The target audience for the station is the student population of UT, Knoxville. Studios are located at 400 Mead Ave.

The Nashville VU is the student newspaper of the University of Tennessee at Nashville. The VU is published weekly during the academic year on the campus of VU.

The Daily VU is the student newspaper of the University of Tennessee at Knoxville. The Daily VU is published daily during the academic year on the campus of UT, Knoxville.
tutoring and advising services to students with the educational advancement campus community.

The Educational Advancement Program

The Educational Advancement Program is a federally funded project (Department of Education - Student Support Services) designed to provide counseling, instructional, tutorial and advising services to students with demonstrated academic needs who are also first generation, low income or handicapped.

The project serves 250 students and provides the following services to those who meet program eligibility criteria after application and interview.

Counseling - Trained professionals offer advise regarding Financial Aid, trained to advise in career decision making and personal problems.

Academic Advising - EAP Counselors provide accurate, thorough and personal one-on-one advise about general curriculum and major requirements for majors in every college in the university.

Academic review advising is an additional service provided by the counselors.

Mentoring - A series of structured social and cultural activities are scheduled for EAP students and community mentors each semester.

Instruction - EAP offers special sections of selected classes that have limited class size (25), increased number of class meetings and empathetic faculty for students who have a need for the personal touch.

Mathematics 110 - Algebraic Reasoning
Mathematics 119 - Precalculus
Mathematics 121 - Calculus
Biology 110, 120 - General Biology
University Studies 101 - Freshperson Orientation to College and Study Skills

Ronald McNair Post-Baccalaureate Achievement Program

The Ronald McNair Program is designed to encourage and facilitate doctoral studies by first generation, low income, handicapped, and students from under-represented groups in the fields of agriculture, engineering, biology, chemistry, computer science, microbiology, math, physics, statistics, anthropology, psychology and other related fields of study.

The McNair Program provides comprehensive student needs assessment and a paid seven-week summer research internship ($2,000). In addition, it provides students three to six hours of academic credit (summer coursework in oral and written communications, statistics, and research techniques), graduate school application workshops, graduate school preparation seminars and graduate school visitation hours.

For additional information, offices are located at 900 1/2 Volunteer Blvd., or phone (615) 974-7900.

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. Meal plan arrangements are Seven Star Dining (i.e. Seven Day meal plan, meals Monday-Sunday noon) and Five Star Dining (i.e. Five Day plan with meals Monday-Friday). For students not under the Board Plan, meals can also be obtained from cafeterias operated on a cash basis.

The Food Services Department offers two additional dining options; the Al Star account debit plan where students make a minimum deposit and can then make purchases at any Food Service location. Any deposits over the minimum enable the student to make purchases at other participating campus locations.

The other option, the Dining Club account, works just a like a charge card. No money is deposited in advance. Food may be purchased at any Food Service location and convenient monthly statements are sent to students or parents.

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

For additional information, offices are located at 405 Student Services Building or phone at (615) 974-4111.

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. Hearing Impaired students are encouraged to contact the office one month prior to the semester enrolled for interpreting services.

The office is located at 414 Student Services Building. 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.

These services include assistance during registration (preregistration, collection of class schedules, payment of fees, drop and add); the adjustment of schedules to assure classroom accessibility; 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 Knoxville Stadium Drive, offers complete diagnostic and treatment services to all University students with speech and language disorders/differences and/or hearing disorders. Services are available to any student who has paid the full University Programs and Services Fee or, if taking fewer than 12 hours, for any part-time student who has paid the optional student health service fee.

The Center serves as a clinical observation and education facility for students majoring in Speech-Language Pathology or Audiology. It also serves as a community hearing and speech center providing diagnostic and treatment services for persons of all ages exhibiting communication disorders/differences.

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 Department 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. A graduate student wing has been reserved in the Apartment Residence Hall. 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 secured 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 identify and foster the academic, social and personal needs of 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, Knoxville.

Housed within the Black Cultural Center, the office furnishes information about educational, employment and financial assistance opportunities, offers tutorial services, workshops, and career development programs. The office is located at 812 Volunteer Boulevard.

OMBUDSMAN OFFICE

The Ombudsman Office in the University Center supplements existing appeals channels and actively seeks better ways for the University to serve students. Students who encounter problems with an aspect of the University may receive assistance in resolving them from the Ombudsman. Problems are treated confidentially.

PARKING AND VEHICLE OPERATION

The University of Tennessee endeavors to provide adequate facilities for vehicles operated by students and staff. However, areas available for parking are necessarily limited. To reduce traffic congestion within the campus area, large student parking areas are located on the perimeter of the campus. Presently, free bus service is provided from the Main Campus to the Agriculture Perimeter Lot located off Concord Street behind Tyson Park. Also, bus service is provided to Married Student Housing Units at a nominal fee.

Each person who operates a motor vehicle in connection with attendance or employment at the University must register that vehicle with the Parking Services Office. THERE IS NO CHARGE FOR VEHICLE REGISTRATION; however, a parking permit is required for parking on all University lots, streets, parking structures, or leased lots with the following exceptions:

1. Staff and students with current UT, Knoxville vehicle registration tags in their vehicles may park in any unreserved area (EXCEPT THOSE AROUND RESIDENCE HALLS) between the hours of 10 P.M. and 7 A.M., Monday through Friday, and 12 Noon Saturday to 7 A.M., Monday.

2. General parking is permitted in staff areas around the residence halls between 5 P.M. and 3 A.M. After this time, vehicles without permits for these areas may be towed.

3. Staff and students with current UT, Knoxville parking permits may park in unreserved staff areas around the academic buildings from 5 P.M. to 7 A.M.

4. Overnight parking is not permitted in the Student Commuter Parking Areas nor in Student Aquatic Center Parking Area.

5. At times, certain areas will be reserved for parking for special events, such as athletic events, conferences, etc. Parking for these events will be by special parking permit for the specific event.

A University Traffic and Parking Authority determines the parking policy, traffic regulations, and fees. This information is published each year in the "University Traffic and Parking Regulations", and is available at the Parking Services Office, 1411 White Avenue, at the Campus Information Center at Circle Park, and at the vehicle point of registration.

RE-ENTRY AND NONTRADITIONAL STUDENTS OFFICE

The Office of Re-entry and Nontraditional Students was created to help students who have delayed or interrupted their college education for a period of time and to assist students older than average (25 years or older).

Specifically, the office works with other departments on campus to provide admissions and readmissions counseling, academic advising, peer support programs, orientation programs, information about careers and financial aid, and educational workshops for adult students. Personalized referral for University services will be made as well.

The Office of Re-entry and Nontraditional Students is located at 100 Dunford Hall in the Career Services Area. Office hours are 8:30 a.m. until 5:00 p.m. (we hope to extend the hours in the future).

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 spiritual life of its students in part through its work with the Campus Ministers Council.

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 disciplinary 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.

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

Assignments 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 Undergraduate Academic Council, and the Graduate Student Association, the Student Government Association is the governing body of the students at UT, Knoxville. Some objectives of the SGA are to provide a vehicle for responsible and effective student participation in the organization of student life and to promote the recognition of student rights and responsibilities.

Each spring term, general campus elections are conducted to elect the President and Vice-President of the student body and the members of the three branches of the SGA. Student Senate members are elected to represent geographical areas of the campus. The Academic Council and Graduate Student Association representatives are elected from the academic colleges and graduate student programs, respectively. Offices of the SGA 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 fee).
health fee). These outpatient 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. Outpatient services in the fields of family practice, internal medicine, pediatrics and psychiatry are available on a full-time basis with the aid of specialty consultants in dermatology, surgery, 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 cost 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 Memorial Hospital except during the break after the fall term. Ambulance and transportation service for the campus is provided by the Campus Police.

Students requiring hospitalization are generally admitted by an appropriate specialist 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 group 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 ensuring the continuity of quality health care during the university career.

STUDENT ORGANIZATIONS

On the campus there are a large number of student chapter organizations, special interest clubs, and other extracurricular organizations. These organizations and clubs provide broad opportunities for student participation.

A full listing of all student organizations is found in Hilltops. Student organizations are registered through the Dean of Students Office.

STUDENT ORIENTATION OFFICE

This office is dedicated to helping the new student adjust to the university setting, concerning itself with general, personal, and scholastic difficulties of the student during the first year of college life on the Knoxville campus. The office is responsible for the summer orientation program, specifically designed for the fall-term new student, as well as orientation programs for freshmen and transfer students presented prior to the beginning of each term.

STUDENT PUBLICATIONS

A number of student publications are printed during each school year to serve as sources of information for new students, to report the many events of interest to the campus community, and to record the year's activities.

The Daily Beacon, a student newspaper, The Volunteer, yearbook of campus activities, and The Phoenix, literary magazine, are sponsored by the University of Tennessee Student Publications Board.

STUDENT RIGHTS AND RESPONSIBILITIES

By registering in the University, the student neither loses the rights nor escapes the duties of a citizen. Enjoying greater opportunities than the average citizen, the University student has greater responsibilities. Each student's personal life should be conducted in a context of mutual regard for the rights and privileges of others. It is further expected that students will demonstrate respect for the law and for the necessity of orderly conduct in the affairs of the community.

Students are responsible for being fully acquainted with the University catalog, handbook, and other regulations relating to students and for complying with them in the interest of an orderly and productive community. The student handbook, Hilltops, is published and distributed annually so that students are aware of the University Standards of Conduct and all disciplinary regulations and procedures.

Since conduct and actions will be measured on an adult standard, students should understand that they assume full responsibility for the consequences of their actions and behavior. The academic community will be judged in large measure by the actions of its members. Therefore, it is incumbent upon students to include the implications for their community in their criteria for determining appropriate behavior.

Failure or refusal to comply with the rules and policies established by the University may subject the offender to disciplinary action up to and including permanent dismissal from the University.

WOMEN'S CENTER

The Women's Center is open to all students on campus. The center provides essential informational services and referral services to UT, Knoxville students and faculty. The library's specialized collection provides books, journals, and brochures about issues and concerns of women from both a current and historical perspective. Information is available on a variety of topics ranging from racism, violence against women, spirituality, and sex roles. The Women's Center is located in 301 University Center.

WRITING CENTER

To aid students in regaining and improving their skills in writing, the University operates a Writing Center. Students, faculty and staff may visit the center at any time for help with their writing. In addition, students enrolled in English 101 or 102 may enroll in the Writing Workshop for one hour of credit.

FEES AND EXPENSES

University fees and other charges are determined by the Board of Trustees and are subject to change without notice. The general fees in effect at the time of publication are as follows:

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<th>Maintenance Fee</th>
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<tr>
<td>Undergraduate Students</td>
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<td>Graduate Students</td>
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<td>Law Students</td>
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<td>Veterinary Students</td>
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All students both in and out-of-state are required to pay the established maintenance fee.

Tuition (additional for all out-of-state undergraduate and graduate students) Per Semester $1,682
Tuition (additional for all out-of-state Law and Veterinary Medicine students) Per Semester $1,795
Tuition is required of all students who are classified as non-residents for fee assessment purposes. NOTE: In lieu of the above charge for tuition and maintenance fee, part-time students may elect to pay fees computed by the semester hour credit (or audit) at the rates shown below, total charge not to exceed the regular maintenance fee for in-state students or the maintenance fee plus tuition for out-of-state students.

Undergraduate Students:
- In-state $87 per semester hour or fraction thereof; minimum charge $174
- Out-of-State $206 per semester hour or fraction thereof; minimum charge $412

Graduate Students:
- In-State $135 per semester hour or fraction thereof; minimum charge $270
- Out-of-State $296 per semester hour or fraction thereof; minimum charge $592
- Law Students:
  - In-State $154 per semester hour or fraction thereof; minimum charge $308
  - Out-of-State $324 per semester hour or fraction thereof; minimum charge $648

UNIVERSITY PROGRAMS AND SERVICES FEE

Per Semester $111

All undergraduates, graduates, and law students taking in excess of eight hours per term will be assessed a University Programs and Services Fee of $111 per semester for the academic year and $65 for the summer term. Part-time students taking eight semester hours or less will be assessed at the rate of $8 per semester hour (minimum $16) but are not entitled to admission to general activities programs. Such students may elect to pay the $36 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 $30
Master's, Law and Veterinary Medicine Degree $30
Doctoral Degree $75

Payable at the beginning of semester in which the candidate is to be graduated. This
**Failure to pay appropriate fees** who is reinstated for the semester will be charged a **$45** reinstatement service fee.

**LATE REGISTRATION FEE** $15

Students who do not advance register will be charged a $15 late registration fee.

**RETURNED CHECK POLICY**

**DURING REGISTRATION CHECK-IN DAYS, ALL CHECKS ARE DEPOSITED THE DAY THEY ARE RECEIVED. A $10.00 service charge will be assessed when checks fail to clear the bank on which drawn. In addition, if the returned checks is in payment of initial fees and charges, the late payment fee in effect at the time the check is redeemed (minimum charge - $20) will be added to the returned check service fee. If the check is not cleared within seven calendar days after the date it is incurred, the appropriate percentage of fees will be charged on the 21st day of classes for the term. Failure to notify the Bursar’s Office promptly when withdrawing could result in a larger fee assessment.**

**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.

**TUITION/FEE REFUND POLICY FOR WITHDRAWALS**

Students withdrawing from school for the term, after receiving a schedule, even though classes have not been attended or fees paid, must be notified to the Withdrawal Office by the close of the last day designated for Registration Check-In and before the first day of classes for the term. Failure to notify the Withdrawal Office promptly when withdrawing could result in a larger fee assessment.

**REFUNDS AND REPAYMENTS TO THE TITLE IV FUNDING SOURCES**

Refunds resulting from withdrawal will be made, as soon as possible, after the drop deadline. In addition, if the returned checks is in payment of initial fees and charges, the late payment fee in effect at the time the check is redeemed (minimum charge - $20) will be added to the returned check service fee. If the check is not cleared within seven calendar days after the date it is incurred, the appropriate percentage of fees will be charged on the 21st day of classes for the term. Failure to notify the Bursar’s Office promptly when withdrawing could result in a larger fee assessment.

**EARLY REGISTRATION FEE**

**$23**

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

**CO-OP REGISTRATION FEE** $23

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

**TUITION/FEE ASSESSMENT POLICY FOR DROPPED COURSES**

**THE DROPPED PROCEDURE CANNOT BE USED TO WITHDRAW FROM SCHOOL FOR THE TERM.** Students who drop courses and continue with a reduced course load are eligible for a refund only if the total charges at the semester hour rate for the courses continued plus the percentage assessed at the
semester hour rate for the courses dropped results in an amount less than that paid. A course is not officially dropped until a drop/add slip has been processed and recorded by the admissions and records office. Failure to attend class does not automatically withdraw or drop a student from school or class. The following percentage assessments are applicable for courses dropped (if fees are assessed at the semester hour rate): No Refund

<table>
<thead>
<tr>
<th>Drop Date</th>
<th>Percentage Refund</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-8</td>
<td>100%</td>
</tr>
<tr>
<td>9-10</td>
<td>80%</td>
</tr>
<tr>
<td>11-15</td>
<td>50%</td>
</tr>
<tr>
<td>16-20</td>
<td>40%</td>
</tr>
<tr>
<td>21</td>
<td>No Refund</td>
</tr>
</tbody>
</table>

NOTE: The drop deadline for grades and the drop deadline for refunds are NOT the same. All charges and refunds will be made to the nearest even dollar amount.

Drop Date
Business days after registration date

Refunds resulting from dropped courses will be made after the final audit at the end of the term.

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 may be billed, prepaid, or waived. Delayed registration service fees are also applicable to such students.

No student is authorized to attend classes who has not obtained a class schedule from the Office of the Dean of Admissions and Records. Students not otherwise covered are urged to avail themselves of this or comparable policies do not cover the dependent child after some as early as age nineteen.

Military Deposits. All students registering for Air Force ROTC courses are required to make a deposit of $75 each for uniforms 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 students 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 semester 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, Knoxville Bookstore, and admission to various athletic, social, and cultural events. These cards are non-transferable and may not be duplicated. A current validated 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 Vol Card Office at Room 344, University Center. There is a minimum charge for replacement or duplicate ID cards.

Arrangement for Banking while at UT, Knoxville. Banking arrangements can be made with Knoxville banks. Some Knoxville banks require a waiting period before honoring out-of-town checks, if the deposit is a personal check. New students who wish to open a local checking account are encouraged to deposit a certified check or cashier's check unless they can pay initial college 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.

ESTIMATE OF EXPENSES
The following estimates of the necessary expenses for an undergraduate student during the 1991-92 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 | $1,566 |
| Programs and Services Fee    | $222  |
| Room and Meals               | $3,166 |
| Books, Supplies, Transportation, etc. | $1,700 |
| Total for Tennessee Residents | $6,654 |
| Add for Non-Resident Tuition  | $3,364 |
|                              | $10,018 |

These figures give a fair idea of average expenses, exclusive of clothing, travel, and pocket money. Expenses 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. Students must be admitted into a degree program, and must be enrolled at least half time. When funds are limited, preference will be given to full-time students.

Financial need is defined as the difference between a family's ability to pay and the total cost of attendance. If there is a deficit, the student is considered to be in need of financial assistance. UT, Knoxville 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, "This is Tennessee: Investing in Your Future," available in the Financial Aid Office.

UT, Knoxville has three types of financial aid - scholarships and grants, loans, and part-time employment. These may be awarded individually or in combination according to the needs of the student. For detailed information on application procedures for each aid program, please refer to the brochure, "This is Tennessee: Investing in Your Future."

DEADLINES FOR APPLICATIONS

Because a student's family resources can change significantly during an academic year, UT, Knoxville 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. UT, Knoxville is not able to meet the financial needs of all applicants. Priority in awarding will be given to those students with financial aid forms completed and mailed by February 14.

TRANSFER STUDENTS

UT, Knoxville Financial Aid applicants who have attended another college or university are required to have a Financial Aid Transcript sent to UT, Knoxville 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 UT, Knoxville scholarship program makes awards on the basis of academic achievement for entering freshmen students who demonstrate strong academic achievement and a financial 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, a student must be admitted or currently enrolled by February 1. An application form is not necessary, except for Honors Program scholarships. 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 Scholastic Aptitude 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. Most annual stipends range from $100 to $2500. Most scholarships are 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 display a financial need for funds. Because 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 Pell Grant is partially funded, maximum grants are $2,300 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 1989 and 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. An SEOG may not be less than $200 or more than $4,000. The above regulations and provisions of the Supplemental Educational Opportunity Grant are correct as of December 1989 and subject to change by federal legislative action.

The Tennessee Student Assistance Award. This is a program of direct grants available to Tennessee residents who display a financial need for education. Award cover one-half of the maintenance fee for Fall and Spring terms. Applicants must submit a copy of their Financial Aid Form/Family Financial Statement to the Tennessee Student Assistance Corporation. More information may be obtained by writing to the Tennessee Student Assistance Corporation, 404 James Robertson Building, Suite 150, Nashville, Tennessee 37219.

STUDENT LOANS

Perkins Student Loan. Long-term loans are available to students who have a proven need for financial assistance. Loan repayment and interest payments on Perkins Student Loans are deferred as long as the individual remains in half-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, The National Oceanic and Atmospheric Administration Corps, or as a full-time volunteer in a similar state or locally based program. Interest on (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 enrolment of handicapped children, 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 full-time staff member in a head start 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. Up to 70 percent of the loan may be cancelled if the borrower serves as a full-time volunteer under the Peace Corps Act or the Domestic Volunteer Service Act for a period of four years.

An undergraduate may borrow an annual maximum of $1,500 to an accumulated loan of $9,000. Graduate level students may borrow an annual maximum of $3,000 to an accumulated loan of $16,000 (including any amount borrowed as an undergraduate). The above regulations and provisions of the Perkins Loan Program are correct as of December 1987 and are subject to change by federal legislative action.

The University of Tennessee Student Loan. Student loans from University sources are available to currently enrolled students with a cumulative grade point average of 2.0 or higher. A loan of an annual maximum of $1,300 can be obtained. One surety or cosigner who meets specific credit requirements is required for each promissory note and a new promissory note must be completed each year a loan is made. The interest rate is 6 percent per year payable on July 1 of each year. Repayment of the amount borrowed plus any unpaid accrued interest shall begin six months following graduation, withdrawal, or transfer from the University of 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 of the University of Tennessee Student Loan Program are correct as of December 1987 and are subject to change by action of the Board of Trustees.

Stafford Student Loan. This loan from banks, savings and loan associations, or credit unions through a state guarantee 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 degree program and be in good standing with the University. Applicants are required to file a FAF or FFS to determine eligibility for such loans is paid by the federal government while the student is in attendance on or within a half-time basis. The student begins repayment of the amount borrowed plus 8 percent interest per year on the unpaid balance six months following termination of half-time enrollment or graduation. In the 5th year of repayment, the interest rate increases to 10%. The maximum repayment period is 10 years and the minimum monthly payment is $50.

Repayment may be deferred for a period of three 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 (s)he is temporarily totally disabled or 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 under-graduate student may borrow for a 9-month period of enrollment is $2,625 for freshmen and sophomores and $4,000 for juniors and seniors, up to an accumulated maximum of $17,250. The maximum amount a graduate student may borrow for a 9-month period of enrollment is $7,500 up to an accumulated maximum of $54,750 (including any amount borrowed as an undergraduate).

PLUS/SLS Loan Program. The PLUS/SLS Loan Program provides a source of loan funds to the parents of dependent undergraduate students as well as to independent undergraduate and graduate/professional students. SLS borrowers are required to file a FAF or FFS to determine eligibility. The parents can borrow up to $4,400 per year. Graduates/ professional students are entitled to borrow up to $4,000 per year. The cumulative maximum loan amount that can be borrowed by a parent for each dependent undergraduate child is $20,000. Independent undergraduate students may borrow a cumulative maximum of $20,000. The cumulative maximum loan for graduate/professional students is $20,000 from SLS. The interest rate on PLUS/SLS loans is currently 12 percent and there is no federal interest subsidy. Parent borrowers must begin repayment on the principal loan amount on or within 60 days of loan disbursement. Student borrowers must begin repayment of interest within 60 days of loan disbursement, but payment on the principal will be deferred until the student is no longer enrolled as a full-time student or no longer qualifies for some other deferment.
Complete information on both loan programs is available at all banks and credit unions. In the state of Tennessee, write the Tennessee Student Assistance Corporation, 404 James Robertson Parkway, Suite 1950, Nashville, Tennessee 37219.

STUDENT EMPLOYMENT

Two employment programs are administered by the Financial Aid Office. They are:

- **College Work-Study**
- **College Work-Study in Agriculture**

**College Work-Study** is a federal work 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 on-campus jobs where they work approximately 15 hours per week. Jobs are available in a variety of academic departments. Part-time employment is a financial necessity to the student with a low grade point average. The student is advised to accept a job requiring fewer hours of work per week.

**College Work-Study in Agriculture** is a federal work program administered by the Tennessee Student Assistance Corporation, Alcoa Foundation, and other campus units. The rate of pay is at least the federal minimum wage. Students are placed in on-campus jobs where they work approximately 15 hours per week. Jobs are available in a wide variety of academic departments and other campus units. 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 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 necessity 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:

- American Association of Cost Engineers Scholarship
- American Marketing Association Scholarship
- Amoco Foundation Scholarship
- Arado A. Anderson Scholarship Fund
- Arthur Andersen Scholarship Fund
- Andersen Consulting Engineering Scholarship Fund
- Anderson County Agricultural Scholarship
- Wilfred R. Anderson MBA Fellowship
- Aiken & Mary Andrus Memorial Fund for Excellence in Design
- Professor Duncan Angus Scholarship Fund
- Animal Husbandry Scholarship
- Anonymous Nursing Scholarship
- Anonymous Student Awards
- Susan S. Anthony Fund
- Anthropology Development Scholarship
- School of Architecture Scholarship
- (AFCEA) Armed Forces Communications and Electronics Association Scholarship Award
- Engineering Scholarship Fund
- Armistead Award in Agriculture
- Armistead Award in the College of Veterinary Medicine
- James H. Armstrong Scholarship in Journalism
- Armstrong Minority Educ Scholarship
- Max B. & Lalla Block Amstein Scholarship
- J. Clayton Arnold Teaching Training Scholarship
- Grace A. Agee and Willie R. Clark Scholarships
- American Watercolor Society Scholarship Fund
- Andersen Consulting Engineering Scholarships
- Art Department Scholarships & Aid
- Daniel A. Ratcliff Scholarship
- Captain Samuel E. Asher Memorial Scholarship
- Ashrae Grant-In-Aid Goswami Scholarship Award
- Athletic Department Scholarship Fund
- Atlantic Richfield Fellowship
- Audiology & Speech Pathology Scholarship Fund
- E.H. (Buddy) Avery Athletic Scholarship Fund
- Babcock & Wilcox Scholarship Fund
- Karl F. Bahret Memorial Scholarship Fund
- Hop Bailey, Sr. Scholarship Fund
- Howard H. Baker Memorial Law Scholarship Fund
- Lois Beatrice Dunn Barbee Barbecue Scholarship Fund
- Raymond Barnes Award in Woodwind Studies
- Dorothea H. Barton Scholarship
- Bacon-Beard Scholarship in Philosophy Fund
- Bain-Swiggert Poetry Prize
-Band Scholarships
- Porter Barnett Athletic Scholarship
- Colonel T.H. Barton Scholarship Fund
- Grace-Brodie Baynes Scholarship Fund
- Dr. & Mrs. Joe D. Beals Scholarship Fund
- C. Grier Beam Scholarship Fund
- Alvin G. & Sally M. Beaman Scholarship Endowment Fund
- Beard Scholarship in Philosophy Fund
- John Beatty Scholarship Award
- Hubert Bebb Scholarship Endowment Fund
- Fred E. Beull Athletic Department Scholarship Fund
- Roy F. & Addie J. Bell Scholarship Fund
- Belkore - MESF
- Carl M. Bennett Scholarship Fund
- Jim Bennett Memorial Development Fund
- Philip Sherman Bennett Prize
- Edna & King Benson Memorial Scholarship Fund
- Benwood Foundation Athletic Scholarship Fund
- Berkline MBA Graduate Fellowship
- Berkline Corporation Scholarships
- Beta Theta PI Memorial Scholarship Fund
- Better English Graduate Aid
- Hodges Better English Scholarship Fund
- Karl and Madira Buckler Scholarship in Communication
- Big Orange Swimming Scholarship
- J.J. Bird Memorial Scholarship in Agriculture
- Dr. William Bishop Scholarship
- Voula Bitzas Voice Scholarship
- Black Alumni Associates Scholarship
- Black Cultural Programming Committee Sch.
- Black Faculty/Staff Association Scholarship
- J. Paul Blakely Sch. in Technical Communications
- Boeing Company Scholarship
- Amanda B. Brass Scholarship in Journalism
- Frederick T. Bonham Journalism Award
- Frederick T. Bonham Scholarship
- Walter Melville Bonham Memorial Scholarship
- Boring Athletic Scholarship Fund
- Ford and P. Booth Scholarship
- Dr. Wade H. Boswell Scholarship
- Cameron Branch Scholarship
- Tutt and Elizabeth Bradford Scholarship
- Tutt and Elizabeth Bradford Scholarship in Advertising
- Dr. & Mrs. Donald Bradley, Sr. Scholarship Endowment Fund
- Robert Brashear Athletic Scholarship Fund
- Bridge to the Future Engineering Scholarship Program
- T.E. Tommy-Bronson Athletic Scholarship Fund
- Brooks, Leddenwood, Testerman Memorial Scholarship Endowment Fund
- Harry W. Brooks Scholarship Fund
- Elaine and Arthur Brown Microbiology Scholarship Endowment Fund
- Fred Brown Minority Scholarship in Engineering
- Grower's Brown Memorial Scholarship Fund
- Nell Mann Brown Scholarship in Agriculture
- Nell Mann Brown Scholarship in Architecture
- William Lester Brown Memorial Scholarship Fund
- Pat & Frank Bryant Scholarship Fund
- William P. Bryant Scholarship
- BTFL-Civil Engineering Scholarship Fund
- BTFL-Industrial Engineering Scholarship Fund
- BTFL-Materials Science Scholarship Fund
- Calvin A. Bushler Chemistry Scholarship
- The Burchfield Burridge Warner Graduate Fellowship in Chemistry
- William W. Burchfield, Sr. Scholarship Fund
- Robert A. Burnam Scholarship
- Endowment Fund
- Dr. William Bishop Scholarship
- Endowment Fund
- James Henry Burke Scholarship
- Eleanor Richards Burke Award
- Captain Robert Arnold Burke Award
- Engineering Endowment Fund
- Burlington Industries Aid to Education Fund
- Terry Burnette Art Endowment Fund
- Terry Burnette Memorial Scholarship Award
- Paul C. Burns Memorial Scholarship Fund
- Catherine Burton Scholarship Fund
- Business Administration Minority Scholarship Fund
- CBCG Burlington Fellowship in Transportation
- CBCG Scholarship Award
- CLEO-Stipend Support
- William Cooper Caffey, Jr. Memorial Scholarship Fund
- Nai Caldwell Journalism Scholarship Fund
- William Hooper Caffey, Jr. Memorial Scholarship Fund
- CBCG Scholarship Award
- CBCG Burlington Fellowship in Transportation
- CBCG Scholarship Award
- CLEO-Stipend Support
- William Cooper Caffey, Jr. Memorial Scholarship Fund
- Nai Caldwell Journalism Scholarship Fund
Mcafee Lee Jr. Memorial Scholarship Fund
W.O. Lefell Scholarship Fund
Kelly Leiter Scholarship Fund
MSC - Leila Leslie Vocal Scholarship
Levi Strauss Foundation Graduate Fellowship
Abraham Levy Scholarship Fund
Chancellor George T. Lewis Award
Thomas S. Lewis, Jr. Scholarship
Frederick Lewison Scholarship Fund
Liberal Arts College Scholarship Fund
Lincoln County Alumni Agriculture Scholarship Fund
Lincoln County Farmers Co-op Scholarship
Joe P. Little Scholarship Fund
The Mike Little Scholarship Fund
Rosalie 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
The W.T. "Bill" Lowe Scholarship Endowment
Harold L. Luper Endowment Fund
Walter L. Lusk Scholarship Endowment Fund
The J.B. Lyle Music Education Endowment
R.N. Lyon Engineering Scholarship Fund
Wacon County Anonymous Agricultural Scholarship Fund
Magnavox-Mary Costa Scholarship in Voice
Manier, Herrod, Hollabaugh & Smith Endowment
Manner, Herrod, Hollabaugh and Smith Scholarship Fund
Frank Manning Memorial Scholarship Fund
James and Barbara Marable Arts Scholarship Endowment
Marketing Discretionary Fund
Tom Marlow Memorial Scholarship in Agriculture
Dr. James D. Marsh Memorial Scholarship
Marsteller Foundation Fund
David & Beverly Martin Scholarship
3 M/Martin Scholarship
Martin-Marietta Freshman Scholarship
Martin-Marietta Scholarships
Martindale Athletic Scholarship
James E. Martinson Memorial Scholarship Fund
Mason Contractor Association of Chattanooga Scholarship
Masonry Institute of Tennessee Merit Scholarship in Architecture
Mathematics Graduate Student Teaching Award
Math/Phy MU EPSILON Scholarship
Materials Joining Scholarship Fellowship
Mrs. J. Harvey Mathes DAR Award
Matthews-Jeter Scholarship Endowment
Maury County Farm Bureau Agriculture Scholarship
Harrylette H. Maxwell College Scholarship
MBA Student Award
MBA Excellence Fund Scholarship
Raymond & Sarah McAnally Fund
Edgar Wyman McCall Scholarship Fund
A.E. McClanahan Agriculture Memorial Scholarship
Charles J. McClung Prize
Louise Carr McClure Scholarship Endowment
W.K. McClure Fund World Affairs
S. Lloyd McCulloch Scholarship Fund
F. Dwight McDonald Memorial Scholarship
William G. McDonough Jr. Award Fund
McDowell Athletic Scholarship Fund
Gene McEver Athletic Scholarship Fund
Tom McFerrin Scholarship
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
Mechanical & Aerospace Engineering General Scholarship Fund
E.J. Meeman International Com Fellowship
Meigs County Agricultural Extension Scholarship
A.D. Melaven-Rhenium Scholarship Fund
Memphis Botanic Garden Foundation
Memphis Children's Museum Scholarship
Memphis Light Gas & Water - MESP
J.T. Mengel Forestry Scholarship
Mercier Company Scholarship Fund in Vet Med
Brenda Ney Morgan Professional Development Award
MTVMA Scholarship Fund
Michalopoulos Memorial Scholarship
Mike Milburn Memorial Scholarship Fund - TVA & I
J.T. Miles Food Tech and Science Scholarship Fund
John M. & Grace G. Miller Fellowship
Carl W. Miller Memorial Student Assistance Fund
Charles Miller Award of Excellence in Civil Advocacy
Charles Miller Clinical Achievement Award
Evelyn Miller Scholarship Fund
John W. Minchey Scholarship Endowment Fund
Minority Engineering Program
Minority Scholarship in Accounting
Minority Student Scholarship in Finance
Minority Scholarship in Forestry
Minority Student Scholarship Fund
Minority Undergraduate Scholarship (THEC)
Minority Engineering Scholarship Program
Miss American Co-Ed Scholarship
T.A. Mitchell Scholarship Fund
Arne Y. and Herman L. Modlin, Jr. Scholarship Fund
Mobil Research and Development Fund
Susan L. Moeller Memorial Scholarship Fund
Phillips W. Moffitt Scholarship Fund
Chester A. Molley Memorial Scholarship Fund
Monsanto Fellowship in Botany
Billy M. & Sylvia F. Moore Scholarship Fund
John B. Moore III Memorial Scholarship Fund
Fulton B. Moore III Memorial Scholarship Fund
George C. Moore Co. Scholarship Fund
Grace Moore Scholarship Fund
The James L. Moore, Jr., Golf Scholarship For Women's Athletics
Kathy Palco Memorial Scholarship Award
Mr. & Mrs. Marcus Parker Agricultural Scholarship
Parkey Memorial Scholarship
Dr. Larry Parks Agricultural Scholarship
Pasqua Excellence Freshman Scholarship
Pella Traveling Scholarship
Mike R. Pellicer Scholarship Fund
William Britt Pennebaker Scholarship
Frank "Bob" & Stella Percy Scholarship
Angie Warren Perkins Prize Fund
Carl Perry Music Scholarship
Carl I. Peterson Scholarship Fund
Pettway Athletic Scholarship
P&G Minority Scholarship in Chemical Engineering
Phi Kappa Lambda Music Scholarship
Philosophy Department Scholarship Fund
Phillips Petroleum Transportation Scholarship
Phyllis Company Scholarship Fund
Pilot Oil Corporation Minority Students Scholarship in Finance
Piper & Lewis Scholarship in Human Ecology
Phi Mu Epsilon Scholarship
Donald P. & Bettie J. Pitts Mechanical and Aerospace Engineering Scholarship Endowment Fund
James L. Pointer Agricultural Scholarship
Mrs. Yuen Leung Mo-Tak Memorial Scholarship
C&P Mountcastle, Jr. Band Scholarship
P&C Mountcastle Athletic Scholarship Fund
R. Mountcastle Memorial Law Scholarship Fund
Music Department Scholarship
Music Department Scholarship-Cellist
MXDesign Scholarship Fund
NAC-Minorities in Engineering Scholarship Fund
Jesse B. Native Scholarship Fund
NAP Marketing Scholarship Fund
Earl W. Napier Memorial Scholarship Fund
Nashville Banner Scholarship Fund
Nashville Kernel Club Scholarship Memorial National Association of Women in Construction Scholarship Fund
Lindsey Nelson Scholarship Endowment
Thomas P. Nelson, III Memorial Scholarship
Len B. & Nancy Lois Neubert Scholarship
Earl Nick Newton Memorial Scholarship
Jake and Dorothy Newman Scholarship Fund
General Bob Neyland Fund
Robert R. Neyland Academic Scholarship
NFBA Education Foundation Scholarship
NFS Memorial and Honors Scholarship
J.H. Nicholson Memorial Scholarship Fund
Harry Nides Scholarship Fund
A.H. Nielsen College Scholars Scholarship
Nippendonco Freshman Scholarship
Mr. & Mrs. Seward Norris Athletic Scholarship
William B. Nowling Athletic Fund
Randall K. Nutt Scholarship Fund
Mickey O'Brien Scholarship
Francis "Red" O'Donnell Scholarship Fund
John Dail Ogle Scholarship
James F. Omer Scholarship Fund
ONC Steering Committee Scholarship Fund
Opening Night Club Steering Committee Scholarship Fund
Ornamental Horticulture and Landscape Design Club Scholarship
Ornamental Horticulture and Landscape Design Scholarship
PMI Sigma Lambda Mu Scholarship
Kathy Palco Memorial Scholarship Award
Mr. & Mrs. Marcus Parker Agricultural Scholarship
Parkey Memorial Scholarship
Dr. Larry Parks Agricultural Scholarship
Pasqua Excellence Freshman Scholarship
Pella Traveling Scholarship
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Philips Petroleum Transportation Scholarship
Philosophy Department Scholarship Fund
Phillips Company Scholarship Fund
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Donald P. & Bettie J. Pitts Mechanical and Aerospace Engineering Scholarship Fund
Endowment Fund
James L. Pointer Agricultural Scholarship
Plaute Group, Inc. Scholarship
Polk County Agricultural Extension Scholarship
Marcelia Pollard Memorial Scholarship
William Pollard Memorial Scholarship
Joe Frank Porter Scholarship
William Walter Potter M.D. Athletic Scholarship
Powell High School Alumni Association Scholarship
Frank B. Powers Scholarship
Frank B. Powers Scholarship Fund
James Powers III Clinical Award of Excellence School of Architecture Scholarship
William Stokely Foundation MBA Fellowship
Virginia Tharp Raulston Scholarship Fund
Tom Siler Scholarship Fund
Tennessee Farm Bureau Leadership Rader Merit Scholarship for Composers
Charles Francis Shultz Scholarship Scholarship
Racheff Scholarship and Fellowship in Metals
L.R. Shobe Scholarship Fund
Tennessee Council of Cooperative Agricultural Assistance Corporations
Ralph F. Quarles Scholarship Endowment
Jane Temple Memorial Scholarship Fund
P. David Qualls Memorial Fund
Shelby Accounting Career Scholarship
TEDP Scholarship in Business
Purity Dairies Food Technology and Science Endowment in Accounting
Psychiatric Services
The Quaker Oats Minority Scholarship Fund
P. David Qualls Memorial Fund
Ralph F. Quarles Scholarship
Janenne Jones Quillen Memorial Scholarship
Rachell Scholarship and Fellowship in Ornamental Horticulture
Rachell Scholarship and Fellowship in Metals
Rader Merit Scholarship for Composers
Nina V. Ratner Memorial Scholarship Fund
W.F. "Rexy" Raney Scholarship Endowment
Nina V. Ratner Memorial Scholarship
Virginia Tharp Raulston Scholarship Fund Endowment
William T. Ray Scholars and Fellowship
Alma and Hal Reagan Architecture Scholarship
Alma-Hal Reagan MBA Fellowship
Beville Hal Reagan Animal Science Scholarship
Reeder-Siler Scholarship Endowment Fund
Re-Entry Women’s Fellowship Fund
Rehabilitation Corp of Tennessee Scholarship
Rehabilitation Corp of Tennessee in Vet Med
R.J. Reynolds Tobacco Co. Scholarship for Excellence in Agriculture
S. Herbert Rhea Endowment Fund
J. Clark Rhodes Fellowship Fund
Malcolm Rice Architecture Award
Ridgeview PHC Inc.
Stephen D. Rimmer Memorial Scholarship Fund
Chris Ritts Scholarship Fund
Roane County Home Demo Scholarship
Judson Hall Robertson Award
Victor M. Robertson Award Fund
B. Wyatt & H. Robinson Memorial Scholarship Fund
Thomas & Emma Robinson Scholarship
Roddy Upperclass Scholarships
Fred M. Roddy Scholarship Fund
Fred M. Roddy Merit Scholarship
Rohm & Haas Tennessee - MESF
King W. Rogers, Jr. Scholarship
Ralph & Louise Rogers MBA Fellowship
Douglas V. Roseberry Memorial Fund
Callie Wood Ross Scholarship
Touche Ross and Company Scholarship
Rush Strong Medals
The Robert and Margaret Russell Scholarship Fund
Cynthia A. Russell Memorial Scholarship Fund
Dr. J.E. Salubsley Fund Vet Med
Rhonda Karen Sasser Scholarship
Jane Savage Scholar Fund
Schneider Honors Award Vet Med
Scholars Bowl Scholarship
School of Architecture Scholarship
School of Social Work Alumni Association Scholarship
Cooper D. Schmitt Mathematics
Scottish Rite Choral Arts Scholarship
Berdonette Schmitt Scholarship
Scripps-Howard Emie Pyle Memorial
Alfred Sennier Athletic Scholarship
Scully Family Scholarship Fund
Dr. Roy L. Seals Athletic Scholarship
Ruth Sellards Tribute Award Fund
Emile Seilaz Scholarship Fund
Louis & Lydla Seilaz Memorial Scholarship
Louise & Alvin Seilaz Scholarship Fund
Mary Louise Seilaz Scholarship
1968 Senior Class Scholarship
Sevier County Scholarship in Organ
Sevier County Swim Scholarship
Richard Sexton Rugby Club Scholarship
Arron J. Shanner Scholarship in Botany
Michael Shaffer Memorial Fellowship Endowment in Accounting
Dr. & Mrs. David L. Shea Scholarship Fund
Sheeler Writing and Research Award
Sheila Accounting Career Scholarship Endowment
Shell Assist Grants - Business
Shell Oil Company Fund - Business Undergraduate
L.R. Shobe Scholarship Fund
Charles Francis Shultz Scholarship Endowment
Siegel Bible Student Development Fund
Sigma Alpha Iota Sorority Scholarship
Tom Siler Scholarship Fund
Tom Siler Scholarship in Communication
Col. Lawrence S. Simcox Memorial Scholarship
Howard Simmons Agriculture Scholarship Fund
Charles S. Simms Scholarship Fund
Carlos C. & Winnie Simpson Scholarship
Irving G. Simpson Award Fund
Robert & Jean Sinclair Scholarship Award
The Elizabeth Z. Smith Scholarship
Linda McIntosh Smith Scholarship
Charles D. Snows Scholarship
John Milton Snoddy Scholarship Fund
Dean William T. Snyder Engineering Scholarship Fund
Social Work Forward to 50 Scholarship
Social Work Alumni Scholarship
Society of Professional Journalists Scholarship Fund
Soils Judging Fund
Southern Title Insurance Company Real Property Prize
W.H.H. Southern Memorial Law Scholarship
Southern-Penns Endowment in Business
Richard Sowell Memorial Scholarship
Andrew W. & Marcia K. Spickard Engineering Scholarship
Avron Spiro, Jr. Advertising Scholarship
Casuar & Edith Stair Music Education Fund
A.E. Staley Mfg. Co. Ph.D. Fellowships
Luther T. Stanley Athletic Scholarship Fund
E. Eugene Stansbury Fund
Sadie K. Stanton Scholarship
The American Society of Animal Science awards scholarship medals and embossed certificates to sophomore, junior, senior and graduate 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 Bridle Club recognizes students in Animal Science who are successful in their academic program, have made unusual contributions to the club’s program, and show evidence of leadership in their chosen field. Junior and Senior recipients may be entered in National Competition precipitating other awards.

The Deese W. Coley Memorial Stockman’s Award. Presented by the Coley family in memory of Mr. Dee Coley, master stockman and community leader. Award made to an active senior Block & Bridle member with interest in the affairs and activities of the Animal Science Department, and a member of the Meats and/or Livestock Evaluation and Judging Teams.

The M. Jacob Animal Husbandry Award. This award originally sponsored by the J.B. Madden family to honor Dr. M. Jacobs who was both head of the Animal Science Department and later Dean of the College of Agriculture. Presented to a senior in Animal Science based on scholarship and overall animal production ability.

The Kentucky-Tennessee Society of American Foresters Scholarship. Awarded annually to the junior or senior forestry student with the highest scholastic average. The award is in cash and a framed certificate.

The Student-Faculty Council Awards. Each year the College of Agricultural Sciences and Natural Resources Student-Faculty Council presents plaques to four seniors, three juniors, two sophomores and one freshman student in the college judged to be outstanding. Selection is based on scholarship, character, and demonstrated leadership ability. Plaques are also presented to the two seniors in each class with the highest scholastic averages.

The School of Architecture Ray and Mary Evelyn Andrus Award. Awarded for excellence in design.

Nell Mann Brown Scholarship in Architecture. Awarded to outstanding student.

Hubert Bebb Scholarship. Awarded to outstanding design student at end of second year.

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

Goodstein & Assoc. Arch. Inc. Architects and Planners Technical Draftsmanship Award. Awarded each Fall to a fourth year student excelling in draftsmanship.

King and Johnson, Inc. Scholarship. Awarded annually to a 3rd, 4th, or 5th year student from Tennessee and a graduate of a Tennessee high school. Student must show promise in chosen field and demonstrate financial need. Recipient of scholarship will also have opportunity for employment with King and Johnson.

M.X. Design Minority Scholarship. Awarded each Spring to outstanding freshman minority student.

National Association of Women in Construction Scholarship. Awarded every other year to an outstanding third, fourth or fifth year student from East Tennessee.
Pella Traveling Scholarship. Awarded to outstanding senior student majoring in civil engineering.

Alma and Hai Reagan Scholarships. Funded annually by the Tennessee Foundation for Architecture for third, fourth or fifth year students from East Tennessee majoring in Logistics or Transportation.

Ed Meiers Memorial Scholarship. Funded by the Tennessee Foundation for Architecture for third, fourth or fifth year student from East Tennessee majoring in Logistics.

Howell C. Curtis Memorial Scholarship. Awarded to a student majoring in Marketing and Transportation.

Delta Sigma Pi Scholarship Key. Given to a male student majoring in Logistics.

David Chambers Memorial Scholarship. Awarded to a student majoring in Marketing and Transportation.

James H. Healy Scholarship. Established by participants in the Tennessee Executive Development Program.

Liston M. Fox Memorial Scholarships. Available to full-time minority students in the College of Business Administration.

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

Phillips Consumer Electronics Marketing Scholarship. Recipient must be a junior or majoring in Marketing.

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

Emile Seilaz. Awarded to a graduate of Dyer County High School.

Shell Companies Foundation Scholarship/Transportation. Awarded to students majoring in Logistics.

James M. Cranor, III Scholarship. Awarded to an entering freshman majoring in Accounting.

Robert A. Culver Scholarship. Awarded to a business student who exhibits outstanding academic achievement.

Howell C. Curtis Memorial Scholarship. Awarded to a student majoring in Logistics.

Alpha Kappa Psi Scholarship. Professional business fraternity, awards to the male student pursuing a degree in business administration and who has attained the highest grade point averages.

James M. and Suzanne W. Larsen Phi Kappa Phi Scholarship Award. Awarded to the student 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.

S. Lloyd McCulloch. Awarded annually to a business student.

Anne Y. and Herman L. Modlin. Awarded to a new freshman.

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

Thomas P. Nelson, III. Awarded to a full-time undergraduate student.

Jade R. and Dorothy Newman. Student must be majoring in Logistics.

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

Procter & Gamble Minority Scholarship. Recipient must be a minority student.

Quaker Oats Minority Scholarship. Awarded to a rising junior or senior majoring in Sawyer.

Phillips Consumer Electronics Marketing Scholarship. Recipient must be a junior or majoring in Marketing.

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

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

Pilot Oil Corp. Awarded to a full-time minority student intending to major in Finance.

King W. Rogers. Awarded to a graduate of Dyer County High School.

Emile Seilaz. Recipient must maintain a 2.50 average.

Shell Companies Foundation Scholarship/Transportation. Awarded to students majoring in Logistics.

William B. Stokely, Jr. Primary consideration is given to students from Cocke, Monroe or Loudon counties.

Dean Frank B. Ward Memorial Scholarship. Awarded annually to an Economics major.

Ira A. Watson. Recipient must be a junior majoring in Marketing.

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

Daniel B. Wexler. Primary consideration is given to students from Washington county.

Zeta Lambda Chapter of Alpha Kappa Psi. Professional business fraternity, awards 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.

COLLEGE OF COMMUNICATIONS

Advertising Scholarship Fund. Given to one or more juniors or seniors in the Department of Advertising based on academic achievement and professional promise.

James H. Armisted Scholarship. Given to an outstanding junior or senior in the College of Journalism who has an interest in news-editorial journalism.

Karl and Madira Bickel Scholarships. Freshman, upperclass, master's and doctoral scholarships. Open to all students showing academic performance (3.5 or better), professional promise, and need.

Amanda M. Bonham Journalism Award. Given to an outstanding entering freshman.

Frederick T. Bonham Journalism Award. Given to an outstanding entering freshman.

Tutt and Elizabeth Bradford Scholarship in Advertising. Awarded to juniors or seniors majoring in advertising.

Greater Knoxville Advertising Club Scholarship Fund. Awarded to an outstanding senior student in the Department of Advertising.

Greater Knoxville Advertising Club Scholarship Fund. Awarded to an outstanding senior student in the Department of Advertising.

Julian Harris Memorial Scholarship. Given to an outstanding junior in the College of Journalism who has an interest in a career as a public relations reporter.

Michael Steven Head Memorial Scholarship. Given to one or more outstanding undergraduates in the Department of Advertising.

Charles B. Davis Scholarship. Given to an outstanding junior in the College of Journalism who has an interest in a career in public relations.

John P. Hart Scholarship in Broadcasting. Given to a junior in the Department of Broadcasting who has demonstrated outstanding professional promise.

Michael Steven Head Memorial Scholarship. Given to a non-traditional student from a small high school based on financial need.

Darrel W. Holt Scholarship. Given to one or more seniors in the Department of Broadcasting who have demonstrated outstanding academic achievement and professional promise.

Donnell G. Hillman Scholarship. Given to an outstanding junior or senior in the College of Communications who displays outstanding professional promise.

Richard Joel Scholarship. Given to a student in Advertising based on professional promise and academic standing.

Sally Holder Johnson Memorial Scholarship. Given to students who had begun study at the University of Tennessee or another institution and have chosen to enter the University of Tennessee after a period of time to pursue studies in the College of Communications and choose to pursue a graduate degree.
Journalism Faculty Scholarship. Given to an outstanding news-editorial and public relations major in the School of Journalism.

Neltie D. Kenyon Journalism Scholarship. Given to an outstanding junior in the School of Journalism who has an interest in a career in newspaper work.

The Knoxville News-Sentinel Journalism Scholarship. Given to one or more juniors or seniors in the School of Journalism.

The John M. Lain Public Relations Award. Given to an outstanding junior or senior in the School of Journalism who has an interest in a career in public relations.

Lamar Outdoor Company Scholarship. Given to an outstanding student in the Department of Advertising.

Kelly Leiter Scholarship. Given to an outstanding junior or senior in the School of Journalism who has an interest in newspaper graphic arts.

John M. Lain Public Relations Award. Given to an outstanding junior or senior in the School of Journalism who has an interest in a career in public relations.

Lamar Outdoor Company Scholarship. Given to an outstanding student in the Department of Advertising.

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

Memphis Gridiron Show Scholarship. Given to upperclassmen from the Shelby County area who are news-editorial majors from the sponsors of the annual gridiron show.

Chester A. Molley Memorial Scholarship. Given to an outstanding member of the staff of The Daily Beacon.

Lindsey Newton Scholarship. Given to an outstanding junior in the Department of Broadcasting with an interest in sports broadcasting.

Outstanding Advertising Student Award. Given to an outstanding graduate in Department of Advertising.

The Francis "Red" O'Donnell Scholarship. Given to an outstanding freshman who has graduated from an accredited Tennessee High School and who is committed to a career in print journalism.

Frank B. Powers Scholarship. Given by Scripps Howard Newspapers to one or more outstanding undergraduate students in the Department of Advertising.

Ernie Pyle Award. Given to the outstanding senior in the news-editorial sequence in the School of Journalism.

Sammie Lynn Puetz Award. Given to outstanding student in the public relations sequence in the School of Journalism.

Tom Siler Scholarship. Given to an outstanding junior or senior in the School of Journalism who has an interest in a career in news-editorial journalism.

Irving G. Simpson Award. Given to an outstanding junior or senior in the Department of Broadcasting.

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

Society of Professional Journalists Scholarships. Given by East Tennessee professional chapter of SPJ to news-editorial journalism or broadcasting news/public affairs majors. Funds are raised by the chapter's annual Front Page Ball.

Escar Thompson Memorial Scholarship. Given to a junior or senior in the School of Journalism who has exhibited outstanding professional promise.

The Charles P. Tombras Sr. Scholarship. Given to a student majoring in advertising who demonstrates strong professional promise and who has an interest in the creative function in advertising.

Tri-Cities Metro Advertising Federation Scholarship. Given to one or more outstanding students in the Department of Advertising.

Willis C. Tucker Scholarship Award. Given by Society of Professional Journalists.

Society of Professional Journalists Scholarship. Given to one or more outstanding journalism students.

Horace V. Wells Jr. Scholarship. Given to an outstanding junior or senior in the School of Journalism who has a special interest in a career in community journalism.

Whittle Minority Scholarships in Print Journalism. Given to five entering freshmen each year who have high academic achievement and experience in scholastic journalism in Tennessee high schools.

James Wolfkkiel Journalism Scholarship. Given to a journalism major interested in a career in newspaper graphic arts.

COLLEGE OF EDUCATION

Alcoa Foundation Scholarship. Awarded to deserving initial teacher licensure students in the field of Education.

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

J. Clayton Arnold Teacher Training Schedule. Awarded to deserving initial teacher licensure students from southern states.

Max B. & Lalla B. Armstrong Scholarship. Awarded to deserving initial teacher licensure students from southern states.

Paul C. Burns Memorial Scholarship. Awarded to deserving initial teacher licensure students in Elementary Education.

College of Education Alumni Scholarship Fund. Awarded to deserving initial teacher licensure students in Elementary Education.

Horace V. Wells Jr. Scholarship. Given to an outstanding junior or senior in the School of Journalism who has a special interest in a career in community journalism.

Whittle Minority Scholarships in Print Journalism. Given to five entering freshmen each year who have high academic achievement and experience in scholastic journalism in Tennessee high schools.

James Wolfkkiel Journalism Scholarship. Given to a journalism major interested in a career in newspaper graphic arts.

Rosalie Lockenbach Scholarship. Awarded to deserving students in Technological Education.

Dr. James D. Marsh Memorial Scholarship Fund. Awarded to deserving junior or senior initial teacher licensure students in Technology Education.

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

Martha L. Peters Scholar Scholarship. Awarded to deserving student in Leisure Studies.

Earle Rick Newton Memorial Scholarship. Awarded to deserving students who are admitted to the Teacher Education Program in Social Sciences Education who are in their fourth or fifth year.

Charles M. Peccolo Scholarship. Awarded to deserving students in the teacher education program.

Ralph F. Quarles Scholarship. Awarded to deserving graduate students in Educational Leadership.

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

Dr. & Mrs. David L. Shea Scholarship Excellence in Dance. Awarded to deserving junior or senior students in Dance.

Cesar and Edith Stair Music Education Fund. Awarded to junior or senior initial teacher licensure students in Music Education.

Dr. William B. Stokely, Jr. Scholarship Endowment Fund. Awarded to deserving initial teacher licensure. students from Rhea, Cocke, Monroe, and Loudon Counties.

R.R. Vance Scholarship Fund. Awarded to deserving initial teacher licensure students from Tennessee.

Charles Whiteside Memorial Scholarship Fund. Awarded to deserving initial teacher licensure students.

COLLEGE OF ENGINEERING

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 made 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. Name engraved on permanent plaque. Also certificate.

American Institute of Chemical Engineers Award. Given to chemical engineering junior who attained highest scholastic average in first two years. Certificate and handbook.

American Society of Civil Engineers Donald Mattern Award. Given to civil engineering student for outstanding contribution to the department.

American Society of Mechanical Engineers. Award and certificate presented each year to a member of the student section for outstanding contribution to the department and the University.

Association of Textile Industrial Engineers Award. A cash one-year award, based on need, given by the Department of Industrial Engineering to a senior.
Joel F. Bailey Award. Award by Tennessee Tau Eta Chapter of Pi Tau Sigma to the student in mechanical and aerospace engineering graduating with the highest scholastic record.

Albert H. Cooper Memorial Scholarship Award. Annual award by the Alpha Chi Sigma Educational Foundation to an outstanding chemical engineering senior. Certificate and cash award.

Dow Outstanding Junior Award. Annual award by the Dow Chemical Company to an outstanding junior in chemical engineering. Cash scholarship and name inscribed on permanent plaque.

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.

Kenneth M. Elliott Chemical Engineering Scholarship. Awarded annually to a chemical engineering student who demonstrates both academic ability and leadership.

Homer F. Johnson Chemical Engineering Scholarship. Awarded annually to an outstanding incoming chemical engineering freshman. Covers in-state fees for freshman year.

Materials Science and Engineering Outstanding Senior Award. Given to student with best combination of academic achievement and potential for leadership in the field. Name on permanent departmental plaque.

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

Burton B. Simcox Chemical Engineering Scholarship. Awarded annually to an outstanding incoming chemical engineering freshman. Covers in-state fees for freshman year.

Tau Beta Pi Outstanding Sophomore Award. An annual award by the Tennessee Alpha Chapter of Tau Beta Pi to an outstanding sophomore in chemical engineering who has demonstrated outstanding academic performance and service. Plaque, cash award.

J. Mac Twomey 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.

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

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

College of Human Ecology

Catherine Burton Chi Omega Scholarship. Awarded to junior women.

Campbell County Farm Bureau Scholarship. Awarded to a student in Human Ecology or Agriculture.

Dorothea H. Barton Scholarship. Awarded to an outstanding junior in all majors except hotel and restaurant administration.

Dottie Sanders Scholarship. Awarded to an interior design student.

D.W. Proffitt Foundation Scholarship. Awarded to merchandising majors.

Edward C. and Catherine D. Cifers Scholarship. Awarded to students in all majors.

Frank and Ruth Liggett DeFries Scholarship. Awarded to a human ecology student annually.

Fred Hurst Scholarship. Awarded to students in all majors.

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

Jami High Scholarship. Awarded to interior design students.

Jane Savage Scholarship. Awarded to nutrition students.

Jefferson County Cooperative Scholarship in Agriculture. Shared with Agriculture.

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

Joseph K. Hach Family Scholarship. Awarded to hotel and restaurant administration students.

Kappa Omicron Nu. Awarded by the home economics honor fraternity.

Knoxville A la Carte Scholarship. Awarded to hotel and restaurant administration students.

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

Louis Sr. and Lydia B. Sellaz Memorial Scholarship. Awarded to child and family studies major.

Nellie Crooks Award. Award to an outstanding student.

Nutrition Memorial & Honor Scholarship. Travel award for department majors.

Shelby Williams Scholarship. Awarded to interior design and hotel and restaurant administration students; preference given to students from Lakeway (Morristown) area; may be awarded to out-of-state students.

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

Sylvia and Bill Moore Scholarship. Awarded to a senior in child and family studies.

Tennessee Rehabilitation Corporation Scholarships. Ten awarded to college majors who have need and who are citizens of Tennessee from a rural area and who have an agricultural background.

University of Tennessee General Scholarships. Variable.

College of Liberal Arts

John M. Allen Mathematics Prize. Medal to outstanding freshman mathematics student. Prize is determined by competitive examination.

Bain-Sigetti 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.

Bolognigis Award. Plaque, to the outstanding biology senior.

Calvin A. Buehrer Chemistry Scholarship. Awarded to an outstanding undergraduate chemistry major who plans to pursue chemistry as a career.

Eleonora B. 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.

James A. Cooley Mathematics Scholarship. Given to a mathematics major. Based on scholastic achievement and financial need. Special consideration for students interested in mathematics education.

Dorothea and Edgar D. Eaves Outstanding Teaching Award and Summer Fellowship Awards. Awarded each year to the GTA 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 GTA in mathematics who is named the outstanding teacher of the year in his or her group. One or more awards are made to qualified high school teachers who wish to continue their training in mathematics by attending summer school at UT, Knoxville.

Arnett A. Elliott Award. Established by the Department of Political Science to honor Arnett A. Elliott and promote scholarship in Political Theory. This award or scholarship is given to undergraduates for distinguished performance in Political Theory.

James O. and Minnie Elliott Memorial Scholarship. For "deserving and high ranking students" in any branch of Political Science.

Senior Greek Prize. Established by friends of the classics. Cash award, to member of senior Greek class showing greatest proficiency in the course.

Maud Calloway Hays Scholarship. Variable scholarship to senior history major with special interest in U. S. history.

History Department Scholarship. Given to a history major with financial need.

John C. Hodges Scholarships. Each year, ten of the best English majors earn Hodges Merit Scholarships, which pay full tuition. One of these is for an incoming freshman, two are for sophomores, three for juniors, and four for seniors. Applications are not accepted; selection is made by a departmental committee on the basis of superior academic performance in English.

Italian Studies Award. Established by Italian division of Department of Romance Languages. Cash award to outstanding student in upper-division courses in Italian.

Knickerbocker Poetry Prize. For excellence in writing English poetry. Founded by the late Stephen L. Mooney in honor of a former head of the English department.

Senior Latin Foundation Prize. Established by friends of the classics. Cash award, to member of senior Latin class showing greatest proficiency in the course.
Lucille and Herbert Lee Mathematics
Scholarships. Given to mathematics majors
for academic excellence.

Charles T. McClung Prizes. First and
second cash prizes to junior or senior for
excellence in composition and declamation.
Subjects are set by the Department of Speech
Communication.

Louise Carr McClure Scholarship
Established for undergraduate students in the
Hu-manities with preference to Philosophy
majors.

Mrs. J. Harvey Mathis Tennessee DAR
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 term to outstanding
students.

Judson H. Robertson Award in Analyti-
cal 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.

Berdonette Schmitt History Scholar-
ships. Two scholarships for academic
excellence and one based on financial need.
History majors only.

Cooper D. Schmitt Scholarships. Given
to mathematics majors for academic excel-
cence.

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

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

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

Graduate School of Social Work.
Ruth Sellards Tribute Award Fund.
Annual stipend for outstanding achievement.

COLLEGE OF NURSING

Susan Moellar Scholarship. Awarded
each year to a senior student having a GPA of
3.0 or better in all nursing courses.

UT Hospital Auxiliary Nursing Scholar-
ship. Awarded each year to either a junior or
senior student. It is based primarily on
financial need and preference is given to in-
state students.

Knoxville Academy of Medicine Auxiliary
Scholarship. Available to junior and senior
students with a major in nursing and a
minimum GPA of 2.5. Based on need.

Knoxville Orthopedic Clinic Scholarship.
Awarded annually to a senior nursing student
with a strong academic background, well
developed clinical skills, and a demonstrated
interest in orthopedic or rehabilitation nursing.

Dale H. Goodfellow Scholarship.
Awarded annually to a senior nursing student
with above average academic performance and
demonstrated excellence in acute care
nursing practice.

Army ROTC Nursing Scholarships and
Air Force ROTC Nursing scholarships are
available through the University of Tennessee
ROTC programs.

Other scholarships are made available
through the university Financial Aid Office.

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
student's academic performance, professional
interest, or the requirements of the particular
society.

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

Alpha Chi Sigma, for chemical engineering
students. Students must have a 3.5 average in
chemistry courses.

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 also may be initiated in the
next year if an appropriate overall average has
been maintained.

Alpha Kappa Psi, Professional business
fraternity for entering freshmen and transfer
students in the College of Business Administra-
tion with a minimum cumulative GPA of 2.75 on
a 4.00 scale.

Alpha Lambda Delta. An academic honor
society for freshmen who have a 3.5 GPA
carrying a full load. The purpose is to
encourage superior scholastic achievement
among students in their first year in institutions
of higher education, to promote intelligent living
and a continued high standard of learning, and
to assist men and women in recognizing and
developing meaningful goals for their roles in
society.

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

Alpha Phi Mu, educational-service
engineers. Prospective members are chosen from
the upper one-third of their graduating class and
must have a minimum cumulative GPA of 3.50.

Alpha Zeta, agricultural fraternity for juniors
and seniors. Prospective members must have
completed the basic agriculture courses with at
least a 3.0. Based on financial need.

Delta Nu 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
students. Prospective members must have
completed courses in business education.
Candidates are required to show evidence of
their scholarship before initiation by presenting
a talk, research abstract, or written paper to the
organization.

Delta Sigma Pi, professional business
fraternity for students enrolled in the College of
Business Administration. A minimum of 30
semester hours of University credit with a
scholastic average of at least 2.5 is required for
initiation.

Delta Theta Phi, for law students.

Eta Kappa Nu, for electrical engineering
students. Members may be selected from
students ranking in the upper one-fourth, or
seniors ranking in the upper one-third of their
respective electrical engineering class.

Eta Sigma Gamma. Open to undergradu-
ate and graduate majors in Health Science/Health
Education with a minimum GPA for undergradu-
ates of 2.5 and graduates of 3.0.

The purpose is to further the professional
competence and dedication of individual
members in and for health science/health
education discipline and the promotion of the
discipline.

Eta Sigma Phi, honor society for students
in classical languages. Membership is open to
students who have attained at least a 3.0
average in Latin or Greek courses.

Gamma Beta Phi, scholastic honor,
educational-service organization open to
students in all fields of study. Prospective
members, usually inducted in the fall and
spring, must have completed 15 hours of
graduate work in business education.

Gamma Delta Alpha, for transportation
students. No one may be initiated in or after
the fall of the graduating year.

Golden Key National Honor Society.
Students of junior status with a cumulative
GPA of 3.5. The purpose is to recognize
outstanding undergraduate scholarship in all
colleges of UTK.

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.

Kappa Delta Pi, honor society for profes-
sionals and students in education. A minimum
of 3.5 grade point average is required. The
society recognizes outstanding contributions to
field of education. Membership is by invitation.

NON-MATRICULATING STUDENTS

American Historical Association Student
Group. Open to junior and senior history
majors only.

Delta Sigma Pi, professional business
fraternity for students enrolled in the College of
Business Administration. A minimum of 30
semester hours of University credit with a
scholastic average of at least 2.5 is required for
initiation.

Delta Theta Phi, for law students.

Eta Kappa Nu, for electrical engineering
students. Members may be selected from
students ranking in the upper one-fourth, or
seniors ranking in the upper one-third of their
respective electrical engineering class.

Eta Sigma Gamma. Open to undergradu-
ate and graduate majors in Health Science/Health
Education with a minimum GPA for undergradu-
ates of 2.5 and graduates of 3.0.

The purpose is to further the professional
competence and dedication of individual
members in and for health science/health
education discipline and the promotion of the
discipline.

Eta Sigma Phi, honor society for students
in classical languages. Membership is open to
students who have attained at least a 3.0
average in Latin or Greek courses.

Gamma Beta Phi, scholastic honor,
educational-service organization open to
students in all fields of study. Prospective
members, usually inducted in the fall and
spring, must have completed 15 hours of
graduate work in business education.

Gamma Delta Alpha, for transportation
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Students of junior status with a cumulative
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until he has acquired a minimum of 9 hours of
industrial education courses with at least a 3.0.

Kappa Delta Pi, honor society for profes-
sionals and students in education. A minimum
of 3.5 grade point average is required. The
society recognizes outstanding contributions to
field of education. Membership is by invitation.
Kappa Omicron Nu. A home economics honor society. Membership is by invitation and based on scholastic achievement. Undergraduate students who have completed 45 semester hours, a minimum GPA of 3.2, and rank in the top 25% of their university class are eligible for membership. Graduate students in the college of Human Ecology who have completed 12 semester hours and have a minimum GPA of 3.5 are also invited to join.

Mortar Board, for senior students. Members are elected from students with a minimum 3.0 average for three years of University studies.

National Slavic Honor Society (Dobro Slovo), 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 Delta Kappa, for junior and senior students. 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 given class. Order of the Coif, for law students.

Omicron Delta Kappa. Students are elected by the current membership, faculty elected by faculty members; junior or senior students in the upper 35% of their class and who possess outstanding leadership credentials.

Order of Omega. Greek honor society for junior/senior members of fraternities or sororities with the minimum of the fraternity GPA. The purpose is to recognize those students who have attained a high standard of leadership in intergroup activities.

Phi Alpha Delta, for law students.

Phi Beta Lambda professional fraternity for students enrolled in the College of Business Administration. Prospective members must be enrolled in at least two hours in the college with a minimum of 2.0 overall average.

Phi Beta Kappa, the oldest national academic honorary society, for liberal arts juniors and seniors who are candidates for either the Bachelor of Arts or the Bachelor of Science degree. GPA varies with number of hours completed; minimum is 3.50. At least 60 hours must have been earned at UT, Knoxville. Students must have completed the second college year course (or equivalent) in a foreign language. Election takes place in October and April. For detailed statement of requirements, inquire in Liberal Arts Student Academic Affairs Office. 218 Ayres Hall.

Phi Delta Kappa, honorary professional fraternity in education connected with approved colleges and universities of graduate rank. Membership is by invitation based on scholastic achievement. Undergraduate students who have completed at least 30 hours in professional forestry courses. When practical, initiates are selected during the junior year to provide the greatest degree of benefit to active membership.

Zeta Lambda Chapter, Alpha Kappa Psi Professional Business Fraternity. All undergraduates majoring or planning to major in business who have a minimum GPA of 2.75 are welcome to pledge Alpha Kappa Psi.
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 UT, Knoxville 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 UT, Knoxville are designed to serve students bringing with them a variety of academic backgrounds and experiences.

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. UT, Knoxville 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 UT, Knoxville. 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 enroll or transfer previous credits to UT, Knoxville.

REQUIREMENTS FOR ADMISSION AS A UT, KNOXVILLE UNDERGRADUATE STUDENT

Anyone interested in attending UT, Knoxville 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.

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/counseling offices and from the Office of Admissions, UT Knoxville, 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 UT, Knoxville programs. In 1991 the freshman class, had an average ACT score of 23.3 or an average SAT of approximately 1000 and a high school average of 3.1 on a 4.0 scale.

A prospective student must have completed at least:
• 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. Students intending to major in the College of Business Administration should also take 3 1/2 years of math including trigonometry and geometry in preparation for the collegiate math requirement.)
• 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 removed during the first two years (60 semester hours) of University work; courses taken to satisfy foreign language deficiencies may be taken only as electives. As of Fall, 1991 one (1) unit of visual or performing art will also be required.

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. Transcripts carried by the student are not acceptable for the admissions file. 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 UT, Knoxville 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.
TRANSFER APPLICANTS
requirements for admission and progression of students who are not ready for admission at the School is carefully designed by stages, and encourages provisional admission at the time obtained from the Admissions Office or from an able score for credit. Information can be obtained from the Admissions Office or from the Liberal Arts Advising Center.

ADMISSION TO THE SCHOOL OF ARCHITECTURE
The School of Architecture grants and encourages provisional admission 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 admission at the time of application should consult with an Architecture advisor to plan a program that will include early required courses. Specific requirements for admission and progression are listed under the School of Architecture.

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 rules described above must apply for admission as a transfer student.

APPLICATION PROCESS:
1. A completed application for admission must be submitted to the Office of Admissions along with the $15 non-refundable application fee.
2. A complete and separate official transcript of each college or university attended should be sent by each institution directly to the Office of Undergraduate Admissions, 320 Student Services Building, UT, Knoxville, Knoxville, TN 37996-0230. Transcripts carried by the student or not directly received from the sending institution are unacceptable (although such documents may be used for advising purposes).
3. Complete high school transcripts should be sent by the high school directly to the Office of Undergraduate Admissions. Transfer students who have not taken the ACT or SAT are not required to do so.

Only those courses in which at least a C was earned shall be eligible for transfer credit. Grades earned at other institutions are used only for admission, course placement and other academic decisions. In order to be considered for admission to UT, Knoxville, a transfer applicant must have a minimum of a 2.0 grade point average (on a 4-point scale) over all college-credit courses considered for transfer credit, and over all courses attempted. Following enrollment at the University, only grades earned in course work at UT, Knoxville will be used in determining continuation standards, graduation requirements and grade point average.

For those students who have not taken the ACT or SAT, admission to UT, Knoxville, will be determined by the Office of Admissions to determine which courses from other institutions are most equivalent to courses at UT, Knoxville. Tuition and fees are $250 per semester and $100 per summer session. Fees are $250 per semester and $100 per summer session.

INTERNATIONAL STUDENT APPLICANTS
International students are subject to various regulations regarding enrollment. Such regulations are normally provided. Fees are $250 per semester and $100 per summer session.

INTERNATIONAL STUDENTS
International students must be enrolled in a program at another accredited institution of higher learning but who desires to enroll temporarily at UT, Knoxville because of

ALL FOREIGN NATIONALS who are not U.S. citizens or permanent residents are subject to various regulations regarding enrollment. Such regulations are normally provided. Fees are $250 per semester and $100 per summer session.

FEES FOR SPONSORED INTERNATIONAL STUDENTS
International students are subject to various regulations regarding enrollment. Such regulations are normally provided. Fees are $250 per semester and $100 per summer session.
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 UT, Knoxville must file an application for admission as a transfer student. Students desiring to attend UT, Knoxville on an interim basis for only one semester must submit an additional form to the Admissions Office. 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 (prerequisites) 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 UT, Knoxville. Freshman re-entry students should submit high school transcript(s) to the Admissions Office. Transfer re-entry students must 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.

Anyone who has attended UT, Knoxville will be considered a re-entry student. Former UT, Knoxville 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 will accept 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. Non-degree students whose native language is not English may be required to submit proof of English language competency as outlined in 3 and under International Student Applicants. 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 UT, Knoxville.

SENIOR AND DISABLED APPLICANTS

Persons 60 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 in college courses for credit if they receive the recommendation and 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 with the junior year of high school, a grade point average of at least 3.50 and have an ACT composite of 26 or above and SAT of 1150 or above. Application is subject to review and approval by the Director of Admissions 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 to which he/she belongs 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 have high aptitude in certain scholastic skills but show other indications of ability to progress through UT, Knoxville 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 for Summer Term.

Any applicant who wishes to be considered for scholarships must be admitted to the university by February 1. Academic Febre February, 1 considered for any form of need-based financial aid must be admitted by February 15.

READMISSION

Submission of an application for readmission is required for a student who has withdrawn from school, who has been absent from a term other than the summer term or who has been academically dismissed. A student who has previously attended as a non-degree student and wants to reenter as a degree seeking student must apply through the Office of Undergraduate Admissions. The Office of Readmissions approves or denies applications for readmissions. A student may be asked to attend an interview with the Director of Readmissions or to appear before the Committee on Readmissions.

A student who has attended another post secondary institution since attending the University must have an official transcript sent to the University. A readmission decision will be based partly on this additional post secondary work.

To register for courses in any other branch, center or division of the University controlled by the Knoxville campus, a student must meet the readmission regulations that govern courses for credit at the Knoxville campus. However, students may register for correspondence courses without being readmitted (with prior permission of their college dean).

A student who has been academically refused or dismissed must apply for readmission no later than six weeks before the term of readmissions begins. A student who has attended another post secondary institution must apply for readmission, and an official transcript from the other school must be received, no later than four weeks before the term of readmissions begins. All other students must apply by the first day of registration check-in of the term of readmission.

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 information recorded on the application for admission and may be reviewed as the result of submission of a subsequent fee classification questionnaire. Notice of classification is sent shortly 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 of 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 Coordinator of Residency Classification, 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 application for reclassification is made to the classification officer on or before the last day of regular registration of that term. Rule 1720-1-100.

Scholarship recipients and children of alumni are treated as students 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, pharmacy, 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, color, religion, national origin, sex, handicap, or veteran status in provision of educational opportunities or employment opportunities and benefits.

UT, Knoxville 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 UT, Knoxville without 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 the 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.

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 UT, Knoxville by the number of hours the student has attempted at UT, Knoxville, not including hours for which grades of I, N, NC, P, S, and W have been received.

UNDERGRADUATE GRADES

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

GRADUES 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.

GRADIES 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 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 grade 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, D, F will be recorded on the student's permanent academic record as S, 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 101, 102, 118, 121, 131, and 132 are offered on a system of A, B+, B, C+, C, I, NC, W grading.

All entering freshman, 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 when computing 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 the student's college dean. Each course is counted only once in determining credit hours for a particular student. A course may not be repeated before a student receives a grade of S. S/NC grading is 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.

**GRADUATE SCHOOL GRADES**

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

- **A** (4 quality points per hour), superior performance
- **A-** (3.5 quality points per hour), better than satisfactory performance
- **B+** (3 quality points per hour), satisfactory performance
- **B** (2.5 quality points per hour), less than satisfactory performance
- **C+** (2 quality points per hour), performance well below the standard expected of graduate students
- **C** (1 quality point per hour), clearly unsatisfactory performance and cannot be used to satisfy degree requirements
- **D** (no quality points), extremely unsatisfactory performance and cannot be used to satisfy degree requirements
- **F** (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 F is not given to enable the student to do additional work to raise a deficient grade. The course will not be used to satisfy degree requirements
- **P** (carries credit hours, but no quality points), S is equivalent to B or better, and NC means no credit earned
- **NP** (carries credit hours, but no 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 semester 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 UT, KNOXVILLE**

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 UT, Knoxville 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 UT, Knoxville, each student is asked to indicate whether he/she has already identified a preferred college or school. Advising centers in each college handle all freshmen and a substantial amount of sophomores, majors, and advisors within the college, working closely with the advising center, guide advanced students. At all levels, course-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 right to consult an advisor for a substantial conference.

Students who are admitted as university students and have not yet declared an interest in a specific 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 UT, Knoxville should review carefully the prescribed curricula of the respective degree-granting units and should consult 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.

Assistant to the dean 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 UT, Knoxville campus and are available to 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 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 OF STUDENTS BY SEMESTER HOURS PASSED**

Undergraduate students are classified according to the following chart, on the basis of semester hours passed.

<table>
<thead>
<tr>
<th>CLASSIFICATION</th>
<th>SEMESTER HOURS PASSED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate</td>
<td>First ........................ 60-99.9</td>
</tr>
<tr>
<td></td>
<td>Second ......................... 60-99.9</td>
</tr>
<tr>
<td></td>
<td>Third ........................... 60-99.9</td>
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<tr>
<td></td>
<td>Fourth .......................... 60-99.9</td>
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<td></td>
<td>Fifth ............................ 120-up</td>
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</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 degree credit is given must meet degree program requirements of the Knoxville campus. In addition, all currently enrolled UT, Knoxville students who intend to take correspondence courses must have the approval of the dean of the college or department 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 UT, Knoxville 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 department 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 prior permission of the dean of the college or with the 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.

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.

Final Exams

Any final exams must be given during the final exam period at the scheduled time, although alternative uses of the scheduled exam period may be designated by the instructor.

Students are not required to take more than two written exams on any day. The instructor(s) on that day must reschedule the student's exam(s) during the exam period. It is the obligation of students with such conflicts to make appropriate arrangements with the instructor at least two weeks prior to the end of the class.

No in-class, written quizzes or tests counting more than 10% of the semester grade may be given during the last five calendar days prior to the study period. Courses that require from this policy are so indicated in the catalog course description.

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 college level which may include the department head and/or dean. The examination will be placed at the beginning of the exam period at the scheduled time, and the senior will receive the degree at the next commencement.

Honor Statement

All facets of the University community have responsibilities associated with the Honor Statement. These responsibilities are unique to each sector of the University community.

Each student is responsible for his/her own personal integrity in academic life. While there is no affirmative duty to report the academic dishonesty of another, each student, given the dictates of his/her own conscience, may choose to act on any violation of the Honor Statement. Each student is responsible for knowing the terms and conditions of the Honor Statement and may include writing the honor statement on the honor statement. Faculty members also have responsibilities which are vital to the success of the Honor Statement and the creation of a climate of academic integrity within the University community. Each faculty member is responsible for defining, in specific terms, guidelines for preserving academic integrity in a course. Included in this definition should be a discussion of the Honor Statement. Faculty members at their discretion may also encourage their students to acknowledge adherence to the Honor Statement by "pledging" all graded class assignments and exams. The form of pledge may include writing the honor statement on the assignment, signing the printed statement, or simply writing "Pledged." Additionally, it will be the responsibility of each faculty member, graduate teaching assistant, and staff member to act on any violation of the Honor Statement. It is also incumbent upon faculty to maintain an atmosphere conducive to academic integrity by insuring that each quiz, test, and exam is adequately proctored.

An essential feature of The University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly nor negligently give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.

Honor Courses

Courses specifically designated as honors 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 years 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.

Inclement Weather

The University of Tennessee, Knoxville, will remain open except in the most severe weather conditions.

The Chancellor may officially close or suspend selected activities of the University because of extreme weather conditions. When a decision to close is reached, campus and local radio and TV stations will be notified so that appropriate announcements may be made.

If the University is officially closed, certain essential activities such as food services, physical plant, police, steam plant, and telephone services will continue to operate. Some facilities such as the library and University Center will, if possible, continue to function as a service to students and faculty. When the University is officially closed, its policy of Days of Administrative Closing will apply for staff exempt and staff non-exempt employees.

In the event of inclement weather when the University remains open, all faculty, administrators, and staff will be expected to make every reasonable effort to maintain their regular work schedules, but are advised to avoid undue
risks in traveling. Employees who anticipate
arriving late or not arriving at all should notify
their immediate supervisors. Employees will
have the option of charging their time off to
annual leave or leave without pay; or, with ap-
proval, they may make up their lost work hours.
Students will be responsible for any
academic work which they miss due to
absences caused by severe weather condi-
tions. It is the individual student's responsibility
to take the initiative to make up any missed
classwork, and it is the instructor's responsibil-
ity to provide a reasonable opportunity for
students to complete assignments or examina-
tions missed due to such absences.

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 depart-
ments the decisions as to which courses, if
any, cannot be passed by proficiency examina-
tions. Proficiency examination credit is
available only for UT, Knoxville students.
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 an S/NC
basis, a student who passes a proficiency
examination and who wishes to have the grade
recorded must request 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 examination and
the use of proficiency examinations to remove
course fees (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, Knoxville 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 proce-
dures, which may include examinations in
general education and/or the major field of
study. The evaluation information obtained
through testing is used solely to improve the
quality of the educational experience for future
generations of students.

SECOND MAJORS AND MINORS
Students may pursue any available minors
or second majors which will be so noted on
their transcripts upon graduation. Students
should understand that meeting the require-
ments of minors or second majors may
lengthen their academic programs and should consult closely with advisers in both areas.

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 15
hours of combined 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 intercolle-
giate 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 specializa-
tion requirements described in the College of
Education section of this catalog.

UNIVERSITY STUDENTS
Many students are undecided about their
major when they enter UT, Knoxville. 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
UT, Knoxville as freshmen may remain as
University Students no longer than through
the completion of their second full term of study.
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. UT,
Knoxville students who fail to progress in a
given major, college, or school are
undecided about the alternative course of study
may continue at UT, Knoxville as University
Students for a maximum of 15 semester hours.

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

WRITING DEFICIENCY
If a student cannot fulfill the requirements
for a course because of an inability to commu-
nicate in writing, the instructor will give the
student an "IW" to designate "incomplete due to
writing". Any student who receives an "IW"
should report to the Writing Center for appro-
riate referral. As with other incompletes, the
student will have one calendar year to make up
the deficiency before the grade automatically
changes to reflect failure for the course.

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 UT, Knoxville other than the summer
term and students who have withdrawn from the program in the previous semester should
register in accordance with the 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 Service before
enrollment.

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 registra-
tion and orientation.

FIRST CLASS MEETING
Students who do not attend the first class
meeting may be dropped from the course un-
less 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. Evening School students may enroll for a maximum of 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.

**MAXIMUM HOURS PER TERM FOR SUMMER**

Undergraduate students may enroll for a maximum of 6 credit hours for each of the first and second sessions. Students may enroll for a maximum of 12 credit hours in any combination of summer session courses. Enrollment that exceeds the maximum must be approved by the dean of the student's college or school.

**AUDITING COURSES**

Students may enter classes as auditors with the consent of the instructor. The instructor will determine the appropriate procedures to drop courses. Graduate students should consult the Graduate Catalog for regulations concerning dropping courses.

**WITHDRAWING FROM THE UNIVERSITY**

Undergraduate students must apply for a withdrawal through the Office of Readmissions and Withdrawal if they wish to leave the University before finishing a term. Evening School undergraduate students apply for a withdrawal through the University Evening School. Students do not drop or add individual courses in The Office of Readmissions and Withdrawal.

If a student applies for a withdrawal from the University before the withdrawal deadline, a withdrawal is granted automatically. The withdrawal deadline is the same as the official drop deadline; please refer to the timetable for the specific dates. A student who withdraws during registration will have no record of enrollment during that term on his or her transcript. Withdrawals after registration and before the withdrawal deadline will be reflected on the transcript by the statement "withdrawn".

Any undergraduate student who withdraws from the University after the drop deadline of 22 calendar days 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 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.

**PREREQUISITE AND COREQUISITE COURSES**

Students must meet prerequisite and corequisite requirements for all courses with such restrictions, and no student shall be permitted to register for those courses in which the requirements have not been met.

**CHANGES IN REGISTRATION**

Students may add courses through the tenth calendar day counted from the beginning of classes. Because of the nature of some courses, permission of the department head or instructor may be required to add a course after classes begin. Students may also, as departmental policies permit, change section of a course through the tenth day. Students must fill out and submit the appropriate form for section changes in order to receive credit for the course.

Students may withdraw from courses without penalty prior to the drop deadline. For all undergraduate students, the drop deadline is 22 calendar days after the beginning of classes. Consult the current timetable for announced calendar dates.

The exceptions to these deadlines are summer and other special sessions. Students should consult the summer term timetable for the appropriate drop deadline.

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 Computer Assisted Registration. 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**

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.

**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 UT, Knoxville may petition for Academic Second Opportunity.

Whether or not Academic Second Opportunity is granted is at the discretion of the Committee on Readmissions. 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, progression, and graduation requirements for specific programs.

**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, Knoxville. (Students bringing transfer work to UTK before Fall 1985 must also have a combined average of at least 2.0 on all UTK work and the work transferred in and posted before Fall, 1985.)

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

(4) Complete the last 30 hours of credit offered for the bachelor's degree in residence 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.

(5) All 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).

(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) Hours completed at the university level to remove high school deficiencies may be used to meet specific curricular requirements. However, hours earned in these courses will not count toward the total hours required for graduation, effectively adding to the total number required for graduation.

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

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

(10) 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.

(11) Comprehensive Test in Major.

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:

"Cum laude" .................. 3.50 through 3.64
"Magna cum laude" ............ 3.65 through 3.79
"Summa cum laude" .......... 3.80 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, Knoxville in order to qualify for honors categories. For those students who entered prior to Fall, 1985, the honors category is based on the average earned at UTK and the transfer work brought in prior to that date, or the average earned at UTK, with the lower of the two averages determining the honors category. Work transferred after Fall, 1985 is not used in computation of the GPA.

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.

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 total hours required for 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 Education
Doctor of Philosophy
Specialist in Education
Master of Accountancy
Master of Arts
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 AGRICULTURAL SCIENCE AND NATURAL RESOURCES
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

COLLEGE OF ARCHITECTURE AND PLANNING
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 Materials Science and Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Nuclear Engineering

COLLEGE OF HUMAN ECOLOGY
Bachelor of Science in Home Economics
Bachelor of Science in Hotel and Restaurant Administration
Bachelor of Science in Human Ecology
Bachelor of Science in Interior Design

COLLEGE OF LAW
Doctor of Jurisprudence

COLLEGE OF LIBERAL ARTS
Bachelor of Arts
Bachelor of Fine Arts
Bachelor of Music
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
THE UNIVERSITY REQUIREMENT
GENERAL EDUCATION

The goal of general education is to develop those basic skills, knowledges, attitudes, and judgments that are necessary for effective citizenship at all levels, from the local to the global; for responsible and fulfilling interactions with others and the environment; and for an enriched personal life. General education may also provide the basis for a major or professional concentration, but its aims are not career-specific. The following areas define the general education program for undergraduate curricula.

**Social Sciences (2 courses)**
Courses used to meet this requirement should describe the structures of society, clarify the dynamics of cognitive and personal development through the life cycle, or analyze social, economic, or political issues.

**Natural Sciences (2 courses)**
Courses used to meet this requirement should describe the world around us using scientific methods and examine natural phenomena in terms of scientific principles. Such courses would normally contain a laboratory or field experience.

**Foreign Languages (2 courses at the intermediate level)**
Courses used to meet this requirement should facilitate the student's ability to use a foreign language as a tool for oral and written communications and reading, including an understanding of the cultures for which it is the native language.

**OR**

**Integrative Studies (2 courses)**
Courses used to meet this requirement may be of three broad types:

a. Multicultural studies, which analyze international dimensions of critical issues or explore elements and values that shape a culture other than the student's own;

b. Interdisciplinary studies, which incorporate the methods and approaches from two or more disciplines to explore major issues; or

c. Disciplinary perspective courses, which explore the potential and limits of a discipline in terms of its impact on individuals and society or examine a student's major course of study from a value-oriented perspective.

All majors and college or school curricular requirements described in this catalog are in accordance with the University Requirement.
<table>
<thead>
<tr>
<th>Terms Commonly Used in Admission and Registration Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Admission</strong></td>
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</tr>
<tr>
<td><strong>Lower division</strong></td>
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<tr>
<td><strong>Upper division</strong></td>
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<tr>
<td><strong>Add and drop deadlines</strong></td>
</tr>
<tr>
<td><strong>Curriculum</strong></td>
</tr>
<tr>
<td><strong>Prerequisite</strong></td>
</tr>
<tr>
<td><strong>Corequisite</strong></td>
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<td><strong>Application deadline</strong></td>
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<td><strong>Admissions file</strong></td>
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<td><strong>Registration</strong></td>
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<tr>
<td><strong>Orientation</strong></td>
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<tr>
<td><strong>Semester hour</strong></td>
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<td><strong>Academic load</strong></td>
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<td><strong>Semester</strong></td>
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<tr>
<td><strong>Quality points</strong></td>
</tr>
<tr>
<td>Term</td>
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<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>Grade point</td>
</tr>
<tr>
<td>AP exam</td>
</tr>
<tr>
<td>CLEP test</td>
</tr>
</tbody>
</table>
|                               | The College-Level Examination Program  
|                               | Box 1821  
|                               | Princeton, NJ 08540  
|                               | Statements on acceptance of CLEP test scores for academic credit are found in this catalog.  
| Proficiency exam               | A test given to an admitted student to evaluate knowledge or skills normally acquired through completion of a particular course. |
| TOEFL test                    | An internationally administered examination measuring ability to use the English language. Required of any international student applying 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  
<p>| English Proficiency Test      | A test taken at UT, Knoxville prior to initial registration (but after admission) by undergraduate international students to determine what English course (if any) must be taken. This local test is in addition to the minimum TOEFL test requirement. |
| University honors courses     | Non-departmental enrichment courses available (by invitation only) from the University Honors Program. |
| Honors course or section      | 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. |
| Evening school                | An administrative unit of the Division of Continuing Education designed to serve students who work during the major portion of the day. |
| Major                         | The principal education interest of a student as represented by one of the curricula offered by the various colleges. 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. |
| Minor                         | 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. |
| Concentration                 | A collection of courses within a major which focuses on a particular subject area. The term “concentration” describes the nature of the set of courses. |
| Option                        | A concentration of elective courses within a major which emphasizes one aspect of the major, chosen by a student according to his/her interests. |
| Accredited                    | 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. |</p>
<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 Agricultural Sciences and Natural Resources</td>
<td>Agriculture (Interdepartmental Unit)</td>
<td></td>
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</tr>
<tr>
<td>Agricultural Biology</td>
<td>Agricultural Economics and Rural Sociology</td>
<td>Agricultural Economics and Business 1</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td>Agricultural and Extension Education</td>
<td>Agricultural Education</td>
<td>Biological Engineering Food Engineering</td>
<td>Bachelor of Science in Agricultural Engineering</td>
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<tr>
<td>Agricultural Engineering</td>
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<tr>
<td>Agricultural Engineering Technology</td>
<td>Agricultural Extension Education</td>
<td>Animal Science 1 Science Technology Production Management Animal Science Curriculum with Pre-Veterinary (3-2)</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td>Entomology and Plant Pathology</td>
<td>Food Technology and Science</td>
<td>Food Technology and Science 1</td>
<td>Bachelor of Science in Agriculture</td>
</tr>
<tr>
<td>Forestry, Wildlife, and Fisheries</td>
<td>Forestry 1 Forest Resource Management Forest Recreation Wood Utilization</td>
<td>Wildlife &amp; Fisheries Science 1</td>
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<tr>
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<td>Ornamental Horticulture and Landscape Design 1</td>
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<tr>
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<td>Plant and Soil Science 1 Environmental Science and Natural Resources</td>
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<tr>
<td>School of Architecture and Planning</td>
<td>School of Architecture</td>
<td>Architecture 1 Architectural Design</td>
<td>Bachelor of Architecture</td>
</tr>
<tr>
<td>College of Business Administration</td>
<td>College of Business Administration 1 Accounting and Business Law</td>
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<td>Business Administration (Interdepartmental Unit)</td>
<td>Business Administration</td>
<td>General Business</td>
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<td>Finance</td>
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<tr>
<td>Management</td>
<td>Management</td>
<td>General Management Human Resources Management International Management Operations Management</td>
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</tbody>
</table>

1 Minor available
2 Minor available for students in other colleges
3 Minor available: Driver and Traffic Education and Health Education
4 Minor available: General Special Education
5 Minor available in Portuguese
<table>
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<tr>
<th>DEPARTMENT (UNIT)</th>
<th>MAJOR</th>
<th>CONCENTRATION WITHIN THE MAJOR</th>
<th>DEGREE</th>
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<tr>
<td>Marketing and Transportation</td>
<td>Logistics and Transportation</td>
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<td>Bachelor of Science in Business Administration</td>
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<td></td>
<td>Marketing</td>
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</tr>
<tr>
<td>Statistics</td>
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<td>Bachelor of Science in Business Administration</td>
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<tr>
<td><strong>College of Communications</strong></td>
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</tr>
<tr>
<td>Advertising</td>
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<td></td>
<td>Bachelor of Science in Communications</td>
</tr>
<tr>
<td>Broadcasting</td>
<td>Broadcasting*</td>
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<td>Bachelor of Science in Communications</td>
</tr>
<tr>
<td>School of Journalism</td>
<td>Journalism*</td>
<td>News-Editorial, Public Relations</td>
<td>Bachelor of Science in Communications</td>
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<tr>
<td><strong>College of Education</strong>*</td>
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<tr>
<td>Art and Music Education</td>
<td>Art Education (Intercollegiate)</td>
<td></td>
<td>Bachelor of Fine Arts</td>
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<td></td>
<td>Music Education (Contact Department of Music, College of Liberal Arts)</td>
<td>Vocal/General Music (Voice Principle), Vocal/General Music (Keyboard Instrument), Instrumental Music</td>
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<td>Continuing Education</td>
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<td>Educational Leadership</td>
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<td>Educational and Counseling</td>
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<tr>
<td>Psychology</td>
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<tr>
<td>Health, Leisure and Safety*</td>
<td>Community Health Education*</td>
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<td>Bachelor of Science in Education</td>
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<td></td>
<td>Recreation and Leisure Studies</td>
<td>Sport Management (Interdisciplinary), Private Commercial Therapeutic</td>
<td>Bachelor of Science in Education</td>
</tr>
<tr>
<td>Human Performance and Sport Studies</td>
<td>Human Performance and Sport Studies</td>
<td>Dance, Exercise Science (Exercise Physiology/Fitness Option), Exercise Science (Kinesiology Option), Movement Sciences (Motor Behavior/Sport Psychology), Movement Sciences (Sociocultural Studies Option), Sport Management (Interdisciplinary), Teaching Concentration</td>
<td>Bachelor of Science in Education</td>
</tr>
<tr>
<td>Special Services Education</td>
<td>Special Education*</td>
<td>Education of the Hearing Impaired, Modified &amp; Comprehensive Speech and Hearing</td>
<td>Bachelor of Science in Education</td>
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<tr>
<td>Metropolitan Services</td>
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<tr>
<td>Technological and Adult Education</td>
<td>Business/Marketing Education</td>
<td>Teaching, Training</td>
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<tr>
<td></td>
<td>Industrial Education</td>
<td>Industrial Training, Technology Education, Trades &amp; Industries</td>
<td>Bachelor of Science in Education</td>
</tr>
</tbody>
</table>

1 Minor available  
2 Minor available for students in other colleges  
3 Minor available: Driver and Traffic Education and Health Education  
4 Minor available: General Special Education  
5 Minor available in Portuguese  
6 Minor concentrations in Elementary Education and Secondary 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>College of Engineering</td>
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<tr>
<td>Basic Engineering</td>
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<tr>
<td>Chemical Engineering</td>
<td>Chemical Engineering</td>
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<td>Bachelor of Science in Chemical Engineering</td>
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<tr>
<td>Civil Engineering</td>
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<td>Bachelor of Science in Civil Engineering</td>
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<tr>
<td>Electrical &amp; Computer Engineering</td>
<td>Electrical Engineering</td>
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<td>Bachelor of Science in Electrical Engineering</td>
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<td>Engineering Physics</td>
<td>Engineering Physics</td>
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<td>Bachelor of Science in Engineering Physics</td>
</tr>
<tr>
<td>Engineering Science and Mechanics</td>
<td>Engineering Science</td>
<td>Biomedical Engineering</td>
<td>Bachelor of Science in Engineering Science</td>
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<tr>
<td>Industrial Engineering</td>
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<td></td>
<td>Bachelor of Science in Industrial Engineering</td>
</tr>
<tr>
<td>Materials Science &amp; Engineering</td>
<td>Materials Science &amp; Engineering</td>
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<td>Bachelor of Science in Materials Science &amp; Engineering</td>
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<tr>
<td>Mechanical &amp; Aerospace Engineering</td>
<td>Aerospace Engineering</td>
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<td>Bachelor of Science in Aerospace Engineering</td>
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<tr>
<td>Mechanical Engineering</td>
<td>Mechanical Engineering</td>
<td></td>
<td>Bachelor of Science in Mechanical Engineering</td>
</tr>
<tr>
<td>Nuclear Engineering</td>
<td>Nuclear Engineering</td>
<td></td>
<td>Bachelor of Science in Nuclear Engineering</td>
</tr>
<tr>
<td>College of Human Ecology</td>
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<tr>
<td>Child and Family Studies</td>
<td>Child and Family Studies¹</td>
<td>Applied Child Development¹, Family and Human Development¹</td>
<td>Bachelor of Science in Human Ecology</td>
</tr>
<tr>
<td>Home Economics Education (Intercollegiate)</td>
<td>Home Economics Education</td>
<td>Family Life Education, Home Economics Teacher Education</td>
<td>Bachelor of Science in Home Economics</td>
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<td>Nutrition</td>
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<tr>
<td>Textiles, Retailing and Interior Design</td>
<td>Interior Design, Retail and Consumer Sciences</td>
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<td>Bachelor of Science in Human Ecology</td>
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<tr>
<td>College of Liberal Arts</td>
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<td>Bachelor of Arts</td>
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<tr>
<td>Anthropology</td>
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<tr>
<td>Art</td>
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<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Art Education (Intercollegiate)</td>
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<td>Bachelor of Fine Arts and Science in Education</td>
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<tr>
<td>Art History</td>
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<td>Bachelor of Arts</td>
</tr>
<tr>
<td>Graphic Design/Illustration</td>
<td>Graphic Design/Illustration</td>
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<td>Bachelor of Fine Arts</td>
</tr>
<tr>
<td>Studio Art</td>
<td>Ceramics, Drawing, Fiber-Fabrics, Inter-Area, Painting, Printmaking, Sculpture, Watercolor</td>
<td></td>
<td>Bachelor of Fine Arts</td>
</tr>
<tr>
<td>Studio Art¹</td>
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<td>Bachelor of Arts</td>
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<tr>
<td>Audiology and Speech Pathology</td>
<td>Audiology</td>
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<tr>
<td>Speech Pathology</td>
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<td>Bachelor of Fine Arts</td>
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</tbody>
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¹Minor available  
²Minor available for students in other colleges  
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⁵Minor available in Portuguese  
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<tbody>
<tr>
<td>Biochemistry</td>
<td>Biochemistry</td>
<td>Cell Biology, Ecology, Organismal and Systems Biology</td>
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<tr>
<td>Biology Consortium</td>
<td>Biology</td>
<td>Cellular and Molecular Botany, Organismal Botany</td>
<td>Bachelor of Science</td>
</tr>
<tr>
<td>Botany</td>
<td>Botany</td>
<td>Cellular and Molecular Botany, Organismal Botany</td>
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<td>Chemistry</td>
<td>Greek, Latin</td>
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<tr>
<td>Classics</td>
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<td>Computer Science</td>
<td>Computer Science</td>
<td>Engineering Technology, Honors</td>
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<td>Economics</td>
<td>Economics</td>
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<tr>
<td>English</td>
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<td>Geography</td>
<td>Honors</td>
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<tr>
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<td>Geology</td>
<td>Engineering Technology, Honors</td>
<td>Bachelor of Science</td>
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<td>Germanic and Slavic Languages</td>
<td>German, Russian</td>
<td>Language and World Business</td>
<td>Bachelor of Arts</td>
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<tr>
<td>History</td>
<td>History</td>
<td>Honors</td>
<td>Bachelor of Arts</td>
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<tr>
<td>Interdisciplinary Programs</td>
<td>Interdisciplinary Programs</td>
<td>Afro-American Studies, American Studies, Ancient Mediterranean Civilizations, Asian Studies, Cinema Studies, Comparative Literature, Latin American Studies, Linguistics, Medieval Studies, Russian &amp; European Studies, Urban Studies, Women's Studies</td>
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<tr>
<td>Mathematics</td>
<td>Mathematics</td>
<td>Honors Program in Mathematics</td>
<td>Bachelor of Science</td>
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<td>Microbiology</td>
<td>Medical Technology</td>
<td>Honors</td>
<td>Bachelor of Science</td>
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<td>Music</td>
<td>Music</td>
<td>Composition, Electronic Music, Multiple Keyboard Instruments (piano, organ, harpsichord), Multiple Woodwind Instruments, Music History and Literature, Music Theory, Organ, Piano, Piano Pedagogy and Literature</td>
<td>Bachelor of Music</td>
</tr>
</tbody>
</table>

1 Minor available
2 Minor available for students in other colleges
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<th>DEGREE</th>
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<tr>
<td>Philosophy</td>
<td>Philosophy</td>
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<td>Pre-Professional Programs</td>
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<td>Pre-Dental, Pre-M.B.A., 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>
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<td>French, Italian, Spanish</td>
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<td>Theatre</td>
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<tr>
<td>College Scholars Program</td>
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*Minor available
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*Minor available in Portuguese
*Minor concentrations in Elementary Education and Secondary Education
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<th>CONCENTRATION WITHIN THE MAJOR</th>
<th>DEGREE</th>
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<td>Statistics'</td>
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<tr>
<td>(Intercollegiate with the College of Business Administration)</td>
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<td>College of Nursing</td>
<td>Nursing</td>
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<td>Bachelor of Science in Nursing</td>
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<tr>
<td>College of Social Work</td>
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<td>Graduate School of Library and Information Science</td>
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<tr>
<td>University Honors</td>
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<tr>
<td>University Studies</td>
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</tbody>
</table>

*Minor available: General Special Education
*Minor available in Portuguese
*Minor concentrations in Elementary Education and Secondary Education
The College of Agricultural Sciences and Natural Resources traces its history to 1869 when the University was designated as Tennessee's Federal Land-Grant Institution. Under the 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 Agricultural Sciences and Natural Resources 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 Agricultural Sciences and Natural Resources 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 UT, Knoxville 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 Agricultural Sciences and Natural Resources. The College provides curricula leading to the degrees of 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 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 forest resource management and forest recreation concentrations are 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 pursuing a program leading to the degree of Bachelor of Science in Agricultural Engineering may select the concentration offered in food engineering. 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 Agricultural Sciences and Natural Resources from other than the UT, Knoxville 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 Agricultural Sciences and Natural Resources. 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.

A minimum grade point average of 2.0 for all courses taken in the department offering the major/concentration is required.

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 sciences, agricultural economics, agricultural engineering, food technology and science, and plant and soil sciences.

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 Agricultural Sciences and Natural Resources 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. Brahim 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 recently provided 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 (90 acres), Cherokee Farm (350 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 (2,260 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 curriculum until the end of the first year. Those who are in doubt will be assigned a special advisor to assist them in exploring agriculture and to guide them in planning the 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 in any of the curricula leading to the degree of Bachelor of Science in Agriculture, in preparation for 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 all the requirements of each curriculum. For this purpose, the advisors of each curriculum should be consulted, the dean of the College of Agricultural Sciences and Natural Resources should be informed, and each advisor should maintain a complete 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 colleges recorded on their transcripts without regard to course overlap among majors and minors. A minor in a department of the College of Agricultural Sciences and Natural Resources requires a minimum of 16 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 UT, Knoxville. Specific requirements are listed by each department offering a minor. Minors offered in the College of Agricultural Sciences and Natural Resources 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) (6)
Computer Science (3) (Or equivalent experience. See specific departmental requirements)
English and Communications (including English Composition (6), Speech (3), and Writing or Speaking elective (3) (12) English Composition (6)
Speech (3)
Writing or Speaking elective (3)
Mathematics (6)
Physical Sciences (Chemistry, Physics, Geology) (8)
Social Sciences and Humanities (including Economics (4) and electives (8) (12)
Economics (4)
Electives (8)
Directed Electives (5)
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.

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 material 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 Agricultural Sciences and Natural Resources from another institution, or from another college at UT, Knoxville, 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:
H. Williamson (Head), Ph.D. Missouri; M.B. Badenhop (Emeritus), Ph.D. Purdue; J.R. Brooker, Ph.D. Florida; C.L. Cleland, Ph.D. Wisconsin; D.B. Eastwood, Ph.D. Tufts; L.H. Keller, Ph.D. Kentucky; T.H. Klintz (Asst. Dean), Ph.D. Kentucky; F.O. Leithoud, Ph.D. Wisconsin; J.A. Martin (Emeritus), Ph.D. Minnesota; D.L. McLemore, Ph.D. Clemson; B.R. McManus, Ph.D. Purdue; S.D. Mundy, Ph.D. Tennessee; B.H. Pentacost (Asst. Vice Pres.), J.D. Tennessee; D.E. Ray, Ph.D. Iowa State; R.K. Roberts, Ph.D. Iowa State; C.B. Sappington (Emeritus), Ph.D. Illinois; T.J. Whatley (Emeritus), Ph.D. Purdue.

Associate Professors:
B.C. English, Ph.D. Iowa State; R.H. Orr, Ph.D. Illinois; W.M. Park, Ph.D. Virginia Polytechnic Institute.

Assistant Professors:
G.C. Davis, Ph.D. North Carolina State; P.M. Jakus, Ph.D. North Carolina State; K.L. Jensen, Ph.D. Oklahoma State; G.K. Pompei, Ph.D. California (Davis); P.B. Siegel, Ph.D. Virginia Polytechnic Institute.
**AGRICULTURAL ECONOMICS AND BUSINESS CURRICULUM**

Advisors:
- Professors Cleland, Eastwood and McLemore.
- Associate Professors Park and Roberts.
- Assistant Professors Jensen and Pompelli.

This curriculum is designed to provide students with training in the social sciences as well as in the physical and biological sciences and technical agriculture. Through course selection, students may prepare for employment in the rapidly expanding field of agricultural business or in the field of farm production and related areas. The business oriented student will be prepared for the management phases of agricultural business. Employment opportunities include work in marketing of agricultural products, agribusiness firm management, agricultural credit agencies and banks, farm real estate and appraisal services, public and private market analysis, and farm information services utilizing mass communications.

Farm management oriented students will be prepared for positions such as farm managers, county agricultural agents, managers of farm supply and purchasing firms, agricultural journalists, and farm loan agents. The curriculum also provides the necessary background for graduate work in agricultural economics.

Minor consists of 19 credit hours including Economics 201, Agricultural Economics 210, 342, 350, and 6 hours of Agricultural Economics and Rural Sociology electives.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
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<td>Animal Science 261</td>
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<td>Total: 132 hours</td>
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AGRICULTURAL AND EXTENSION EDUCATION

**Professors:**
- C.E. Carter, Jr., Ph.D., Ohio State
- L.H. Dickson (Emeritus), Ed.D., Cornell
- J.D. Todd, Ed.D., Illinois

**Associate Professors:**
- R.R. Lessly (Head), Ed.D., Oklahoma State
- R.G. Waters, Ph.D., Penn State

The Department of Agricultural and Extension Education has two educational areas of emphasis; namely, Agricultural Extension Education and Agricultural Education.

**AGRICULTURAL EXTENSION EDUCATION**

Although no formal undergraduate curriculum is offered in Agricultural Extension Education, undergraduate courses are available as electives in each formal curriculum. These courses are designed to develop an understanding of the functions, responsibilities, and techniques of the Agricultural Extension Service; and to provide prospective Extension employees with work experience in selected counties.

**AGRICULTURAL EDUCATION**

Students who complete the requirements for graduation in Agricultural Education receive a Bachelor of Science Degree in Agriculture with a Major in Agricultural Education. The curriculum is designed for those students who wish to prepare for careers with the Agricultural Extension Service, agribusiness, government agencies, and farming and ranching. This option does not prepare a student to meet teacher certification requirements.

<table>
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<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
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<td>*Agricultural Education 420</td>
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<td>*Education 403</td>
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<td>Total: 132 hours</td>
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</table>

*The course should contain a writing component.
*Select from Animal Science 481, 482 or 483.
*Less than 12 hours may be substituted for students not desiring certification.

**AGRICULTURAL ENGINEERING AND TECHNOLOGY**

**Professors:**
- F.D. Tompkins (Head), Ph.D., Tennessee
- P.E.; B.L. Bledsoe (Associate Head), Ph.D., Oklahoma State
- P.E.; Z.A. Henry, Ph.D., North Carolina State
- P.E.; D.H. Luttrell (Emeritus), Ph.D., Iowa State
- P.E.; J.J. McDow, Ph.D., Michigan State
- P.E.; C.R. Mote, Ph.D., Ohio State
- P.E.; D.H. North Carolina State
- P.E.; R.S. Freeland, M.S., Virginia Polytechnic Institute
- R.L. Wilhelm, Ph.D., Tennessee
- P.E.

**Associate Professor:**
- R.S. Freeland, Ph.D., Tennessee

**Assistant Professors:**
- D.O. Baxter, M.S., Missouri
- R.N. Biswal, Ph.D., Massachusetts
- A.W. Hart, Ph.D., Purdue
- J.B. Wilkerson, Ph.D., Purdue
- D.C. Yoder, Ph.D., Purdue
- R.E. Yoder, Ph.D., Colorado State
Advisors:

The College of Agricultural Sciences and Natural Resources, with the cooperation of the College of Engineering, offers a four-year curriculum leading to the degree of Bachelor of Science in Agricultural Engineering. The curriculum is accredited by the Engineering Accreditation Commission of the Accreditation Board For Engineering and Technology. Industry, government agencies, research and testing organizations, and foreign service offer employment opportunities to agricultural engineers.

In addition to general requirements for admission to the University, the minimum requirements for association include two units of algebra, one unit in geometry, one-half unit in trigonometry, and one unit in physics or chemistry. Students may remove deficiencies by registering for special classes during the freshman year.

The curriculum provides instruction in the analytical and design skills needed to solve engineering problems related to agricultural and biological systems. Three concentrations: traditional Agricultural Engineering; Biological Engineering; and Food Engineering are available. A concentration should be selected early in the academic program since there are some differences as early as the freshman year.

Graduates may pursue careers in design, analysis, or development in power and machinery, electrical and electronic systems, processing and materials handling systems, soil and water engineering, waste management, biological and environmental systems, and food engineering. Each concentration in the curriculum has provisions for elective courses to be taken in the student's area of interest. Students must consult with their advisors each semester regarding the selection of courses and should outline a plan for all such electives before starting the junior year. In the senior year, comprehensive design of systems and their components is emphasized.

Students majoring in agricultural engineering are eligible to participate in the Engineering Cooperative Scholarship program and other student activities in the College of Engineering. Agricultural engineering majors interested in the Cooperative Engineering Scholarship program should consult with the head of the Department of Agricultural Engineering or their faculty advisor.

Agricultural Engineering / College of Agricultural Sciences and Natural Resources

| *Agricultural Engineering Electives* | 6 |
| Basic Engineering 201 | 3 |
| Electrical Engineering 301 | 3 |
| *Fluid Science Elective* | 3 |
| *Humanities/History/Social Science Elective* | 3 |
| *Industrial Engineering Elective* | 2 |
| Mechanical Engineering 331 | 3 |
| *Technical Elective* | 3 |
| Senior |
| Agricultural Engineering 400, 403, 413 | 7 |
| *Agricultural Engineering Design Elective* | 3 |
| *Bioengineering Elective* | 3 |
| *Public Speaking and Writing Elective* | 3 |
| *Design Elective* | 3 |
| Economics 201 | 4 |
| *Humanities/History/Social Science Elective* | 3 |
| *Technical Elective* | 3 |
| Total: 133 hours |

*or 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.

*Select from P & S 210 Introduction to Soil Science; Biology, Botany, Microbiology, and other biological science courses as approved by advisor.

*Must include two courses in Historical Studies and one in Social Sciences, and one in Humanities, Social Science or History. Consult advisor for additional guidelines and a list of approved courses.

*Select from A.E. 423 Irrigation and Agricultural Engineering Materials; A.E. 340 & 341 Soil and Water Conservation; and A.E. 331 Power Units and Machinery.

*Select from C.E. 390 Fluid Mechanics (4) or ESM 341 Fluid Mechanics (3). Students taking C.E. 390 may count the additional hour as technical elective credit.

*Typically upper division courses in engineering or related areas. May also include Physics 232. Must be approved in advance by advisor.

*Either C.E. 423 Irrigation and Agricultural Engineering Materials or A.E. 423 Irrigation and Agricultural Engineering Materials. Students taking C.E. 423 may count the additional hour as technical elective credit.

*May include Ag. Elective courses from other engineering disciplines as approved by advisor.

**AGRICULTURAL ENGINEERING WITH CONCENTRATION IN FOOD ENGINEERING**

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>Agricultural Engineering 105</td>
</tr>
<tr>
<td>Basic Engineering 100, 111, 121</td>
</tr>
<tr>
<td>Chemistry 120, 130</td>
</tr>
<tr>
<td><em>English 101, 102</em></td>
</tr>
<tr>
<td><em>Mathematics 141, 142</em></td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Agricultural Engineering 101</td>
</tr>
<tr>
<td>Agricultural Engineering 200</td>
</tr>
<tr>
<td>Basic Engineering 101, 131</td>
</tr>
<tr>
<td>Biology 110, 120</td>
</tr>
<tr>
<td>Civil Engineering Science and Mechanics 231, 321</td>
</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
</tr>
<tr>
<td>Physics 231</td>
</tr>
<tr>
<td>Junior</td>
</tr>
<tr>
<td>Agricultural Engineering 303, 451</td>
</tr>
<tr>
<td>Basic Engineering 201</td>
</tr>
<tr>
<td><em>Humanities/History/Social Science Elective</em></td>
</tr>
<tr>
<td><em>Industrial Engineering Elective</em></td>
</tr>
<tr>
<td><em>Chemistry 350</em></td>
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<tr>
<td>Electrical Engineering 301</td>
</tr>
<tr>
<td><em>Fluid Science Elective</em></td>
</tr>
<tr>
<td>Economics 201</td>
</tr>
<tr>
<td><em>Bioengineering Elective</em></td>
</tr>
<tr>
<td><em>Public Speaking and Writing Elective</em></td>
</tr>
<tr>
<td><em>Design Elective</em></td>
</tr>
<tr>
<td>Senior</td>
</tr>
<tr>
<td>Agricultural Engineering 311, 331, 400, 403, 413, 433</td>
</tr>
<tr>
<td><em>Writing Elective</em></td>
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<tr>
<td><em>Design Elective</em></td>
</tr>
<tr>
<td><em>Humanities/History/Social Science Elective</em></td>
</tr>
<tr>
<td>Economics 201</td>
</tr>
<tr>
<td>Food Technology and Science 440</td>
</tr>
<tr>
<td>Total: 133 hours</td>
</tr>
</tbody>
</table>

*or 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.

*Select from P & S 210 Introduction to Soil Science; Biology, Botany, Microbiology, and other biological science courses as approved by advisor.

**AGRICULTURAL ENGINEERING WITH CONCENTRATION IN BIOLOGICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>Agricultural Engineering 105</td>
</tr>
<tr>
<td>Basic Engineering 100, 111, 121</td>
</tr>
<tr>
<td>Chemistry 120, 130</td>
</tr>
<tr>
<td><em>Mathematics 141, 142</em></td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Agricultural Engineering 101</td>
</tr>
<tr>
<td>Agricultural Engineering 200</td>
</tr>
<tr>
<td>Basic Engineering 101, 131</td>
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<tr>
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<tr>
<td>Physics 231</td>
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<td>Agricultural Engineering 303, 451</td>
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<tr>
<td>Basic Engineering 201</td>
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<tr>
<td><em>Humanities/History/Social Science Elective</em></td>
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<tr>
<td><em>Industrial Engineering Elective</em></td>
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<tr>
<td><em>Chemistry 350</em></td>
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<tr>
<td>Electrical Engineering 301</td>
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<tr>
<td><em>Fluid Science Elective</em></td>
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<tr>
<td>Economics 201</td>
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<tr>
<td><em>Bioengineering Elective</em></td>
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<tr>
<td><em>Public Speaking and Writing Elective</em></td>
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<tr>
<td><em>Design Elective</em></td>
</tr>
<tr>
<td>Senior</td>
</tr>
<tr>
<td>Agricultural Engineering 311, 331, 400, 403, 413, 433</td>
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<tr>
<td><em>Writing Elective</em></td>
</tr>
<tr>
<td><em>Design Elective</em></td>
</tr>
<tr>
<td><em>Humanities/History/Social Science Elective</em></td>
</tr>
<tr>
<td>Economics 201</td>
</tr>
<tr>
<td>Food Technology and Science 440</td>
</tr>
<tr>
<td>Total: 133 hours</td>
</tr>
</tbody>
</table>

*or 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.

*Select from P & S 210 Introduction to Soil Science; Biology, Botany, Microbiology, and other biological science courses as approved by advisor.
forest protection, plant pathology and veterinary entomology are available to undergraduates.

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**

K.R. Robbins (Head), Ph.D. Illinois; K.M. Barth, Ph.D. Rutgers; M.C. Bell (Emeritus), Ph.D. Oklahoma State; J.K. Bletner (Emeritus), Ph.D. Ohio State; C.C. Chamberlain (Emeritus), Ph.D. Iowa State; B.H. Erickson, Ph.D. Kansas State; O.G. Hall (Dean, College of Agricultural Sciences and Natural Resources), Ph.D. Iowa State; S.L. Hansard (Emeritus), Ph.D. Florida; E.R. Lidvall (Emeritus), M.S. Tennessee; T.P. McDonald, Ph.D. Tennessee; J.B. McLaren (Emeritus), Ph.D. Auburn; G.M. Merriman (Emeritus), D.V.M. Michigan State; J.K. Miller, Ph.D. Georgia; D.O. Richardson, (Dean, Agr. Exp. Sta.), Ph.D. Ohio State; T.W. Schultz, Ph.D. Tennessee; H.V. Shirley (Emeritus), Ph.D. Illinois; R.R. Shrode (Emeritus), Ph.D. Iowa State; M.H. Sims, Ph.D. Auburn; R.L. Tugwell (Emeritus), Ph.D. Kansas State.

**Associate Professors**


**Assistant Professors**

T.J. Bas, Ph.D., Iowa State; K.G. Boldman, Ph.D. Iowa State; J.M. Bright, DVM, Purdue; J.M. Grizzle, Ph.D., Florida; C. Mendis-Handagama, D.V.M. University of Sri Lanka, Ph.D. Monash University; J.D. Quigley, Ph.D. Virginia Polytechnic Institute; T.K. Rowles, D.V.M. Tennessee, Ph.D. Texas A&M; J.D. Smalling, Ph.D. Texas A&M; M.O. Smith, Ph.D. Oklahoma State.

**Advisors**

Professors Barth and Erickson. Associate Professors Backus, Bell, Godkin, Heinma, Hitchcock, Katte, Masincup, Oliver, and Waller. Assistant Professors Baas, Quigley, Smalling and Smith.

The curriculum is designed to prepare students for leadership careers in livestock production and related industries. Courses in human, 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, management or marketing groups, and 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 3 credits from 260 (Animal Industry & Market Evaluation) or 280 (Farm Animal Management Practices); 4 credits from 330 (Animal Nutrition, Feeds, & Ration Formulation); 3 credits from 381 (Animal Production Systems) or one of the 480 series plus 8 credits from the following list: 220, 340, 380, no more than one of the 360 series, 420, 430, 440, the 480 series, and no more than 3 credits from 493.

**ANIMAL SCIENCE WITH CONCENTRATION IN PRODUCTION/MANAGEMENT**

**Freshman**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Agriculture 101</td>
</tr>
<tr>
<td>3</td>
<td>Biology 110</td>
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<tr>
<td>6</td>
<td>English 110</td>
</tr>
<tr>
<td>6</td>
<td>Mathematics 121-122 or 141-142 or 151-152</td>
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<tr>
<td>6</td>
<td>Chemistry 100-110 or 120-130</td>
</tr>
<tr>
<td>1</td>
<td>Animal Science 101</td>
</tr>
<tr>
<td>3</td>
<td>Social Science elective</td>
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<tr>
<td>4</td>
<td>Sophomore</td>
</tr>
<tr>
<td>6</td>
<td>Animal Science 220, 260</td>
</tr>
<tr>
<td>3</td>
<td>Plant and Soil Science 210</td>
</tr>
<tr>
<td>3</td>
<td>Agriculture 200 and 201</td>
</tr>
<tr>
<td>3</td>
<td>Speech 210 or 240</td>
</tr>
<tr>
<td>3</td>
<td>*Writing Elective</td>
</tr>
<tr>
<td>3</td>
<td>Economics 201</td>
</tr>
<tr>
<td>3</td>
<td>*Humanities Elective</td>
</tr>
<tr>
<td>3</td>
<td>*Business Elective</td>
</tr>
<tr>
<td>3</td>
<td>Animal Products Directed Elective Chosen from: FT 269 or 360, 369 or 350</td>
</tr>
<tr>
<td>2</td>
<td>Junior</td>
</tr>
<tr>
<td>3</td>
<td>Biological Science Restricted Elective</td>
</tr>
<tr>
<td>6</td>
<td>Historical Studies</td>
</tr>
<tr>
<td>6</td>
<td>Animal Science 330, 331, 340; one course from 361, 362, 363 or 364, 380</td>
</tr>
<tr>
<td>15</td>
<td>Non-Animal Science Agriculture Electives</td>
</tr>
<tr>
<td>3</td>
<td>Free Elective</td>
</tr>
<tr>
<td>5</td>
<td>Senior</td>
</tr>
<tr>
<td>2</td>
<td>Animal Science 430</td>
</tr>
<tr>
<td>1</td>
<td>Animal Science 495</td>
</tr>
<tr>
<td>3</td>
<td>Animal Science 481 or 482 or 483 or 484</td>
</tr>
<tr>
<td>3</td>
<td>Animal Science - one course from the three remaining above or one of 485, 486, 581</td>
</tr>
<tr>
<td>2</td>
<td>Free Electives</td>
</tr>
<tr>
<td>9</td>
<td>7-9</td>
</tr>
<tr>
<td>6</td>
<td>Production Agriculture Electives</td>
</tr>
<tr>
<td>9</td>
<td>*Business Elective</td>
</tr>
</tbody>
</table>

Total: 132 hours

*May be chosen from approved list of courses meeting University requirements as Social Sciences.

*May be chosen from approved list of courses meeting University requirements as Humanities and described as writing intensive.

*May be chosen from approved list of courses meeting University requirements as Humanities.

*May be chosen from approved list of courses meeting departmental requirements as business electives.

*May be chosen from approved list of courses meeting departmental requirements as biological science restricted electives.

*May be chosen from approved list of courses meeting University requirements as History.

*May be chosen from approved list of courses meeting departmental requirements as Production Agriculture.
ANIMAL SCIENCE WITH CONCENTRATION IN SCIENCE/TECHNOLOGY

Hours Credit

**Freshman**
- Agriculture 101 .......................... 3
- Biology 110 -120 .......................... 8
- English 101-102 .......................... 6
- Mathematics 121-122 or 141-142 or 151-152 .... 6-8
- Chemistry 100 or 120-130 ............... 8
- Animal Science 101 ........................ 3
- Social Science elective ................. 3

**Sophomore**
- Animal Science 220, 260 ................. 6
- Agriculture 200 and 301 (Computer Elective) .... 3
- Speech 210 or 240 ........................ 3
- Writing Elective .......................... 3
- Economics 201 ............................ 3
- Physical Science and Math Restricted Elective .... 8
- Biological Science Restricted Elective ....... 3
- Animal Products Directed Elective Chosen from: FTS 269 or 369, 399 or 350 2-3

**Junior**
- Biological Science Restricted Electives .... 8
- Physical Science Restricted Electives ....... 6
- History .................................... 3
- Animal Science 320, 330, 340, 380 ...... 13

**Senior**
- Humanities Elective ....................... 3
- Biological Science Restricted Elective .... 3
- Animal Science 455, and one course from 481, 482, 483, 484, 485, 486, 589 .... 4
- Agricultural Economics Elective ........... 3
- Non-Agriculture Agriculture Electives .... 3
- Free Electives ............................. 10-12

Total: 132 hours

Electives allow students to select an area for specialization. Those interested in production/management would select additional courses in agriculture; in business administration, economics, agricultural economics, finance, and accounting; in science/technology in chemistry, zoology, physics, and statistics, etc. Electives should be chosen with career objectives in mind and in consultation with the advisor. The animal science core courses are 220, 260, 320, 330, 340, and 380.

PRE-VETERINARY MEDICINE PROGRAM

This program allows students to be awarded a B.S. degree in Agriculture with a major in Animal Science, after the successful completion of the first two semesters in the College of Veterinary Medicine (CVM). Students must begin this program early in the pre-veterinary curriculum. The specific requirements are:
1. Completion of all pre-veterinary requirements.
   a. English Comp. 101-102 (3,3) - 6 hours
   b. Humanities and Social Sciences - 18 hours
   c. Calculus A-B, 121-122 or Calculus I-II, 141-142 or Biocalculus I-II, 151-152 (3,3) - 6 hours
   d. Elements of Physics 221-222 (4,4) - 8 hours
   e. General Chemistry 120-130 (4,4) - 8 hours
   f. Organic Chemistry 350-360 and Laboratory 369 (3,3,2) - 8 hours
   g. Cellular and Comparative Biochemistry 410 (4) - 4 hours
   h. General Biology 110-120 (4,4) - 8 hours
   i. Genetics 220 (3) - 4 hours
   j. Cell Biology 210 (3) - 4 hours
   2. The last 30 hours of the three-year pre-veterinary curriculum must have been taken at UT, Knoxville.
   3. At least 12 hours of upper division (300 and 400 level courses) technical agriculture courses must be taken at UT, Knoxville.
   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. Animal Science 101 - 1 hour
   b. Agriculture 101 - 3 hours
   c. Animal Science 260 - 3 hours
   d. Animal Science 320 - 3 hours
   e. Animal Science 330 - 3 hours
   f. Animal Science 340 - 3 hours
   g. Animal Science 380 - 3 hours
   h. One course from Animal Science 481, 482, 483, 484, 485, 486, or 489 - 3 hours
   i. Computer Science Elective - 3 hours
   j. Economics 201 - 3 hours
   k. Speech 210 or 240 - 3 hours

NOTE: Agriculture 101, Economics 201 and Speech 210 or 240 will be approved by the CVM as meeting requirements in the Humanities/Social Science category. The remainder must be a Social Science elective, a Humanities elective, and a Humanities elective as described in writing intensive. Writing intensive History courses may also be used.

   i. Non-Agriculture Agriculture Elective - 6 hours
   5. Satisfactory completion of the first two semesters in the CVM professional program.
   6. No later than December 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.
   7. A total of 132 hours must be completed by the end of the first year in the CVM.

**Food Technology and Science**

Professors:
H.O. Jaynes (Head), Ph.D. Illinois; J.L. Collins, Ph.D. Maryland; F.A. Draughon, Ph.D. Georgia; G. 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:
G.L. Christen, Ph.D. Missouri; 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. Biswal, University of Massachusetts, Amhurst.

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

The major in food technology and science prepares students to apply the sciences and engineering technology to manufacture, preserve, store, and distribute foods that meet the needs and desires of consumers. Coursework emphasizes the basic principles of converting raw food materials into acceptable consumer products. Selected commodity courses detail processing of specific types of food materials. Students entering the program must have an interest in the sciences, particularly chemistry, microbiology, and biology.

This curriculum is designed to prepare 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**

<table>
<thead>
<tr>
<th>Years</th>
<th>Hours</th>
</tr>
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<tbody>
<tr>
<td>3</td>
<td>53</td>
</tr>
<tr>
<td>4</td>
<td>53</td>
</tr>
<tr>
<td>5</td>
<td>53</td>
</tr>
</tbody>
</table>

Total: 104 hours
Three commodity electives are required, one each in Economics, Political Sciences, Religious Studies, Sociology, Anthropology, Human Services, Languages, Romance Languages, Philosophy, History, Cultural Studies, Germanic and Slavic Languages, Romance Languages, HISTORY Elective.

Three commodity electives are required, one each in Sociology, Economics, Political Sciences, Religious Studies, Anthropology, Human Services, Languages, Romance Languages, Philosophy, History, Cultural Studies, Germanic and Slavic Languages, Sociology, Economics, Political Sciences, Religious Studies, Social Work. Requirements will be a minimum of 6 hours from each category:

- Economics
- Political Sciences
- Sociology
- Anthropology
- Human Services
- Languages
- Romance Languages
- Philosophy
- History
- Cultural Studies
- Germanic and Slavic Languages
- Sociology

Social Sciences and Humanities courses within the Social Sciences and Humanities Electives.

Social Sciences and Humanities courses within the Social Sciences and Humanities Electives. Requirements will be a minimum of 6 hours from each category:

- Sociology
- Anthropology
- Human Services
- Languages
- Romance Languages
- Philosophy
- History
- Cultural Studies
- Germanic and Slavic Languages
- Sociology

Food Technology and Science elective. Requirements will be a minimum of 3 hours from each category:

- Food Technology and Science
- Microbiology
- Plant and Soil Science
- Statistics
- Social Sciences and Humanities Electives

Junior

Agricultural Engineering Technology 423
Food Technology and Science 420, 429
Food Technology and Science elective
Nutrition and Food Sciences 200, 201
Nutrition and Food Science 300

Senior

Food Technology and Science 410, 411
Food Technology and Science 430, 440

*Food Technology and Science Electives

Social Science and Humanities Electives

General Electives

Total: 132 hours

Tables and figures:

- Forestry, Wildlife and Fisheries
- Forestry, Wildlife and Fisheries
- Forestry, Wildlife and Fisheries
- Forestry, Wildlife and Fisheries
- Forestry, Wildlife and Fisheries

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; H.A. Core (Emeritus), Ph.D. Syracuse; R.W. Dimmick, Ph.D. Wyoming; R.L. Little, Ph.D. North Carolina State; D.M. Ostermeier, Ph.D. Syracuse; M.R. Pelton, Ph.D. Georgia; G. Schneider (Associate Dean, College of Agricultural Sciences and Natural Resources), Ph.D. Michigan State; R.J. Strange, Ph.D. Oregon State; E. Thors, Ph.D. North Carolina State; J.L. Wilson, Ph.D. Tennessee; F.W. Woods (Emeritus), Ph.D. Tennessee.

Associate Professors:


Assistant Professor:

D.A. Buehler, Ph.D. Virginia Polytechnic Institute.

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 from FWF 312, 313, 315, 316 and 416 and Forestry designated courses.

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 wildland resources. In addition to the core of required courses, there are about 18 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.

ASSOCIATE PROFESSORS:


ASSOCIATE PROFESSORS:


ASSOCIATE PROFESSORS:


ASSOCIATE PROFESSORS:


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ASSOCIATE PROFESSORS:

### Ornamental Horticulture and Landscape Design

#### Professors:
- G.D. Crater (Head), Ph.D. Ohio State
- L.M. Callahan, Ph.D. Rutgers
- P.M. Gresshoff, Ph.D. Pennsylvania State
- N.D. Peacock (Emeritus), Ph.D. Michigan State
- H. van de Werken (Emeritus), GAVST, the Netherlands
- D.B. Williams, Ph.D. Pennsylvania State
- J.W. Day, Ph.D. Mississippi State
- S.M. Rogers, M.L.A. University of Georgia
- W.T. Witte, Ph.D. University of Maryland
- Robert M. Auge, Ph.D. Washington State
- Terri W. Stairman, Ph.D. Texas A&M

#### Associate Professors:
- Garry Menendez, BSLA, University of West Virginia
- Sue Wilson, M.S. Ohio State

#### Instructors:
- Callahan, Crater, Day, McDaniel, Rogers, Williams, and Wilson

#### Advisors:
- L.M. Callahan, Ph.D. Ohio State
- P.M. Gresshoff, Ph.D. Pennsylvania State
- N.D. Peacock (Emeritus), Ph.D. Michigan State
- H. van de Werken (Emeritus), GAVST, the Netherlands
- D.B. Williams, Ph.D. Pennsylvania State
- J.W. Day, Ph.D. Mississippi State
- S.M. Rogers, M.L.A. University of Georgia
- W.T. Witte, Ph.D. University of Maryland
- Robert M. Auge, Ph.D. Washington State
- Terri W. Stairman, Ph.D. Texas A&M

#### Courses in Business:
- Recommended for students seeking careers in retail, wholesale, or service oriented ornamentals industries.
- Graduates with training in economics, accounting, statistics, business management, finance, and marketing are attractive to prospective employers and are better prepared to advance into management positions or organize their own companies.

#### Emphasis:
- Emphasis 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 sodding, 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.

#### Opportunities:
- Opportunities are available in nurseries, garden centers, botanical gardens, and arboretums, and in landscape maintenance and installation.

#### WILDLIFE AND FISHERIES SCIENCE

Wildlife and fisheries management is the science and art of maintaining populations of wild animals at levels consistent with the best interests of wild species and of the public. Management goals may be aesthetic, economic, or ecological. Success depends upon wildlife and fisheries biologists providing assistance; scholarly application of scientific information and methods to these goals; ecological perspective; and execution of programs to maintain past successes, to prevent repetition of past failures, and to prepare for future needs.

A minor in Wildlife and Fisheries Science consists of 16 hours from FWF 211 or 250, FWF 300, 317, 416, WFS 341, 441, 443, 444 and 445. Prerequisites will not be waived.

### Hours Credit

**Freshman**

| English 101, 102                  | 6 |
| Mathematics 119, 121             | 6 |
| Biology 110, 120                 | 6 |
| Economics 201                    | 4 |
| Physics 121                      | 4 |
| Agriculture 101                  | 3 |
| FWF 211, 230                     | 4 |
| Chemistry 100, 110               | 8 |

**Sophomore**

| Chemistry 141, 142, 143, 144     | 10 |
| Economics 101, 102               | 6 |
| Statistics 252                   | 4 |
| FWF 311                          | 4 |
| Forestry 331, 332                | 5 |
| Computer Science 101             | 3 |
| IE 300, 302                      | 7 |
| Speech 210 or 240                | 3 |
| Forestry 433, 434                | 6 |
| IE 402, 403, 405                 | 6 |
| Economics 201                    | 4 |
| FWF 316, 416                     | 6 |
| WFS 441, 443, 444, 445           | 12 |
| Zoology 247                      | 3 |
| Animal Science 321               | 3 |
| Science Electives                | 3 |
| General Electives                | 3 |
| Total: 132 hours                 |  |

**Junior**

| Forestry 312, 313, 315, 316      | 10 |
| Forestry 431, 432                | 5 |
| Statistics 252                   | 4 |
| Computer Science 101             | 3 |
| Math 210, 220                    | 7 |
| Statistics 210 or Plant Soil Science 471 | 3 |
| Agriculture 200, 301             | 3 |
| Speech 210 or 240                | 3 |
| FWF 311                          | 4 |
| Human and Social Science Electives | 6 |
| Communications Elective          | 3 |
| Multidiscipline/Multiculture Elective | 3 |
| Junior                           |  |

**Senior**

| Forestry 311                     | 4 |
| History Elective                 | 3 |
| Human and Social Science Elective | 3 |
| General Elective                 | 3 |
| Senior                           |  |

**Total: 136 hours**

*List of appropriate courses in Communications, and Humanities and Social Sciences are available at the Department of Forestry, Wildlife and Fisheries Office.*
PLANT AND SOIL SCIENCE

Professors:
J.E. Foss (Head), Ph.D. Minnesota; F.L. Allen, Ph.D. Minnesota; F.F. Bell (Emeritus), Ph.D. Iowa State; D.L. Coffey, Ph.D. Purdue; B.V. Conger, Ph.D. Washington State; H.A. Fribourg, Ph.D. Iowa State; R.M. Hayes, Ph.D. Illinois; L.M. Josephson (Emeritus), Ph.D. Wisconsin; W.L. Parks (Emeritus), Ph.D. Purdue; J.H. Reynolds, Ph.D. Wisconsin; L.F. Seatz (Emeritus), Ph.D. North Carolina State; L.M. Skold (Emeritus), M.S. Kansas State; M.E. Springer (Emeritus), Ph.D. California (Berkeley); H.D. Swingle (Emeritus), Ph.D. Louisiana State; D.D. Tyler, Ph.D. Kentucky; E. Winters (Emeritus), Ph.D. Illinois.

Associate Professors:

Assistant Professors:
M.E. Essington, Ph.D. California (Riverside); J. Logan, Nebraska; T.C. Mueller, Ph.D. Georgia; G.V. Wilson, Ph.D. Arkansas.

Advisors:
Allen, Coffey, Foss, Graveel, Lessman, Reich, and Reynolds.

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 Services, 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.

Group A:
- Plant and Soil Science 311, 312, 331, 332, 333, 334
- Group B: Plant and Soil Science 411, 412, 413, 414, 431, 432, 433, 434, 453, 454

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, agribusiness, international agriculture, environmental science, 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.

Hours Credit

Freshman
- Agriculture 101 3
- Lower Division Biological Science (110-120 General Botany or 110-120 General Biology) 8
- Chemistry 120-130 8
- English 101, 102 3
- Mathematics 130-151 6-8

Sophomore
- Plant and Soil Science 210, 230 7
- Physics 121 or 221 3-4
- Speech 210 or 240 3
- Economics 201 3
- Speaking or Writing Elective 3
- Computer Science 101 or 102 or 104 3
- Humanities or Social Science Elective 3
- Biological or Physical Science Elective 3

Junior
- Humanities or Social Science Electives 3
- Botany 321 3
- Plant and Soil Science Electives 12

Senior
- Plant and Soil Science 401, 471 4
- Agriculture Science Elective 3
- Plant and Soil Science Electives 3
- Non-Departmental Agricultural Electives 6
- Social Science or Humanities Elective 2-3

Electives (open) 11-16

Total: 132 hours

List of approved courses in the humanities and social sciences available from the Department of Plant and Soil Science.

*List of technical electives available from the student's academic advisor.
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 especially emphasizes the development of that critical judgement which particularly distinguishes the architect in performance of the art of building. The student must also discover and understand the principles of our physical universe and their impact on the science of building, as well as the characteristics of the natural environment which impact the physical behavior of materials. Consequently the program in the School emphasizes the process of learning while enabling its graduates to adapt to change in our complex world. How to learn is as much a consequence as the content of the learning process.

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.

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 the upper four years are eligible for this aid, but it is primarily awarded to students of third and fourth-year standing.

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.

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 Chongquing Institute of Architecture and Engineering, Chongquing, Sichuan Province, China.

One member of the School faculty leads a program in Europe each year at varied locations. These are designed to include visits to prominent new architectural sites and major historic locations. Other programs that have been offered include experiences in Yugoslavia and Cracow, Poland.

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

OFF-CAMPUS OPPORTUNITIES

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. The School has a grant from the Lyndhurst Foundation supporting an urban design studio in Chattanooga.

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 by consulting 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 a total of 60 or above using the formula of the high school grade point average times 10 plus the Enhanced ACT composite score. A minimum Enhanced ACT score of 22 (SAT 900) is required; (2) Refuse all applicants with an Enhanced ACT composite score of 20 (SAT 800) or below; (3) Refer applicants not falling into items 1, 2 to the Committee on Admissions. This Committee will meet in March to review applicants—following receipt of high school records, test scores and other requested material necessary to complete the admission process. Applicants will be informed of their status by April 15th of each year.

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.

TRANSFER STUDENTS

Transfer students as well as intercollegiate transfer students are required to have at least a 2.3 grade point average to be considered.

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 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 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 architecture 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

Architecture students must have attained third-year standing in the School before being admitted to any 400-level courses, 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

Courses that are a part of the specific requirements of the School of Architecture cannot be taken as Satisfactory/No Credit. Credit hours over and above the specific graduation requirements may be taken S/NC. A student who desires to take a course S/NC should indicate this at the start of registration. Courses evaluated as "Satisfactory" will count as hours toward graduation but will not be calculated in the student's GPA.

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 multicultural 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>
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<tbody>
<tr>
<td>Architecture 101, 102</td>
<td>5</td>
</tr>
<tr>
<td>Architecture 171, 172</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 or 121, 122</td>
<td>8-6</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture 211, 212</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 231</td>
<td>3</td>
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<tr>
<td>Architecture 271, 272</td>
<td>12</td>
</tr>
<tr>
<td>Architecture 231</td>
<td>3</td>
</tr>
<tr>
<td>Physics 121, 122 or Natural Science elective</td>
<td>6</td>
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<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture 213</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 312</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 331, 332</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 341, 342</td>
<td>8</td>
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<tr>
<td>Architecture 371, 372</td>
<td>12</td>
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<table>
<thead>
<tr>
<th>Fourth Year</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Architecture 411</td>
<td>4</td>
</tr>
<tr>
<td>Architecture 471, 472</td>
<td>12</td>
</tr>
<tr>
<td>Architecture electives</td>
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<table>
<thead>
<tr>
<th>Fifth Year</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture 480, 482</td>
<td>7</td>
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<tr>
<td>Architecture electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Total: 158 hours

1 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 5 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. Credit for a year of each of calculus and physics at the college level is a prerequisite for admission to the program. 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>
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<tbody>
<tr>
<td>Architecture 203, 204</td>
<td>4</td>
</tr>
<tr>
<td>Architecture 211, 212</td>
<td>6</td>
</tr>
<tr>
<td>Architecture 232</td>
<td>3</td>
</tr>
<tr>
<td>Architecture 281, 282</td>
<td>12</td>
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<tr>
<td>Architecture electives</td>
<td>6</td>
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<tr>
<td>Computer Science 102</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture 213, 312</td>
<td>6</td>
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<tr>
<td>Architecture 331, 332</td>
<td>8</td>
</tr>
<tr>
<td>Architecture 341, 342</td>
<td>8</td>
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<tr>
<td>Architecture 371, 372</td>
<td>12</td>
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<table>
<thead>
<tr>
<th>Third Year</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Architecture 431</td>
<td>4</td>
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<tr>
<td>Architecture 471, 482</td>
<td>12</td>
</tr>
<tr>
<td>Architecture 480</td>
<td>7</td>
</tr>
<tr>
<td>Architecture electives</td>
<td>6</td>
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Total: 98 hours

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

2 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 261, 262, 371, 372 is required along with an overall 2.5 GPA.
College of Business Administration

C. Warren Neel, Dean
Roger L. Jenkins, Associate Dean for Academic Affairs
Michael J. Stahl, Associate Dean for Research and External Affairs
David A. Hake, Director, Center for Business and Economic Research
John E. Riblett, Director, Management Development Center
Monique W. Anderson, Director Undergraduate Business Advising Center
Scott Buechler, Director Graduate Programs

Size and breadth of program immediately distinguish the College of Business Administration at UT, Knoxville from the other such programs in Tennessee and in most of the surrounding states.

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 UT, Knoxville 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 UT, Knoxville 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 nine 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 110 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 has in place 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 UT, Knoxville students well within the top twenty percent of business school seniors nationally.

UNDERGRADUATE ADVISING CENTER

The College maintains a Student Advising Center staffed with full-time academic advisors to assist all students with their programs. Students who have been admitted to a major will confer with a faculty advisor from the selected major regarding career goals and opportunities but will still receive their academic advising from the Center. The objective of the Advising Center is to provide students with needed academic information.

PROGRESSION 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 acceptable 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 Advising Center.

PREMAJORS

Students who enter the College of Business as freshmen or sophomores must apply for a major the semester after attempting 45 hours. The academic record presented will be assessed by the Director of the Undergraduate Advising Center. The following minimum requirements must have been met in order to be considered for admission to a major:

1. Must have followed a business curriculum.
2. Must have earned a minimum 2.75 (3.0 for Accounting) average, cumulative, over the courses specifically required in the lower-division of that curriculum, excluding non-business and non-departmental electives.
3. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses or failures may result in denial of progression.

4. Progression standards are subject to change; current standards are available in the Undergraduate Advising Center, Glocker 52.

TRANSFERS FROM OTHER UT, KNOXVILLE PROGRAMS

Students in other colleges at UT, Knoxville 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 UT, Knoxville or elsewhere) have been attempted. It should not be supposed 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 after 75 hours in the Business Administration curriculum may be taken as prima facie evidence of an intent to evade this policy and may result in denial of admission.

The following minimum requirements must have been met in order to be considered for admission to a major:

1. Must have earned a minimum 2.75 average, cumulative, over the courses specifically required in the lower-division of that curriculum (3.0 for an Accounting major), excluding non-business and non-departmental electives. Some majors may have differing average requirements.

2. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses or failures may result in denial of progression.

3. Progression standards are subject to change; current standards are available in the Undergraduate Advising Center, Glocker 52.

TRANSFER FROM OTHER INSTITUTIONS

1. A student shall be able to transfer from an out-of-state community college or any four year institution, and shall be admitted to the College of Business Administration, only if his/her cumulative GPA is 3.00 or higher. If this standard is not met, the student shall be denied admission to the College.

2. A student shall be able to transfer from an in-state community college, and shall be admitted to the College of Business Administration, only if his/her cumulative GPA is 2.75 or higher. If this standard is not met, the student shall be denied admission to the College.

3. If a transfer applicant to the UT College of Business is denied upon transfer, he/she may reapply for admission to the College and to a major if he/she receives a 2.75 average (3.0 for an Accounting applicant) in his/her first 12 semester hours, or first semester in residence at UT (whichever is more in hours), over the courses specifically required in the lower division of the business curriculum, excluding non-business and non-departmental electives. The success of the application will be based on the entire student record. The application must be made prior to the end of mandatory advising during the student’s second semester at UT (or the semester following 12 hours attempted).

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 Advising Center, 974-5096, or contacting an advisor in that office.

BUSINESS MINOR FOR NON-BUSINESS STUDENTS

Students in other Colleges at UT, Knoxville 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 UT, Knoxville. 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. Minors in other colleges are available to College of Business Administration students.

The following core courses are required in all business curricula: Computer Science 102, Economics 201, Statistics 201, Accounting 201-202, Marketing 301, Finance 301, Business Law 301, Management 301-303, 401.

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.

FOREIGN STUDY

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. A second is through group programs conducted abroad by another academic institution to which UT, Knoxville 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. The nature of this work as well as credit for it should be negotiated by students prior to departure with the appropriate department. Students should register for credit under the Foreign Study number BA 491. Credit will be awarded only after completion of all agreed upon requirements.

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 studies may be undertaken only with prior approval of faculty member and the department granting credit. It may include certain kinds of work experiences, community involve-ments, 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 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.

CURRICULA AND SOPHOMORE CURRICULA (except Statistics)

The following courses are prerequisite to all majors in the College of Business Administration except for the Statistics major which is presented in the departmental listing.

<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>Mathematics 141, 142</td>
<td>8</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6</td>
</tr>
<tr>
<td>Humanities</td>
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<tr>
<td>History</td>
<td>6</td>
</tr>
<tr>
<td>Natural Science</td>
<td>8</td>
</tr>
<tr>
<td>Accounting 201, 202</td>
<td>6</td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
</tr>
<tr>
<td>Statistics 201</td>
<td>3</td>
</tr>
<tr>
<td>Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 102</td>
<td>4</td>
</tr>
<tr>
<td>Ethics</td>
<td>3</td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total: 66 hours</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Mathematics - Entry into Mathematics courses is a function of scores on a placement test taken by all entering students. Students whose placement scores do not qualify them for Mathematics 141-142 may take 121-122 and two additional elective hours. Mathematics 141-142 are preferred because they prepare students better for applying mathematical techniques in business subjects and subsequent graduate studies. Further, Mathematics 141-142 preserve students' choices for study in other departments in the University.
ACCOUNTING AND BUSINESS LAW

Professors: J.R. Anderson (Head and Ernst & Young Professor), Ph.D. Arkansas; J.A. Cost (Emeritus), S.J.D. George Washington; N.E. Dittrich, Ph.D. Ohio State; C.D. Izard, Ph.D. Mississippi; C.S. Scheiner, Ph.D. Ohio State; K.G. Stanga (Arthur Anderson of Accounting), Ph.D. Virginia Polytechnic; M.L. Townsend (Emeritus), J.D. Tennessee.

Associate Professors: K.E. Anderson, Ph.D. Indiana; C.A. Borchick, DBA, Tennessee; C.A. CMA, CISA, CDP; G.D. Izard, Ph.D. Missouri; T. Massingale, MBA, Tennessee; J.A. Gauger, Ph.D. Iowa State; E. Glustoff, Ph.D. Stanford; J.A. Kahn, Ph.D. Maryland; J.A. Phillips, Ph.D. Alabama; J.E. Kiger (Warren L. Davidson (J. Fred Holly Professor of Political Economy), Ph.D. Pennsylvania; G.R. Feiwel (Emeritus), Ph.D. McGill, W.F. Fox, Ph.D. Ohio State; C.B. Garrison, Ph.D. Kentucky; H.W. Herzog, Jr., Ph.D. Maryland; H.E. Jensen (Emeritus), Ph.D. Texas; P.A. Lee, Ph.D. Michigan State; J.R. Moore (Emeritus, Alumni Distinguished Service Professor), Ph.D. Cornell; W.C. Neale (Emeritus), Ph.D. London School of Economics; E. Quinby (Emeritus), Ph.D. Kentucky; M.Russell, Ph.D. Oklahoma; A.M. Schiottmann, Ph.D. Washington (St. Louis); G.A. Spiva, Jr., Ph.D. Texas.

Assistant Professors: D.M. Mandy, Ph.D. Illinois; M.N. Murray, Ph.D. Syracuse.

The first two years of general education and the last two which emphasize business education and a choice of courses in Economics prepare students for a wide variety of jobs, for postgraduate studies or in an MBA program.

Departmental advisors will assist students in selecting appropriate elective courses. Majors in Economics who wish to pursue graduate work in Economics or to seek work in the public sector should consult departmental faculty early in their careers for program advice.

Distinguished Lecturer: S.B. Wolfe (Emeritus), B.S. Virginia Polytechnic.

Lecturer: E.B. Anderson, MACC, Tennessee; L.W. Hendrick, M.B.A. Houston, J.D., CPA; H.N. Hughes, B.S. Tennessee; L.M. Reeves, MACC, Tennessee.

The undergraduate program is designed to provide a basic educational experience for students interested in accounting. The first two years emphasize general education, while the last two emphasize business education and general accounting education.

Most major accounting organizations and the faculty of the Department of Accounting and Business Law endorse post-baccalaureate education for those who aspire to leadership positions in professional accounting. Beginning in 1993, the State of Tennessee requires a minimum of 150 semester hours of education to sit for the CPA exam. Other professional certification programs in accounting, such as Certified Management Accountant, Certified Information Systems Auditor, and Certified Internal Auditor, also endorse post-baccalaureate education.

A graduate program, comprised of 30 semester hours and leading to a degree of Master of Accountancy, is available to qualified graduates of baccalaureate programs. The general requirements for the Master of Accountancy degree are summarized in the Graduate Catalog.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Total: 126 hours</td>
</tr>
</tbody>
</table>

| Social Science - One course from the courses listed below: Anthropology 110, 120, 130, 230; Psychology 110, 117, 220, 310, 346, 370, 415, 459. Language 110, 117, 220, 310, 346, 370, 415, 459. |
| Total: 126 hours |

| International Business - The international course requirement may be satisfied by taking either Business Administration 311 or 451 or an international course in a concentration area such as Management 471, Logistics and Transportation 441, or Economics 321. |
| Written Communications - One course from the courses listed below: English 263, 295, 355, 455. |
| Written Communications - One course from the courses listed below: English 263, 295, 355, 455. |
| International Business - The international course requirement may be satisfied by taking either Business Administration 311 or 451 or an international course in a concentration area such as Management 471, Logistics and Transportation 441, or Economics 321. |
| Arts Elective - One course from the courses listed below: Art 172, 173, 176, 183, 191; Classics 223, 232; English 263; Music 100, 110, 120, 130; Speech 280, 380, 385; Theatre 100, 210, 211, 220, 221, 260; Women's Studies 330. |
| Economics Elective - Students may select any upper division Economics courses. |
| International Business - The international course requirement may be satisfied by taking either Business Administration 311 or 451 or an international course in a concentration area such as Management 471, Logistics and Transportation 441, or Economics 321. |
| Arts - One course from the courses listed below: Art 172, 173, 176, 183, 191; Classics 223, 232; English 263; Music 100, 110, 120, 130; Speech 280, 380, 385; Theatre 100, 210, 211, 220, 221, 260; Women's Studies 330. |

ECONOMICS

Professors: A. Mayhew (Head), Ph.D. Texas; R.A. Bohm, Ph.D. Washington (St. Louis); R.L. Bowby, Ph.D. Texas; S.L. Carroll, Ph.D. Harvard; H.S. Chang, Ph.D. Vanderbilt; D.P. Clark, Ph.D. Michigan State; W.E. Cole, Ph.D. Texas; P. Davidson (J. Fred Holly Professor of Political Economy), Ph.D. Pennsylvania; G.R. Feiwel (Emeritus), Ph.D. McGill, W.F. Fox, Ph.D. Ohio State; C.B. Garrison, Ph.D. Kentucky; H.W. Herzog, Jr., Ph.D. Maryland; H.E. Jensen (Emeritus), Ph.D. Texas; P.A. Lee, Ph.D. Michigan State; J.R. Moore (Emeritus, Alumni Distinguished Service Professor), Ph.D. Cornell; W.C. Neale (Emeritus), Ph.D. London School of Economics; E. Quinby (Emeritus), Ph.D. Kentucky; M. Russell, Ph.D. Oklahoma; A.M. Schiottmann, Ph.D. Washington (St. Louis); G.A. Spiva, Jr., Ph.D. Texas.

Associate Professors: J.A. Gauger, Ph.D. Iowa State; E. Glustoff, Ph.D. Stanford; J.A. Kahn, Ph.D. Maryland; J.W. Mayo, Ph.D. Washington (Seattle); K.E. Phillips, Ph.D. Washington (Seattle).
FINANCE:

Professors:  
H.A. Black (Head), Ph.D. Ohio State; T.P. Boehm, Ph.D. Washington (St. Louis); W.W. Dottwerich (Emeritus), Ph.D. Pennsylvania; G.C. Philaptados (Distinguished Chaired Professor of Banking and Finance), Ph.D. New York; R.E. Schries, Ph.D. California (Los Angeles); J.W. Wensley, Ph.D. South Carolina.

Associate Professors:  
A.L. Auxier, Ph.D. Iowa; M.C. Ehrhardt, Ph.D. Iowa; M.J. Stahl, Ph.D. Rensselaer; S.C. Jameson, Jr., (Emeritus), Ph.D. Purdue; C.W. Whitney (Emeritus), Ph.D. Texas; L.R. James, Ph.D. Utah; G.E. Fryxell, Ph.D. Indiana; M.R. Bowers (Management Science), Ph.D. Michigan; C.E. Noon (Management Science), Ph.D. Michigan.

Assistant Professors:  
M.C. Collins, Ph.D. Georgia; P.R. Davis, Ph.D. North Carolina; R.P. DeGennaro, Ph.D. Ohio State; D. Gunthorpe, Ph.D. Florida; M.B. Stern, Ph.D. Virginia.

Students may direct their studies in finance toward one of several functional areas: corporate financial management, financial markets and institutions, insurance and financial planning, investment management, and real estate finance and investment analysis. Students who wish to know more about a specific career option should consult a faculty member who teaches in that particular area.

MANAGEMENT:

Professors:  
R.W. Boling (Emeritus), Ph.D. Stanford H.D. DeWrist, Ph.D. Texas; L.R. James, Ph.D. Utah; A.H. Keally (Emeritus), M.B.A. Pennsylvania; J.M. Larsen, Jr., (Emeritus), Ph.D. Purdue; C.W. Neel (Dean), Ph.D. Alabama; S.K. Reed (Emeritus), Ph.D. Edinburg; D. Reese (Emeritus), Ph.D. Iowa; M.J. Stahl, Ph.D. Rensselaer; S.C. Vance, William B. Stokely Professor of Management (Emeritus), Ph.D. Pennsylvania; G.A. Wagoner (Emeritus), M.S. Indiana; G.H. Whitlock (Emeritus and Alumni Distinguished Service Professor), Ph.D. Tennessee.

Associate Professors:  
O.S. Fowler (Head) (Management Science), Ph.D. Georgia; G.H. Dobbs, Ph.D. Virginia Polytechnic; K.C. Gilbert (Chair, Management Science Program), Ph.D. Tennessee; R.T. Ladd, Ph.D. Georgia; R.C. Maddox, Ph.D. Texas; A. Miller, Ph.D. Washington; M.C. Rush (Chair, Industrial-Organizational Psychology Program), Ph.D. Akron; J.E.A. Russell, Ph.D. Akron; M.M. Srivinasa (Management Science), Ph.D. Northwestern.

Assistant Professors:  
M.R. Bowers (Management Science), Ph.D. Clemson; T.J. Dean, Ph.D. Colorado; C.P. Edirisinghe (Management Science), Ph.D. British Columbia; G.E. Fryxell, Ph.D. Indiana; W.Q. Judge, Ph.D. North Carolina; L.A. Kaplan (Management Science), Ph.D. Michigan; C.E. Noon (Management Science), Ph.D. Michigan.

Students may direct their studies in management toward operations management, international management, or general management depending on their interests or career objectives. Students should consult with management department faculty during the freshman year to make best use of electives prior to admission to the major.

GENERAL BUSINESS:

Students who complete this major are generalists in business administration. The General Business major permits students the greatest flexibility of college majors in selecting courses beyond the core of business courses. Hours Credit

Marketing 301..............................................3  
Finance 301..............................................3  
Management 301........................................3  
Management 303........................................3  
Business Law 301.......................................3  
Economics 311 or 313 or Logistics and Transportation 310.......................................3  
General Business Electives..........................6  
Social Science..........................................2  
Written Communications................................8  
Senior:

Management 401..............................................3  
General Business Elective.............................12  
International Business.................................3  
Arts Elective.............................................3  
Electives..................................................9  
Total: 126 hours

Students focusing on International Management may be required by taking either International Business Administration, Economics, Finance, Logistics and Transportation. Students who wish to know more about a specific career option should consult a faculty member who teaches in that particular area.

MANAGEMENT SCIENCE PROGRAMS:

Associate Professor:  
K.C. Gilbert (Chairperson), Ph.D. Tennessee.

Assistant Professors:  

Graduate:

Consult the Graduate Catalog for information on graduate programs.
MARKETING, LOGISTICS, AND TRANSPORTATION

LOGISTICS AND TRANSPORTATION

Professors:

Associate Professor:
J.H. Foggie, Ph.D. Indiana.

Defined as "the management of product and information flows from original source to final customer," logistics represents a key bundle of resources which can create value for the customer. Effective management in areas such as warehousing, transportation, inventory, packaging, and information flow can be essential ingredients of customer satisfaction. Even though the transportation industry has changed dramatically in recent years, the University of Tennessee's continuing reputation for excellence in this area is widely known. Graduates are attracted to a variety of entry-level positions in this exciting industry.

The internationally recognized logistics and transportation program at the University of Tennessee, Knoxville is one of the most comprehensive and contemporary programs in the nation. Many UT Knoxville graduates have advanced to executive levels in industrial and carrier businesses. With the integration of progressive information technology into the academic program, the graduates of UT's program in Logistics and Transportation readily meet the challenges of today's changing business environment.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Marketing 301</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Management 301</td>
<td>3</td>
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<tr>
<td>Management 303</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>Logistics and Transportation 301, 302</td>
<td>6</td>
</tr>
<tr>
<td>Social Science</td>
<td>3</td>
</tr>
<tr>
<td>Arts Electives</td>
<td>3</td>
</tr>
<tr>
<td>Written Communications</td>
<td>3</td>
</tr>
<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Logistics and Transportation (401, 461) or (402, 462)</td>
<td>6</td>
</tr>
<tr>
<td>*Logistics and Transportation Electives</td>
<td>9</td>
</tr>
<tr>
<td>*International Business</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: 126 hours

MARKETING

Professors:
D.J. Barnaby, Ph.D. Purdue; E.R. Cadotte, Ph.D. Ohio State; R.L. Jenkins (Associate Dean), Ph.D. Ohio State; W.B. Locander (Distinguished Professor), Ph.D. Illinois; R.B. Woodruff, D.B.A. Indiana.

Associate Professors:
J.R. McMillan, Ph.D. Ohio State; R.C. Reizenstein, Ph.D. Cornell; J.O. Rentz, Ph.D. Georgia; D.W. Schumann, Ph.D. Missouri (Columbia).

Assistant Professors:
P.A. Dahbolkar, Ph.D. Georgia State; S.F. Gardial, Ph.D. Houston; X.M. Song, Ph.D. Virginia.

The handling of goods and services and their presentation to the market is critical for the success of any business. Marketing involves researching consumer and industry wants and needs, developing goods and services to fulfill those needs, creating a desire for the goods and services, and bringing them to the public.

To understand this complex field, the student takes courses in economics, accounting, business law, computer science, finance, management, statistics, and logistics and transportation as well as well as the major courses in marketing. In addition, a knowledge of the sociological and psychological forces underlying consumer behavior is critical. Perhaps more than any other area of business, marketing requires a full understanding of all facets of the business enterprise. Marketing majors at the University of Tennessee, Knoxville follow a prescribed but broad curriculum of business study before they begin their marketing courses in their junior year.

Marketing provides career opportunities at the heart of the economic system. Typically, careers begin in consumer or industrial sales with future opportunities in sales management, brand management, promotion, retailing, market research, and many other marketing related functions. Few functions of business have so greatly expanded in importance in recent years. Outstanding opportunities are available for men and women who are prepared to apply behavioral and quantitative principles to the problems of filling human wants.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Marketing 301</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
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<tr>
<td>Management 301</td>
<td>3</td>
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<tr>
<td>Management 303</td>
<td>3</td>
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<tr>
<td>Business Law 301</td>
<td>3</td>
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<tr>
<td>Logistics and Transportation 301</td>
<td>3</td>
</tr>
<tr>
<td>Marketing 310</td>
<td>3</td>
</tr>
<tr>
<td>*Marketing Electives</td>
<td>3</td>
</tr>
<tr>
<td>*Social Science</td>
<td>3</td>
</tr>
<tr>
<td>*Written Communications</td>
<td>3</td>
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<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 126 hours

PUBLIC ADMINISTRATION

The program in public administration is a joint effort sponsored by the Departments of Economics and Political Science. It is designed for students interested in public management, the formation of public policy or the interface between the public and private sectors. The program combines general education in business principles with specific courses dealing with the operation of government. In consultation with an advisor, students are encouraged to select electives in a manner that focuses their expertise.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Marketing 301</td>
<td>3</td>
</tr>
<tr>
<td>Finance 301</td>
<td>3</td>
</tr>
<tr>
<td>Management 301</td>
<td>3</td>
</tr>
<tr>
<td>Management 303</td>
<td>3</td>
</tr>
<tr>
<td>Business Law 301</td>
<td>3</td>
</tr>
<tr>
<td>International Business</td>
<td>3</td>
</tr>
<tr>
<td>Economics 311</td>
<td>3</td>
</tr>
<tr>
<td>*Economics or Political Science Electives</td>
<td>6</td>
</tr>
<tr>
<td>*Written Communications</td>
<td>3</td>
</tr>
<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Management 401</td>
<td>3</td>
</tr>
<tr>
<td>Economics 471, 472</td>
<td>6</td>
</tr>
<tr>
<td>Political Science 441</td>
<td>3</td>
</tr>
<tr>
<td>*Social Science</td>
<td>3</td>
</tr>
<tr>
<td>*International Business</td>
<td>3</td>
</tr>
<tr>
<td>*Arts Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 126 hours

*Economics or Political Science Electives - Any upper division course in Economics or Political Science.
*Written Communications - One course from the courses listed below: Anthropology 110, 120, 130, 230; Geography 101, 102, 141, 320, 323; Political Science 101, 102, 107, 310; Psychology 110, 117, 220, 310, 320, 360, 395; Sociology 100, 110, 200, 346, 370, 415, 459.
*International Business - The international course requirement may be satisfied by taking either Business Administration 311 or 491 or an international course in a concentration area such as Management 471, Logistics and Transportation 441, or Economics 321.
STATISTICS

Professors:  
David L. Sylwester (Head), Ph.D. Stanford;  
Robert A. McLean (Emeritus), Ph.D. Purdue;  
William C. Parr, Ph.D. Southern Methodist;  
John W. Philpot, Ph.D. Virginia Polytechnic;  
Charles C. Thigpen (Emeritus), Ph.D. Virginia Polytechnic.

Associate Professors:  
H. Bozdogan, Ph.D. Illinois;  
Frank M. Guess, Ph.D. Kentucky;  
Ramon V. Leon, Ph.D. Florida State;  
H. Bozdogan, Ph.D. Illinois;  
Frank M. Guess, Ph.D. Virginia Polytechnic.

Instructors:  
Walker, Ph.D. Virginia Polytechnic;  
S. Paul Sharon Neidert Busby, M.S. Miami, Ohio;  
Instructors:  
Walker, Ph.D. Virginia Polytechnic.

Assistant Professors:  
Dennis K.J. Lin, Ph.D. Wisconsin;  
Esteban Walker, Ph.D. Virginia Polytechnic.

Instructors:  
Sharon Neidert Busby, M.S. Miami, Ohio;  
Charles M. Cwiek, M.S. Tennessee;  
P.A. Price, Research Associate, B.S. Tennessee.

Lecturer:  
James L. Schmidhammer, Ph.D. Pittsburgh.

Adjunct:  
Darryl J. Downing, Ph.D. Florida;  
Stephen A. McGuire, Ph.D. Kansas State;  
B.B. Vickers, Research Associate, B.A. Mary Tennessee.

The statistics major is designed for students interested in the application of statistics in business, government, and industry. All majors complete a set of courses designed to provide a general understanding of statistical methodology and also complete one of the two concentrations: Statistics - designed for students interested in positions involving quantitative research as well as for those interested in pursuing a graduate degree in statistics; or Industrial Statistics - designed for students interested in process control and quality management in business, industry, and government.

Junior
Marketing 301 ............................................. 3
*Natural Science ......................................... 8
Management 301 ........................................ 3
Management 302 ........................................ 3
Finance 301 ............................................... 3
Economics 311 or 313 or Logistics .......................... 3
and Transportation 301 ................................. 3
*Written Communication ............................... 3

STATISTICS CONCENTRATION
Statistics 461, 462 ...................................... 6

INDUSTRIAL STATISTICS CONCENTRATION
Mathematics 201 ...................................... 3
1. Statistics 221, 365 .................................. 5
2. Senior  
Management 401 ..................................... 3
3. *International Business .............................. 3
4. *Arts Elective ....................................... 3
5. *Social Science ....................................... 3
6. Business Law 301 ................................... 3

Electives .................................................. 6

STATISTICS CONCENTRATION
Statistics 471 ........................................ 3
Ethics .................................................... 3

INDUSTRIAL STATISTICS CONCENTRATION
Statistics 461, 462 ...................................... 6

Total: 126 hours

*Foreign Language - Students must complete the intermediate sequence of a foreign language. Students may either continue the Foreign Language begun in high school or start a new sequence. Courses taken at other than the intermediate level may be treated as nonbusiness electives.
*Humanities - Six (6) hours from courses listed below with at least three (3) hours from the literature list. Literature: Asian Studies 311, 312, 313, 314; Classics 243, 254; Comparative Literature 202, 203; English 201, 202, 221, 222, 231, 232, 233, 242, 251, 252, 253, 251, 253, 305, or 200-level Honors Literature Courses; Any foreign language courses whose content is literature including foreign literature in English translation; Medieval Studies 261, 262; Music History 310; Religious Studies 312, 313; Women's Studies 210, 215, Other Humanities: Art 171; Classics 221, 222; Philosophy 110, 111, 120, 121, 130, 135, 290, 342, 350, 360, 382; Religious Studies 312, 313; Women's Studies 210, 215.
*History - Any 6 hour sequence from courses listed below: African-American Studies 201-202; Asian Studies 101-102; History 151-152, 157-158, 161-162, 155-156 (or for international students only, 253-254); Latin-American Studies 251-252.
*Oral Communications - One course from the courses listed below: Speech 210, 240.
*Social Science - Any 3 hours except that Accounting majors must complete a course in political science and Public Administration majors must complete either Political Science 101 or 107. Anthropology 110, 120, 130, 230; Geography 101, 102, 141, 320, 323; Political Science 101, 102, 107, 310; Psychology 110, 117, 220, 310, 320, 360, 385; Sociology 100, 110, 200, 310, 346, 370, 415, 458.
*Ethics - One course from the courses listed below: Philosophy 242, 242, 342, 360.
*Natural Science - Any two course sequence from those listed below: NOTE: Certain restrictions may apply to receiving credit in some of these areas. See individual course descriptions or advisor for details. Astronomy 161-162, or 217-218; Biology 110-120; Botany 110-120, or 118-128; Chemistry 120-130; Geography 131-132; Geology 101-102; Physics 131-132, or 137-138, or 151-152; Zoology 117-118.
*Written Communications - One course from the courses listed below: English 263, 255, 355, 455, 459.
*International Business - The international course requirement may be satisfied by taking either Business Administration 311 or 491 or an international course in a concentration area such as Management 471, Logistics and Transportation 441, or Economics 321.
*Arts - One course from the courses listed below: Art 172, 173, 176, 183, 191; Classics 222, 233; English 263; Music 100, 110, 120, 130; Speech 220, 385, Theatre 100, 210, 211, 220, 221, 260; Women's Studies 330.
Communications media are a vital force in today's complex society. As a result, programs in the College of Communications acquaint students with the communications process and prepare them 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. This permits specialization at the junior and senior level.

The advertising, broadcasting, news-editorial, 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 Association of Schools of Journalism and Mass Communication and of the Broadcast Education Association.

**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 or the associate dean for undergraduate studies 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
- Advertising 340 - Advertising Research Methods
- Communications 400 - Mass Communications Law and Ethics

**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.

**MINORS**

Minors are offered in Broadcasting and Journalism.

A minor in Broadcasting consists of 18 hours as follows: Communications 100, 200, Broadcasting 275 and Broadcasting electives (any three courses).

A minor in Journalism consists of 18 hours from the following: Communications 200, 400, plus 12 hours in journalism approved by the School of Journalism minor advisor.

**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 16 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 and transfer students are first 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 the completion of at least 30 hours of prescribed coursework with a 2.3 cumulative GPA.

Until they progress to a major, students 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 achieve a cumulative grade point average of at least 2.0 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 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; H.H. Howard, Ph.D. Ohio; M.W.
ADVERTISING

Professor: R. Joel (Emeritus); R.E. Taylor (Head), Ph.D. Illinois.

Associate Professors: D. Jackson, M.S. Tennessee; R. Hovland, Ph.D., Illinois; M.J. Stankey, Ph.D. Illinois.

Assistant Professor: M.G. Hoy, Ph.D., Oklahoma State.

ASSOCIATE PROFESSORS: B.A. Moore, Ph.D. Ohio; M.J. Stankey, Ph.D. Illinois; M. Miller, Ph.D. Michigan State; S.M. Caudill, Ph.D. Tennessee; R.B. Heller, M.S. Syracuse.

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

BROADCASTING


Adjunct Professor: Lindsey Nelson, B.A. Tennessee.

Associate Professors: B.A. Moore, Ph.D. Ohio; D. Ziegler, Ph.D. Southern Illinois.

Assistant Professors: J.G. Buchanan, Ph.D. Indiana.

Communications Specialist: Jeff Wilkinson, M.A. Georgia.
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>College of Communications/Public Relations Concentration</td>
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<tr>
<td>English Literature</td>
<td>6</td>
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<td>Political Science Elective</td>
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<td>Business Administration Elective</td>
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<tr>
<td>General Elective</td>
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<tr>
<td><strong>Senior</strong></td>
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<tr>
<td>Journalism 390, 470, 492</td>
<td>8</td>
</tr>
<tr>
<td>Communications 400</td>
<td>3</td>
</tr>
<tr>
<td>Communications Elective</td>
<td>3</td>
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<tr>
<td>Social Science Electives</td>
<td>9</td>
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<td>Humanities Electives</td>
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<tr>
<td>General Elective</td>
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<tr>
<td><strong>Total: 128 hours</strong></td>
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</tbody>
</table>

*Natural Science Elective: Astronomy 151-152, Biology 110-120, Botany 110-120, Chemistry 100-110, Geology 101-102, Physics 121-122, Geography 131-132.

*Six hours at the 200 level or above of the same language.

*Mathematics or Philosophy electives: Mathematics elective, Philosophy 135; or Statistics 201.

*Journalism electives: Journalism 310, 412, 414, 433.


*Political Science electives: Political Science 315, 320, 321.

*Business Administration electives: Marketing 310, Management 301, Economics 325.

*Communications electives: Must be approved by advisor.


*Humanities Electives - Art, Classics, Drama, English, Music, Philosophy, Religious 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, Movement and Exercise Science, Sport 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, and The Center for Geography and Environmental Education.

STEP 1: ADMISSION TO TEACHER EDUCATION

MINIMUM REQUIREMENTS

Applicants will be evaluated by a board of admissions upon attainment of the following minimal criteria:

1. Academic Achievement: Applicants will be required to earn a minimum 2.5 undergraduate cumulative GPA, GPA computations, which include transfer grades, 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. 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.

The applicant will improve his/her academic record by adding or repeating courses.

2. Pre-Professional Skills Test (PSST):

The applicant will attain the minimum scores established by the State Board of Education on the Pre-Professional Skills Test. Waivers will be granted as follows:

(a) Applicants who have attained an ACT minimum composite score of 21 (a minimum composite score of 22 on the Enhanced ACT) or who have attained a minimum combined verbal and mathematics score of 990 on the SAT shall be exempt from the PPST.

(a) 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 natural science; (c) Music Education - at least one semester of applied study of music at the 200 level and Music Theory 210; (d) English Education - freshman composition and one sophomore level course.

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 UT, Knoxville, whether the student enters as a freshman, or transfer student.
(b) Applicants with a bachelor's degree from an accredited institution seeking admission to graduate level programs shall be exempt from the PPST provided the admitting institution establishes appropriate test requirements (e.g., GRE, etc.). Applicants who qualify for a waiver based on other standardized test scores must contact the Office of the Associate Dean for Undergraduate Studies.

If this standard is not met: The applicant will retake the PPST until passed. Applicants who fail the same subtest twice should consult the Office of the Associate Dean for Undergraduate Studies to determine their eligibility for a waiver based on their performance in specific general education courses. 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) 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.

BOARD OF ADMISSIONS

Applicants who successfully complete the minimal requirements will be interviewed by a board of admissions. Boards of admission will base admissions decisions on applicants’ academic qualifications, aptitude test scores, oral expression, written communication, perceived sense of social consciousness, expressed interest in teaching, poise, confidence, appearance, and goal directedness. 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.

ADMISSION DECISIONS

The College is committed to recruiting and preparing the strongest possible candidates for the teaching profession. The admissions criteria summarized above are minimum expectations. Applicants should be aware that admission decisions are made by Boards of Admission and that selection is competitive, based upon available faculty resources and field placements. Posted GPA and basic skills test scores are minimums which are necessary to interview with boards of admission and do not ensure admittance into programs. Applicants are encouraged to achieve the highest GPA and test scores possible, and to confer regularly with the College’s Advising Center regarding admissions requirements.

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 board following remediation. Applicants who are admitted, thus, become eligible to enroll in upper division Professional Education courses.

STEP III: PROGRAM PROGRESSION

Each student’s progress will be reviewed each semester following admission to the Teacher Education Program and that student (i.e. at least 90 semester hours completed) as a senior-level student (i.e. at least 90 semester hours passed) for student teachers and a baccalaureate degree for interns.

(2) Completion of field studies required in the program curriculum: (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 re-enrolling in student teaching or internship.)

Additional academic requirements, include attainment of the following minimal levels of academic achievement: (a) 2.5 undergraduate cumulative GPA and specific teaching field (major) courses; and (b) 2.8 GPA in professional education courses. Additional academic requirements, include attainment of the following minimal levels of academic achievement: (a) 2.5 undergraduate cumulative GPA and specific teaching field (major) courses; and (b) 2.8 GPA in professional education courses. "D" and "F" must be repeated.

(3) Classification (normal) as a senior-level student (i.e. at least 90 semester hours passed) for student teachers and a baccalaureate degree for interns.

STEP IV: LICENSURE

Students must attain the following minimum requirements to qualify for the College’s recommendation for licensure:

(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 re-enrolling in student teaching or internship.)

Additional academic requirements, include attainment of the following minimal levels of academic achievement: (a) 2.5 undergraduate cumulative GPA and specific teaching field (major) courses; 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 licensure requirements include the successful completion of: (a) methods course in each area of endorsement; (b) at least one two-semester hours 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, and special education; 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.

It is important to note that Tennessee regulations stipulate that applicants for initial teacher certification must be recommended by an approved teacher training institution.

REQUIREMENTS FOR ALL TEACHER EDUCATION CURRICULA

The following professional core is required of students seeking teacher licensure: Education 400 (2), 401 (3), and 403 (2).

MINORS

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 Undergraduate 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), 452 (3), Safety 441(3), 442(3), 452(3) for a total of 18 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.
- **Minor in Dance:** The following core courses are required for Option I and II: Dance 480 (3); Option I: Core (6); Select 5 from 310, 320, 330, 340, 410, 420, 430 (10); 440 (2); 445 (2); 101 (1) for a total of 21 hours. Option II: Core (6); Select 3 from 310, 320, 330, 340, 410, 420, 430 (6); 440 (2); 445 (2); 415 (2); 495 (3) for a total of 21 hours.
- Undergraduate students seeking baccalaureate degrees in the College of Liberal Arts and teacher licensure in Elementary Education, English, mathematics, social studies, science, and foreign language 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.

**Secondary Education**

Students interested in becoming Secondary (Gr. 7-Gr. 12) teachers of English, foreign language, mathematics, social science, and science earn a BA or BS in the College of Liberal Arts. While completing requirements for the baccalaureate degree students are encouraged to take a minor in Secondary Education. Courses in the minor include the following: Education 400 (2), 401 (3), 403 (2); Educational Curriculum and Instruction 304 (1), 352 (1), 355 (3); and Educational and Counseling Psychology 210 (3) for a total of 15 hours.

Refer to the Curricula for the remainder of courses which are taken during the Professional Year (fifth year) to fulfill licensure requirements.

Information relative to specific courses may be obtained from the Department of Curriculum and Instruction, 301 Claxton Education Building, or the Education Advising Center, 214 Claxton Addition.

**Elementary Education**

Undergraduate students interested in obtaining licensure to teach at the Elementary level (K-Gr. 8) are encouraged to earn a minor in Elementary Education while fulfilling requirements for the baccalaureate degree in the College of Liberal Arts. Courses in the minor include the following: Education 400 (2), 401 (3), 403 (2); Educational and Counseling Psychology 210 (3); Educational Curriculum and Instruction 324 (1), 351 (1), 356 (1), 422 (6).

Library and Information Science 330 (3); Choose from two of the following areas: Art Education, Music Education, Health Education, or Physical Education Methods (6) for a total of 9 hours.

Refer to the Curricula for the remainder of courses which are taken during the Professional Year (fifth year) to fulfill licensure requirements.

**PROGRESSION TOWARD DEGREE COMPLETION IN NON-TEACHING FIELDS**

**HUMAN SERVICES**

The standards which must be met for progression and retention in Human Services are professional in nature as well as academic, because the program in Human Services prepares students for entry into a service profession. Students who wish to pursue a major in Human Services must earn a grade of "C" or higher in the introductory course before progressing to upper division work in the major. Students whose average for courses taken in the major falls below 2.5 must regain this required minimum average by the end of the subsequent semester in order to be retained in the major. A Board of Review will meet once each semester to interview students who wish to progress into the major, and to review the work of students who are not meeting the academic and/or professional standards of the program. Students who wish to do so may ask to be interviewed while taking the introductory course, but if they meet the standards for progression will be allowed to progress to upper division work upon completion of that course with a "C" or higher.

Students who in the judgment of the members of the Board are not meeting the professional standards of the program will not be retained in the major. Applications for Fall/Spring practicum sequence must be submitted at the beginning of the preceding Spring semester, and students who fail to meet the standards for professional conduct during the course of their field work will not be retained in the major. (Note that any decision affecting progression or retention may be appealed to the head of the Department of Special Services Education.) Requests for information about the program, for appointments with the Board of Review, and for applications for the field practicum sequence should be directed to the program secretary in 127 Claxton Addition.

**SPORT MANAGEMENT CONCENTRATION**

Progression toward degree completion in all non-teaching Physical Education concentrations and Recreation: Sport Management requires successful attainment of the same criteria which are required of teaching majors (see Progression Toward Degree Completion and/or Certification in Teaching Fields).

Students admitted into a Sport Management concentration must maintain at least a 2.5 GPA thereafter to remain in good academic standing. Students with less than a 2.5 GPA for two consecutive semesters will be dropped from the major.

Students who are granted progression are, thereby, permitted to enroll in upper division professional courses.

**SATISFACTORY/NO CREDIT COURSES**

Teacher Education students may include a maximum of 20 semester hours in non-directed electives taken on a Satisfactory/No Credit basis in the total hours required for graduation. S/N/C may not be used in required courses or in controlled electives, except where the course is offered only on a S/N/C basis (such as teaching internships and field experiences).

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 or 12 hours during summer term must be obtained from the Coordinator of Undergraduate Student Services, 202 Claxton Addition. A normal semester 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 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.

ART AND MUSIC EDUCATION

Professors:

Associate Professors:

Assistant Professor:
Patricia Root; M.A., Washington State University.

CURRICULUM AND INSTRUCTION

Professors:

Associate Professors:

Assistant Professors:
L.M. Barden, Ph.D. Maryland; K.P. Bennett, Ed.D. University of Cincinnati; D.A. Hendricks, Ph.D. Alabama.

EDUCATIONAL AND COUNSELING PSYCHOLOGY

Professors:

Associate Professors:

Assistant Professors:
Shanette Harris, Ph.D. VP; T.A. Hutchens, Ph.D. Georgia; Arie Nettles, Ph.D. Vanderbilt.

HEALTH, LEISURE, AND SAFETY

Professors:
C.B. Hamilton (Head), Dr. P.H. Oklahoma; J. Gorski, Dr. P.H. California (Los Angeles); G.A. Hayes, Ph.D. North Texas State; R.H. Kirk, H.S.D. Indiana; J.J. Neutens (Adjunct), Ph.D. Illinois; R.H. Rockett, Ph.D. Brown; B.C. Wallace, Ed.D. Colorado State.

Associate Professors:
K.L. Krick, Re.D. Indiana; R.J. Pursley, Ph.D. Iowa.

Research Associate Professor:
S.L. Putnam, Ph.D. Brown.

Assistant Professors:

Lecturer:
M. Duffy, M.D. Pennsylvania.

HUMAN PERFORMANCE AND SPORT STUDIES

Professors:
M.J. Paul (Head), Ed.D. Alabama; E.K. Capen (Emeritus), Ph.D. Iowa; 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 (Emerita), Ph.D. Iowa; H.B. Watson (Emerita), Ph.D. Michigan; H.G. Welch, Ph.D. Florida; C.A. Wisberg, Ph.D. Michigan.

Associate Professors:

Assistant Professors:

Adjunct Faculty:

SPECIAL SERVICES EDUCATION

Professors:

Associate Professors:

Research Associate Professors:
J.L. Cassell, Ph.D. Kansas; C.R. Colvin, Ed.D. Virginia; W. Mulkey, Ph.D. Florida State.

Assistant Professors:
J.D. McLean, Ph.D. Chicago; M.K. Warden, Ph.D. Tennessee.

Research Instructors:
D.H. Ashmore, M.S. Tennessee; J.R. Butterworth, Ph.D. Vanderbilt; A.M. Griffin, M.S. Tennessee; R.A. Sandefur, M.S. Converse College.

Lecturer:
H.K. Byrd, Jr., M.S. Tennessee.
## TECHNOLOGICAL AND ADULT EDUCATION

### Professors:
- G.D. Cheek (Head), Ph.D. Kansas State; W.A. Cameron, Ph.D. Ohio State; C.P. Campbell, Ed.D. Maryland; C.B. Coakley, Ph.D. Wisconsin; D.G. Craig, Ed.D. Cornell; R.W. Haskell (Coordinator, Industrial Education), Ph.D. Purdue; J.I. Matthews, Ph.D. Arizona State; J.M. Peters (Coordinator, Adult Education), Ed.D. North Carolina State; J.L. Reed (Emeritus), M.S. Oklahoma State; G.A. Wagoner (Emeritus), M.S. Indiana.

### Associate Professors:

### Assistant Professors:
- R. Pierce, Ph.D. Ohio State; T.L. Powell, M.S. Oklahoma State.

## CURRICULA

### ART EDUCATION

Students seeking licensure to teach art in the schools pursue the Bachelor of Fine Arts Degree in Studio Art in the College of Liberal Arts and will complete a major in Art Education at the undergraduate level. The undergraduate major in Art Education includes the following:

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Art Education 301</th>
<th>Art Education 302</th>
<th>Art Education 303</th>
<th>Art Education 304</th>
<th>Art Education 350</th>
<th>Art Education 410</th>
<th>Education 400</th>
<th>Education 401</th>
<th>Education 403</th>
<th>Educational and Counseling Psychology 210</th>
<th>Educational Curriculum and Instruction 304</th>
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<td>Undergraduate Total: 25 hours</td>
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The following courses are taken during the post baccalaureate, Professional Year:

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<tr>
<th>Hours Credit</th>
<th>Education 574</th>
<th>Education 575</th>
<th>Education 591</th>
<th>Technologica land Adult Education 532, 536</th>
<th>Educational Curriculum and Instruction 475</th>
<th>Education 400</th>
<th>Education 401, 403</th>
<th>Technological and Adult Education 415, 432</th>
<th>Technological and Adult Education 434 or 439</th>
<th>Technological and Adult Education 438, 440</th>
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</table>

*Foreign Language studies at the intermediate level or higher.

### BUSINESS/MARKETING EDUCATION TRAINING CONCENTRATION

**Freshman**
- English 101, 102
- Mathematics 121, math elective
- Natural Science elective
- Foreign Language, Multicultural, or Integrative elective
- Health 330 (integrative)
- Computer Science elective
- Speech elective

**Sophomore**
- English Literature elective
- History electives
- Accounting 201: Accounting 202
- Economics 201, Economics elective
- Humanities electives
- Statistics elective
- Technical elective
- Physical Education Activity elective

**Junior**
- Technological and Adult Education 336, 415, 420, 430, 432

*Technical electives 15*

**Marketing electives 3**
- Finance electives 3
- Business elective 3
- Psychology or Educational and Counseling Psychology elective 3
- Business Law 3
- Educational Curriculum and Instruction 475 3

**Total: 127 hours**

*Includes courses in Business Administration, Textiles and Apparel, Communications, etc. Consult advisor for specific requirements.

### ELEMENTARY EDUCATION

Students interested in becoming Elementary school teachers (K-Gr.8) earn a BA or BS degree in the College of Liberal Arts (see Pre-Teaching Programs for Prospective K-8 Teachers). While completing requirements for the baccalaureate degree, students are encouraged to take a minor in Elementary Education:

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Educational Curriculum and Instruction 324</th>
<th>Educational Curriculum and Instruction 351</th>
<th>Educational Curriculum and Instruction 356</th>
<th>Educational Curriculum and Instruction 452</th>
<th>Library and Information Science 330</th>
<th>Art Education, Music Education, Health Education, or Physical Education Methods (Choose two or more areas)</th>
<th>Educational and Counseling Psychology 210</th>
<th>Education 400</th>
<th>Education 401</th>
<th>Education 403</th>
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</table>

The following courses are taken during the post baccalaureate, Professional Year:

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Education 574</th>
<th>Education 575</th>
<th>Education 591</th>
<th>Technological and Adult Education 415, 432</th>
<th>Technological and Adult Education 434 or 439</th>
<th>Technological and Adult Education 438, 440</th>
<th>Business electives</th>
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**NOTE:** Teacher licensure is granted at the successful completion of the Professional Year; 12 additional hours may be taken to complete the Masters Degree. For details, see the Graduate Catalog.

### HEALTH EDUCATION: COMMUNITY HEALTH EDUCATION

<table>
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<tr>
<th>Hours Credit</th>
<th>English 101, 102</th>
<th>Mathematics 110, 115</th>
<th>Chemistry 100, 110</th>
<th>Nutrition elective</th>
<th>Psychology 110</th>
<th>Foreign Language, Multicultural, or Integrative electives</th>
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</thead>
<tbody>
<tr>
<td>Senior</td>
<td>Sophomore</td>
<td>Microbiology 210</td>
<td>Economics 201</td>
<td>Sociology 100</td>
<td>History electives</td>
<td>Foreign Language, Multicultural, or Integrative electives</td>
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<tr>
<td>Junior</td>
<td></td>
<td>Zooloby 230, 240</td>
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<td></td>
<td></td>
<td>Sophomore</td>
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**Total: 12 hours**
HUMAN PERFORMANCE AND SPORT STUDIES: DANCE CONCENTRATION

**Freshman**
- English 101, 102 ........................................ 6
- Dance Technique (Principal Area) .................. 4
- Humanities electives ................................ 6
- History elective ........................................... 6
- Social Science elective ................................ 6
- HPSS 100, 105 ............................................. 3
- Dance 201 ................................................. 1
- Dance 240 or 340 ........................................ 2
- Dance Technique (Secondary Area) ................. 4
- Foreign Language, Multicultural, or Integrative electives ........................................ 6
- HPSS 275, 332 ............................................ 4
- Senior
  - Dance 415, 416 ........................................ 5
  - HPSS 411, 422 ........................................ 6
  - Dance 201 .............................................. 1
  - Dance Technique (Principal Area) ................. 4
  - Dance Technique (Secondary Area) ................. 4
  - Specialization electives ............................. 12-15

**Sophomore**
- Dance Technique (Principal Area) .................. 4
- Dance 440, 445, 480, 490 ............................. 10
- Dance 201 .............................................. 2
- Dance 240 or 340 ........................................ 2
- Dance Technique (Secondary Area) ................. 4
- Social Science electives ............................... 6
- Math electives ......................................... 3

**Junior**
- Dance Technique (Principal Area) .................. 4
- Dance 440, 445, 480, 490 ............................. 10
- Dance 201 .............................................. 2
- Dance 240 or 340 ........................................ 2
- Dance Technique (Secondary Area) ................. 4
- Foreign Language, Multicultural, or Integrative electives ........................................ 6
- HPSS 275, 332 ............................................ 4
- Social Science elective ................................ 3
- Math electives ......................................... 3

Total: 131-136 hours

1. The specific dance technique (ballet, modern, jazz/musical theatre) and skill level will be determined through advising.
2. Concentrated course work in an area or specialization will be determined through advising.

HUMAN PERFORMANCE AND SPORT STUDIES: EXERCISE SCIENCE CONCENTRATION (KINESIOLOGY OPTION)

**Freshman**
- English 101, 102 ........................................ 6
- Mathematics 121-122 or 141-142 or 151-152 .......... 6-6
- Human Performance and Sport Studies 100 ......... 2
- Humanities electives ................................ 6
- Chemistry 120, 130 .................................... 8
- Foreign Language, Multicultural, or Integrative electives ........................................ 6
- Social Science electives ............................... 3
- History elective ........................................... 3
- Zoology 230 ............................................. 5
- Human Performance and Sport Studies 321, 325, 332, 335, 372 ........................................ 14
- Professional electives ................................. 6

**Senior**
- English 461 ............................................. 3
- Humanities elective ................................... 3
- History elective ........................................... 3
- Zoology 230 ............................................. 5
- Human Performance and Sport Studies 411, 412 or 413, 414, 422, 480, 493 .......................... 16
- CPR certification ........................................ 3

Total: 138-141 hours

1. Proficiency in at least six activities.
2. Proficiency: passing of a proficiency test or passing of activity course with a grade of "C" or better.
3. Evidence of current certification in CPR.

HUMAN PERFORMANCE AND SPORT STUDIES: MOVEMENT SCIENCES CONCENTRATION (MOTOR BEHAVIOR /SPORT PSYCHOLOGY OPTION)

**Freshman**
- English 101, 102 ........................................ 6
- Mathematics 110 ....................................... 3
- Philosophy 135, 200, 320, 322, 324, 326 .......... 18
- Electives ................................................. 6

**Sophomore**
- Mathematics 121 ....................................... 3
- Psychology 210, 240 or 270 ............................ 3
- History electives ....................................... 6
- Social Science electives ............................... 6
- Human Performance and Sport Studies 321, 325, 332, 335, 372 ........................................ 14

**Junior**
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Social Science electives ............................... 6
- History electives ....................................... 6
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Professional electives (Psychology 220, 300, 310, 400, 410, 434, 445, 450-461 and Educational Counseling and Psychology 410) .................. 25

Total: 135 hours

HUMAN PERFORMANCE AND SPORT STUDIES: MOVEMENT SCIENCES CONCENTRATION (SOCIOCULTURAL STUDIES OPTION)

**Freshman**
- English 101, 102 ........................................ 6
- Mathematics 110 ....................................... 3
- Humanities electives ................................ 6
- HPSS 100 ................................................. 2
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Social Science electives ............................... 6
- History electives ....................................... 6
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Professional electives ................................ 6

**Sophomore**
- Physical Education Activities electives ......... 6
- Humanities electives ................................ 6
- History electives ....................................... 6
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Social Science electives ............................... 6
- History electives ....................................... 6
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Professional electives ................................ 6

**Senior**
- Physical Education Activities electives ......... 6
- Humanities electives ................................ 6
- History electives ....................................... 6
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Social Science electives ............................... 6
- History electives ....................................... 6
- Physical Education Activities electives ......... 6
- Natural Science electives ........................... 8
- University Studies elective ......................... 3
- Professional electives ................................ 6

Total: 135 hours
HUMAN PERFORMANCE AND SPORT STUDIES: SPORT MANAGEMENT CONCENTRATION

**Freshman**
- English 101, 102 ............. 6
- Mathematics 110 ............. 6
- Chemistry 100, 110 .......... 6
- General electives ........... 3
- Activities electives ........ 4
- Humanities electives ....... 6
- Natural Science electives ... 8
- Foreign Languages, Multicultural or Integrative elective ....... 3
- Total: 134-140 hours

**Sophomore**
- Accounting 201, 202 .......... 6
- Accounting 230 .............. 3
- History elective ............. 3
- Humanities electives ....... 3
- Recreation 210 .............. 3
- Physical Education or Recreation Activities electives .......... 2
- *Pediatric Exercise Science 220, 221* ............ 6
- *Health 310* .................. 3
- *Speech 210* .................. 3
- *Elective* ..................... 3
- *Junior*
- *Business electives* ........ 6
- *Economics 201* .............. 4
- *Foreign Languages, Multicultural, or Integrative electives* .... 6
- *Total: 134-140 hours*

**Junior**
- *Business electives* ........ 6
- *History elective* .......... 3
- *Humanities elective* ...... 3
- *Recreation 310* .......... 3
- *Social Science elective* .... 3
- *Technological and Adult Education 355 or Curriculum \\n  Instruction 486* .......... 3
- *Total: 134-140 hours*

**Senior**
- *Business electives* ........ 6
- *History elective* .......... 3
- *Humanities elective* ...... 3
- *Recreation 410* .......... 3
- *Foreign Language, Multicultural or Integrative electives* ...... 6
- *Total: 134-140 hours*

1 Admissions to the Sport Management Concentration is contingent upon a 2.5 GPA.
2 Practicum courses (HPSS 280 and 286) are required during junior and senior years prior to enrolling in HPSS 340.
3 Select 12 hours of upper division business electives. See 1990-91 Undergraduate Catalog, page 56.
4 A 2.5 GPA is required for internship.

HUMAN PERFORMANCE AND SPORT STUDIES: TEACHING CONCENTRATION

**Freshman**
- English 101, 102 ............. 6
- Mathematics 110 ............. 6
- Chemistry 100, 110 .......... 6
- Human Performance and Sport Studies 100 ............ 2
- Activities electives ........ 4
- Humanities electives ....... 6
- Nutrition 100 ................. 3
- Foreign Languages, Multicultural or Integrative elective ....... 3
- *Sophomore*
- Zoology 230 .................. 5
- History elective ............. 6
- *Activities electives* ........ 4
- Human Performance and Sport Studies 290, 291, 292 .......... 8
- *Total: 122 hours*

**Sophomore**
- Accounting 201, 202 .......... 6
- Accounting 230 .............. 3
- History elective ............. 3
- Humanities electives ....... 3
- Recreation 210 .............. 3
- Physical Education or Recreation Activities electives .......... 2
- *Pediatric Exercise Science 220, 221* ............ 6
- *Health 310* .................. 3
- *Speech 210* .................. 3
- *Junior*
- *Business electives* ........ 6
- *Economics 201* .............. 4
- *Foreign Languages, Multicultural, or Integrative electives* .... 6
- *Total: 122 hours*

**Junior**
- *Business electives* ........ 6
- *History elective* .......... 3
- *Humanities elective* ...... 3
- *Recreation 410* .......... 3
- *Foreign Language, Multicultural, or Integrative electives* ...... 6
- Total: 134-140 hours

**Senior**
- *Business electives* ........ 6
- *History elective* .......... 3
- *Humanities elective* ...... 3
- *Recreation 410* .......... 3
- *Foreign Language, Multicultural, or Integrative electives* ...... 6
- Total: 134-140 hours

**Graduate Total:**
- *Foreign Language, Multicultural, or Integrative electives* ...... 6
- *Total: 134-140 hours*

INDUSTRIAL EDUCATION: TECHNOLOGY EDUCATION CONCENTRATION

**Freshman**
- English 101, 102 ............. 6
- Mathematics electives ....... 6
- Natural Science electives ... 6
- History elective ............. 3
- Related Technical Course Work 106, 201, 266 ....... 12
- Junior
- *Business electives* ........ 6
- *Economics 201* .............. 4
- *Foreign Languages, Multicultural, or Integrative electives* .... 6
- *Total: 134-140 hours*

**Sophomore**
- Accounting 201, 202 .......... 6
- Accounting 230 .............. 3
- History elective ............. 3
- Humanities electives ....... 3
- Recreation 210 .............. 3
- Physical Education or Recreation Activities electives .......... 2
- *Pediatric Exercise Science 220, 221* ............ 6
- *Health 310* .................. 3
- *Speech 210* .................. 3
- *Junior*
- *Business electives* ........ 6
- *History elective* .......... 3
- *Humanities elective* ...... 3
- *Recreation 410* .......... 3
- *Foreign Language, Multicultural, or Integrative electives* ...... 6
- *Total: 126 hours*

**Senior**
- *Business electives* ........ 6
- *History elective* .......... 3
- *Humanities elective* ...... 3
- *Recreation 410* .......... 3
- *Foreign Language, Multicultural, or Integrative electives* ...... 6
- *Total: 126 hours*
### INDUSTRIAL EDUCATION: TRADES AND INDUSTRIES CONCENTRATION

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**Total:** 134 hours

### MUSIC EDUCATION: INSTRUMENTAL MUSIC CONCENTRATION

<table>
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<tr>
<td></td>
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<tr>
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</tr>
<tr>
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<td>Music Education 230</td>
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<tr>
<td></td>
<td>Music History 200</td>
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<tr>
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<tr>
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<td>Mathematics electives</td>
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<td><strong>Sophomore</strong></td>
<td>Music Theory 210, 220, 230, 240</td>
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<tr>
<td></td>
<td>Minor Woodwind Instrument</td>
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<td>History electives</td>
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<tr>
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<td>Minor Brass Instrument</td>
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<td></td>
<td>Foreign Language, multicultural or integrative electives</td>
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**Undergraduate Total:** 143 hours

### MUSIC EDUCATION: VOCAL/GENERAL MUSIC CONCENTRATION: KEYBOARD INSTRUMENT PRINCIPAL

<table>
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<td>Voice</td>
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<tr>
<td></td>
<td>Music History 200</td>
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<td>Music Theory 210, 220, 230, 240</td>
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<td>Voice</td>
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<tr>
<td><strong>Junior</strong></td>
<td>Music Theory 310, 320</td>
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<tr>
<td></td>
<td>Keyboard Major</td>
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<td>Education 400, 401, 403</td>
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<td></td>
<td>Music Education 330, 350, 410, 420, 430</td>
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<td></td>
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<td>Social Science elective</td>
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<td>Foreign Language, Multicultural or integrative electives</td>
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**Undergraduate Total:** 148 hours

**Graduate Total:** 24 hours

The following courses are taken during the post baccalaureate, Professional Year:

### Professional Year

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<tr>
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<td><strong>Sophomore</strong></td>
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<td>Music History 210, 220</td>
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<td></td>
<td>Music Education 260</td>
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<td>Educational and Counseling Psychology 210</td>
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<td>History electives</td>
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<tr>
<td><strong>Junior</strong></td>
<td>Music Theory 310, 320, 450</td>
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<td><strong>Senior</strong></td>
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<td>Education 400, 401, 403</td>
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<td></td>
<td>Music Education 330, 350, 410, 420, 430</td>
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<td></td>
<td>Foreign Language, Multicultural or integrative electives</td>
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**Undergraduate Total:** 143 hours

**Graduate Total:** 24 hours

The following courses are taken during the post baccalaureate, Professional Year:

### Professional Year

<table>
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<tr>
<th>Hours Credit</th>
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<tr>
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<tr>
<td></td>
<td>Music Education Graduate Studies</td>
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1. Choose from Anthropology, Economics, Geography, Political Science, or Sociology.
2. Choose from Anthropology, Art, Literature, Philosophy, or Religious Studies. Humanities electives must include at least two of these fields.
3. Choose from Astronomy, Biology, Botany, Chemistry, Geology, or Physics.
4. Foreign language studies at the intermediate level or higher.
5. A senior recital, approved by the faculty, is required.
RECREATION AND LEISURE STUDIES: SPORT MANAGEMENT CONCENTRATION

**Freshman**
- English 101, 102 .............................. 6
- Mathematics 121, 122 ......................... 6
- History elective .................................. 3
- *HPSS 100 or Recreation 110* .................. 3
- Physical Education or Recreation Activities elective .................................................. 1
- Humanities electives ............................ 6
- Sociology 291 ..................................... 3
- Recreation 290 .................................... 3
- Foreign Language, Multicultural, or Integrative elective ............................................. 3

**Sophomore**
- History elective .................................. 3
- Communications 100 or Journalism 201 ........ 3
- Economics 201 .................................... 4
- Natural Science electives ........................ 8
- HPSS 290, 291 ...................................... 6
- Accounting 201, 202 ............................ 6
- Statistics 201 ..................................... 3
- Foreign Language, Multicultural, or Integrative elective ............................................. 3
- *HPSS 260 or Recreation 290* ................. 1-3
- Physical Education or Recreation Activities elective .................................................. 1

**Junior**
- HPSS 350 ........................................... 3
- Technical and Adult Education 355 or Educational Curriculum and Instruction 486 ........ 3
- Social Science elective .......................... 3
- Business electives ............................... 6
- HPSS 321, 372 ...................................... 6
- Speech 210 ........................................ 3
- Marketing 201 .................................... 3
- Recreation 310 .................................... 3
- Physical Education or Recreation Activity elective ...................................................... 1

**Senior**
- *Business electives* ............................... 6
- *HPSS 426 or Recreation 390* ................. 1-3
- *HPSS 490 or Recreation 490* .................. 12
- Recreation 440 .................................... 3
- General elective .................................... 3

**Senior Recital, approved by the faculty, is required.**

All candidates for a degree with a major in Music Education will be required to present a senior recital or equivalent.

GENERAL REGULATIONS FOR ALL MUSIC EDUCATION STUDENTS

A. Required participation, with credit or as a registered auditor, in a major instrumental or vocal organization each term in residence (on-campus) as a music education major, as approved by the student's advisor and the directors of the organizations concerned. Students preparing to be band directors are expected to enroll in marching band unless officially excused. *Instrumental major.*
- Concert Band; Campus Band; University Chorus, Chamber Singers.
- Vocal Major . Concert Choir; University Marching Band; or University Orchestra.
- *Concert Band; Campus Band; University officially excused. Instrumental major.*
- Expected to enroll in marching band unless approved by the student's advisor and the campus. *Music Education students.*
- Present a senior recital or equivalent.

A senior recital, approved by the faculty, is required.

"Foreign language studies at the intermediate level or above are required.

"Choose from Anthropology, Art, Literature, Philosophy, or Religious Studies. Humanities electives must include at least two of these fields.

"Choose from Astronomy, Biology, Botany, Chemistry, Geology, or Physics.

"Foreign language studies at the intermediate level or above are required.

Total: 134-140 hours

RECREATION AND LEISURE STUDIES: PRIVATE/COMMERCIAL CONCENTRATION

**Freshman**
- English 101, 102 .............................. 6
- History electives ............................... 6
- Mathematics 121, 122 .......................... 6
- Recreation 110, 210 ............................ 6
- Human Ecology 210 or Technological and Adult Education 355 ............................... 3
- Humanities electives ........................... 6
- Communications 100 or Journalism 201 .................. 3

**Sophomore**
- Recreation 290 ................................... 1-3
- Recreation 320 .................................... 3
- Sociology 100 ..................................... 3
- Elective ............................................ 3
- Hotel and Restaurant Administration 126 .................. 3
- Speech 240 ........................................ 3
- Economics 201 .................................... 4
- Natural Science electives ........................ 8
- Advertising 250 .................................... 3

**Junior**
- Recreation 310 .................................... 3
- Recreation 390 .................................... 1-3
- Recreation 450 .................................... 3
- Hotel and Restaurant Administration 324, 423 ........ 6
- Marketing 201 .................................... 3
- Business Administration or Management elective .................................................. 3
- Elective ............................................ 3
- Foreign Language, Multicultural, and Integrative elective ........................................ 6
- Humanities electives ............................ 6

**Senior**
- Recreation 410, 430, 440 .......................... 9
- Recreation 490 .................................... 12
- Business Administration or Management elective .................................................. 6

Total: 128-132 hours

"Admission to the Sport Management Concentration is contingent upon a 2.5 GPA.

"Recreation majors in concentration in sport management must select recreation courses to meet accreditation requirements. Practicum courses (Recreation 290, 390) are required during junior and senior years prior to enrolling in Recreation 490. A 2.5 GPA is required for registration.

"Select 12 hours of upper-division business electives. See The University of Tennessee Undergraduate Catalog.

RECREATION AND LEISURE STUDIES: THERAPEUTIC CONCENTRATION

**Freshman**
- Speech 240 or 210 .............................. 3
- Zoology 210 and 220 ............................ 6
- Classics 273 ...................................... 3
- Foreign Language, Multicultural, or Integrative elective ........................................ 3
- Health 310 ........................................ 3
- Elective ............................................ 3

**Junior**
- Recreation 310, 390, 420, 450 ................. 11-12
- Philosophy 355 or 385 .......................... 3
- Sociology 414, 415 .................................. 6
- Psychology 330 .................................... 3
- Business Administration/Management electives .................................................. 6
- Human Performance and Sport Studies 332 ........ 3

**Senior**
- Recreation 410, 430, 490 .......................... 18
- Humanities elective ............................. 3
- Electives .......................................... 6

**Total: 131-133 hours**

SECONDARY EDUCATION

Students interested in becoming Secondary school teachers earn a BA or BS degree in the College of Liberal Arts (e.g., English, mathematics, etc.). While completing requirements for the baccalaureate degree, students are encouraged to take a minor in Secondary Education.

**Undergraduate Total: 15 hours**

The following courses are taken during the post baccalaureate, Professional Year:

**Professional Year**
- Education 574 .................................... 2
- Education 575 .................................... 12
- Education 591 .................................... 16
- Education Curriculum and Instruction 491 or 492 .................................................. 3
- Educational Curriculum and Instruction 454, 455, 459, 485, or 496 ............................ 3

**Graduate Total: 24 hours**

Note: Teacher licensure is granted at the successful completion of the Professional Year; 12 additional hours may be taken to complete the Masters Degree. For details, see the Graduate Catalog.

SPECIAL EDUCATION: EDUCATION OF THE HEARING IMPAIRED CONCENTRATION

**Freshman**
- Speech 240 or 210 .............................. 3
- Art, Music, or Theatre elective ................ 3
- Anthropology 130 or 230 ....................... 3
- Interdisciplinary Studies electives .......................... 3
- Natural Science elective ........................ 3
- Sociology elective ............................... 3
- Physical Education Activity or Recreation Therapy elective ........................................ 3
- Electives .......................................... 6

**Sophomore**
- Mathematics 100 or 101, 102 .................. 6
- Speech 240, 210 or 220 .......................... 3
- Literature elective ............................... 3
### SPECIAL EDUCATION: MODIFIED AND COMPREHENSIVE CONCENTRATION

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<th>Hours Credit</th>
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<tbody>
<tr>
<td>1-2</td>
<td>Physical Education Activity or Recreation Therapy elective</td>
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#### Freshman

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<th>Hours Credit</th>
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<tr>
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<td>English 101, 102</td>
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<tr>
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<td>Art, Music, or Theatre elective</td>
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<td>Anthropology 130 or 230</td>
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<td>Foreign Language, Multicultural, or Integrative electives</td>
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<td>3-4</td>
<td>Physical Science elective</td>
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<td>Sociology elective</td>
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<td>1-2</td>
<td>Physical Education Activity or Recreation Therapy elective</td>
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#### Sophomore

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<tr>
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<td>Mathematics 110-115 or 121-122 or 201-202</td>
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<td>Speech 210, 220, or 240</td>
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<td>Human Services 220, 320, or 330</td>
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<td>Educational and Counseling Psychology 210</td>
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<td>History 251, 252</td>
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<td>Physical Education Activity or Recreation Therapy elective</td>
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#### Junior

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<td>Philosophy/Religious Studies 345</td>
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<td>Political Science or Economics elective</td>
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<td>Psychology elective</td>
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<td>Health 305</td>
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<td>Special Education 310, 320</td>
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<td>Education 400, 401, 403</td>
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<td>Special Education 420, 421, 430, 431</td>
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#### Senior

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<td>Educational and Counseling Psychology 315</td>
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<td>Major elective (choose two): Special Education 440, Audiology and Speech Pathology 431, 465, 494</td>
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#### Total: 159-160 hours

The following courses are taken during the post baccalaureate, Professional Year:

### SPECIAL EDUCATION: SPEECH AND HEARING CONCENTRATION

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<td>1-2</td>
<td>Physical or biological science course to complete science sequence</td>
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#### Professional Year

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<td>Education 591</td>
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<td>Special Education 528, 529</td>
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#### Graduate Total: 24 hours
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 and is a traditional part of the engineering education offered by the College. Cooperative work assignments differ from part-time or summer employment in that they involve regularly scheduled cycles of full-time academic terms alternating with full-time work periods, resulting in planned, career-related work terms of progressive complexity and responsibility. In introducing the student in this manner to engineering employment, the College and the facilities of industry join together to offer a broader and richer preparation for postgraduate employment than can be provided by a conventional academic program. This experience in an industrial and professional environment contributes to the student's maturity, accelerates professionalism, and offers an opportunity to apply engineering course work in a real-world setting, and enables the student to define more clearly educational and career interests and objectives. Some of the experience is at a subprofessional level not available to an engineer after graduation, yet is of great significance in achieving a complete education and early effectiveness.

Participation in the Cooperative Engineering Program usually begins with application during the freshman year, and placement with a co-op employer during the sophomore year, after the student has met academic progress and grade qualification requirements of employers and the Co-op Program. An exceptionally well-qualified candidate might begin a field assignment at the end of the freshman year.

**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 Program in the College of Engineering has been in existence since 1926 and is a traditional part of the engineering education offered by the College. Cooperative work assignments differ from part-time or summer employment in that they involve regularly scheduled cycles of full-time academic terms alternating with full-time work periods, resulting in planned, career-related work terms of progressive complexity and responsibility. In introducing the student in this manner to engineering employment, the College and the facilities of industry join together to offer a broader and richer preparation for postgraduate employment than can be provided by a conventional academic program. This experience in an industrial and professional environment contributes to the student's maturity, accelerates professionalism, and offers an opportunity to apply engineering course work in a real-world setting, and enables the student to define more clearly educational and career interests and objectives. Some of the experience is at a subprofessional level not available to an engineer after graduation, yet is of great significance in achieving a complete education and early effectiveness.

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A schedule of courses is taught by each engineering department specifically to meet the needs of co-op students, and applicants must be able to fit into that schedule in order to participate. Candidates must be able to project a minimum of twelve months of co-op experience prior to the senior year, within the regular alternating sequence, to qualify for placement. Those planning to transfer to the College of Engineering from other disciplines or schools should begin working as early as possible with an advisor in the department they plan to enter in order to enter the co-op schedule at an optimum time. Second-degree students, students re-entering college, and other non-traditional students often find the Co-Op Program a viable form of education and positions are available for such students in most instances. Very few non-citizens are able to secure co-op positions, however.

Brochures with further details, current employer list, and policies and procedures may be obtained from the Cooperative Engineering Program, 100 Estabrook Hall, University of Tennessee, Knoxville, TN 37996-2350.

INTERNATIONAL ENGINEERING PROGRAM

Since 1982 the College of Engineering has had a unique student exchange program with the Fachhochschule Rheinland-Pfalz, Abteilung Koblenz (FH Koblenz). Under this program, seniors and graduate students in all disciplines of the College may apply for a 3 to 6 month educational and practical internship with German industry. In addition to the potential of receiving credit for engineering coursework, those selected for the program will receive a stipend from German industry adequate to cover basic living expenses while in Germany.

Those interested in applying should begin making plans during the freshman year by contacting the Program Coordinator. Language preparation should start immediately. Formal application should be made at the beginning of the junior year. Following a selection committee interview, the applications of successful candidates will be forwarded to FH Koblenz, where a final selection will be made. The selection process will take into consideration language preparation, academic achievement, ability to locate a suitable industrial sponsor in Germany, and personal maturity.

GRADUATE PROGRAM

Graduate programs leading to the degree of Master of Science are offered in all areas of study, and the degree of Doctor of Philosophy is offered in nine major subjects: aerospace engineering, chemical engineering, civil engineering, electrical and computer engineering, engineering science, mechanical engineering, metallurgical engineering, nuclear engineering, and polymer engineering. Information concerning graduate programs is given in the Graduate Catalog.

CURRICULA IN ENGINEERING

NATIONAL ACCREDITATION

Since 1936, engineering programs at institutions of higher learning have been accredited by an organization formed by many engineering societies and known as the Accreditation Board for Engineering and Technology (ABET). Currently accredited engineering programs at UT, Knoxville include aerospace, agricultural, chemical, civil, electrical, engineering science, industrial, mechanical, materials science, 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 designated.
2. The minor must be one officially approved and described in the UT, Knoxville catalog. Unofficial minors will not be recognized. Minors exist in Architecture and Business Administration, and in numerous departments in Agriculture and Liberal Arts. Presently no engineering student can minor in another engineering discipline, nor can a non-engineering student declare an engineering minor.
3. Courses taken to satisfy the minor may also be used to satisfy engineering degree requirements, provided that the courses would be a part of the engineering curriculum even if no minor was declared. Completion of a minor often involves the taking of some courses which cannot be used to satisfy the minimum requirement for an engineering degree.
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 UT, Knoxville Records Office.

ADVISING

New freshman students are assigned to the Freshman Engineering Advising Center (FEAC) for academic advising and career counseling until they have completed their freshman curriculum. Freshman students admitted to the College of Engineering are not required to designate their field of study until the end of the freshman year. At that time, students select the program of their choice. As sophomores, students will be assigned a faculty advisor in their selected department.

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 UT, Knoxville.

LATE DROP REQUESTS

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.

Transfer Students. Transfer students, including internal UTK transfers, must meet the minimum requirements stated below in order to be considered for admission to a major within the College.

1. Must have earned a minimum 2.30 cumulative average over these specific courses, or their equivalent: English 101, 102; Chemistry 120, 130; and Math 141, 142.
2. The overall record will be evaluated for quality and seriousness of purpose. An excessive number of withdrawals, incompletes, repeated courses, or failure may result in denial.

Any UT, Knoxville student desiring association with one of the departments of the College of Engineering should contact 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, a College/Major/Advisor Change form is processed by the department to officially change the student's academic home.

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 is to transfer, but only after receiving the evaluation of 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 a 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.

Satisfactory/No Credit Courses. Engineering majors may take half of the minimum hours required (9) of humanities-social science electives on a Satisfactory/No Credit (S/NC) grading basis. No other courses specified as part of the minimum degree requirements may utilize S/NC grading, unless a courses is offered only on that grading basis. Students are encouraged to take courses of interest which are not part of the minimum degree requirements, and to fully utilize the S/NC grading option for such coursework.

Correspondence Courses. A student should check with his or her major department to see if restrictions there are, if any, on the use of correspondence course credit to meet the minimum degree requirements.

Humanities and Social Science Electives. Engineering practice is shaped by many non-technical considerations. Economic, safety, and ethical matters have long been of concern. In recent years increasing influence has been exerted by legal, political, governmental, cultural, and international factors. Studies in the humanities and social sciences serve to meet the vital need for awareness and knowledge of these influences on the engineering profession; to meet the objectives of a general education, and, as a consequence, to satisfy ABET accreditation requirements.

In order to be included as part of the minimum H/SS degree requirement in any engineering curriculum, such coursework should meet the generally accepted definitions that (1) humanities are the branches of
knowledge concerned with humanity and culture, and (2) social sciences are the studies of individual relationships in and to society. Subject areas in the humanities include history, English, philosophy, foreign languages, classics, and the history of music, religion, and art. Subject areas in the social sciences include sociology, psychology, economics, anthropology, and political science. Acceptability is determined by course content, not by title or administrative home.

Examples of courses not acceptable under this category include: (1) a language course in a student’s native language; (2) performance or skill development courses, including those in written or oral communication; (3) military science courses unless officially equivalent to a course in the humanities or social sciences in another department; (4) courses whose basic content is science or mathematics; (5) engineering economy; and (6) professional courses in other fields - business, communications, etc. Language courses generally must include some cultural aspects, and not be limited strictly to grammar as on language tapes.

A course approved list must be approved by the student’s advisor, department head, and the associate dean (in this order), and the approval must be recorded on a departmental substitution form and submitted to the Records Office. Transfer courses must be so approved, unless a suitable UTK equivalent course number has been assigned as part of the admissions process.

The courses selected to meet the minimum hour requirement in this category must provide both breadth and depth of coverage, and must not be limited to a selection of unrelated introductory courses. A student is urged to seek guidance from his/her advisor if necessary in choosing these electives, since this is an important part of the learning experience in preparation for engineering practice. Choices should be made on the basis of personal interest and likely value in engineering practice. Up to 9 hours in this category can be taken on an S/NC grading basis.

These requirements are not intended to inhibit in any way the selection of courses to be taken by a student while attending UTK. There are non-technical courses which are a required part of the humanities and social science requirements which do not fall in this category, such as courses designed to develop written and oral communication. There may be courses of interest to a student which do not meet these H/SS requirements, but which should be a part of the student’s educational experience at UTK. The requirements for the humanities-social science elective portion of all engineering curricula are as follows:

1. The minimum number of semester credit hours of acceptable courses is 18.
2. No more than two freshman-level courses (100 series) may be counted as part of the required block of humanities-social science electives.
3. The second semester of a freshman-level foreign language course does not count in this total.
4. To obtain breadth of coverage, a student must take courses in at least two different subjects. For this purpose, all foreign languages are considered to be a single subject.

5. For a foreign language to be used to satisfy minimum H/SS requirements, (1) at least two courses in the same language must be taken and (2) the language cannot be the native language of the student.

APPROVED HUMANITIES/SOCIAL SCIENCE ELECTIVES

Any course included on the list below has been approved by the faculty as a suitable H/SS elective. Any course not on this list must be approved through the major department and in advance of enrollment in the course (if possible) to prevent problems.


American Studies 310, 334, 410, 440

Anthropology 110, 120, 130, 220, 302, 306, 310, 311, 312, 313, 314, 315, 316, 319, 320, 360, 361, 373, 410, 412, 413, 463, 465, 499

Architecture 211, 212, 406, 415


Portuguese 111-112, 211-212, 300, 311, 431-432

Psychology 110 (117), 220, 300, 310, 359, 360, 370, 424, 470, 478


Rural Sociology 380

Russian 101-102, 201-202, 221-222, 226

Russian and East European Studies 301, 302, 321, 322, 326, 340-341, 375, 393, 459, 469


Speech Communication 466, 469

Theatre 100, 210-211, 312-313

University Honors 118-128, 237, 337, 437;

University Studies 310-320

Urban Studies 321, 323, 441, 454, 464

Women's Studies 210, 215, 220, 230, 310, 320, 324, 330, 332, 340, 360, 375, 380, 382, 422, 432, 433, 453, 466, 469, 483

Zoology 310, 370

American History Requirement. Engineering students, regardless of natural origin, must fulfill the American history requirement described elsewhere in 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 tabulations 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.W. Prados (University Professor and Head), Ph.D. Tennessee, P.E.; D.C. Bogue, Ph.D. Delaware; C.H. Byers (Adjunct), Ph.D. California (Berkeley); E.S. Clark, Ph.D. California (Berkeley); R.M. Counce, Ph.D. Tennessee; L.W. Crawford (Space Institute, Tullahoma), Ph.D. Cincinnati; O.L. Culberson (Emeritus), Ph.D. Texas; J.F. Fellers, Ph.D. Akron; G.C. Frazier, Jr. (Condra Professor), D. Eng., Johns Hopkins; M.G. Hansen, Ph.D. Wisconsin; J.M. Holmes (Emeritus), Ph.D. Tennessee; H.W. Hsu, Ph.D. Wisconsin; C.F. Moore (Alumni Professor), Ph.D. Louisiana State; J.J. Perona, Ph.D. Northwestern, PE; C.D. Scott (Adjunct), Ph.D. Tennessee, P.E.; C.O. Thomas, Ph.D. Tennessee, J.S. Watson (Part-time), Ph.D. Tennessee.

Associate Professors:
Osman A. Basaran (Adjunct), Ph.D. Minnesota; P.R. Bienkowski, Ph.D. Purdue; D.D. Bruns, Ph.D. Houston; H.D. Cochran (Adjunct), Ph.D. MIT; B.H. Davison (Adjunct), Ph.D. California Inst. of Tech.; T.L. Donaldson (Adjunct); Ph.D. Pennsylvania; Timothy C. Scott (Adjunct), Ph.D. Wisconsin; A.C. Sheth (Space Institute, Tullahoma), Ph.D. Northwestern; T.W. Wang, Ph.D. Massachusetts Institute of Technology; F.E. Weber, Ph.D. Minnesota.

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, pulp and paper, 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".

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 demonstrate their abilities to perform satisfactorily in upper-division courses by attaining a minimum GPA of 2.0 in at least 9 hours of 200 and 300 level required courses specified by 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 upper-division Chemical Engineering courses. Students who have not been admitted to an Upper-Division Status will be dropped from departmental class rolls. Transfer students at the Upper-Division level are admitted on a Provisional Status basis only.

GRADUATE STUDY PROGRAM

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in Chemical Engineering are offered. The University's Graduate School operates a Resident Graduate Program at Oak Ridge and Kingsport. See the Graduate Catalog for detailed information.

CIVIL ENGINEERING

Including Environmental Engineering

Professors:
G.D. Reed (Head), Ph.D. Arkansas, P.E.; E.G. Burdette (Fred N. Peebles Professor), Ph.D. Illinois, P.E.; A. Chatterjee, Ph.D. North Carolina State; P.E.; W.T. Davis, Ph.D. Tennessee; D.W. Goodpasture, Ph.D. Illinois, P.E.; Mriganka Ghosh, (Goodrich Chair of Excellence), P.E., Ph.D. Illinois, K.W. Heathington (Associate Vice President - Research), Ph.D. Northwestern, P.E.; J.B. Humphreys, Ph.D. Texas A&M, P.E.; H.L. Johnson, M.S. Tennessee, P.E.; W.A. Miller (Associate Dean), Ph.D. Georgia Institute of Technology, P.E.; R.B. Robinson (Fisher Professor), Ph.D. Iowa State, P.E.; B.A. Tschakarz (Condra Professor), ScD New Mexico State, P.E.; C.R. Walker (Emeritus) M.S. Massachusetts Institute of Technology, P.E.; J. Wegmann, Ph.D. Northwestern.

Associate Professors:

Assistant Professor:
K.G. Robinson, Ph.D. VPI.

Instructor:
C.D. Cox, Ph.D. Penn State.

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 2.0 in all civil engineering and environmental engineering courses taken at The University of Tennessee, Knoxville, and used to satisfy the graduation requirements.

ELECTIVES

Electives are chosen to meet student career objectives and program accreditation requirements. Students must consult with their advisor and have their selections approved.

MASTER OF SCIENCE PROGRAM

Graduate programs in civil engineering and environmental engineering leading to the degrees of Master of Science 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:
J.M. Googe (Head), Ph.D. Georgia Institute of Technology, P.E.; I. Alexeff, Ph.D. Wisconsin, P.E.; J.M. Bailey, Ph.D. Georgia Institute of Technology, J.D. Birdwell (Granger Professor), Ph.D. Massachusetts Institute of Technology; A.O. Bishop, Ph.D. Clemson; T.V. Blalock (Phillips Professor), Ph.D. Tennessee; R.E. Bodenheimer (John Fisher Professor), Ph.D. Northwestern; B.K. Bose (Condra Chair of Excellence), Ph.D. Calcutta; D.W. Bouldin (Magnavox Professor), Ph.D. Vanderbilt; P.E.; J.W. Cunningham (Space Institute, Tullahoma), Ph.D. Tennessee; R.C. Gonzales (Distinguished Professor), Ph.D. Florida; W.L. Green, Ph.D. Texas A&M; G.W. Hoffman, Ph.D. Harvard; J.C. Hung (Benwood Professor, Distinguished Professor), Ph.D. New York, P.E.; E.J. Kennedy (Weston Fulton Professorship), Ph.D. Tennessee, P.E.; J.S. Lawler (Magnavox Professor), Ph.D. Michigan State; 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, Emeritus), Ph.D. Pittsburgh, P.E.; M.J. Roberts, Ph.D. Tennessee; R.W. Rochelle (Emeritus), Ph.D. Maryland; J.R. Roth (Fisher Professor), Ph.D. Cornell; B. Smith, Jr. (Emeritus), M.S. Illinois, P.E.; F.W. Symonds, Ph.D. Nottingham (UK); J.D. Tillman (Emeritus), Ph.D. Auburn; M.M. Trivedi, Ph.D. Utah State; C.H. Weaver (Emeritus), Ph.D. Wisconsin, P.E.

Associate Professors:
R.A. Belz (Space Institute, Tullahoma), Ph.D. Tennessee; B.W. Bomar (Space Institute, Tullahoma), Ph.D. Tennessee; D. Brzakovick. Ph.D. Florida; R.D. Joseph (Space Institute, Tullahoma), Ph.D. Case Institute of Technology; A. Pujol (Space Institute, Tullahoma), Ph.D. Vanderbilt; D. Rosenberg, Ph.D. New York; J.M. Rochelle, Ph.D. Tennessee; J.W. Waller, Ph.D. Tennessee.

Assistant Professors:
M. Abdi, Ph.D. Tennessee; P.B. Crily, Ph.D. New Mexico State; D.B. Koch, Ph.D. Missouri-Rolla.

Lecturer:

BACHELOR OF SCIENCE PROGRAM

The course of study for the degree of Bachelor of Science in Electrical Engineering is structured to provide a foundation in both the basic sciences and the specialized areas of electrical and computer engineering. The program also has sufficient non-technical content to enhance the cultural growth of the student and develop professionals with a strong social awareness. The faculty seeks to keep classes small enough to allow effective interaction with students.

The Electrical and Computer Engineering department maintains a number of laboratory facilities to support the undergraduate teaching program. These laboratories are devoted specifically to circuits, communications, digital systems, electronics, electro-optics, image processing, machinery, microwave, plasma, and power electronics and drives. Microcomputer, minicomputer, and personal computer facilities are also provided within the department.

Students in the senior year have the freedom to choose from a wide spectrum of courses covering all aspects of electrical and computer engineering. They can select a program with focus in one or two subjects, or they can take a number of different courses to obtain a broader technical exposure. It is required only that the design content of these senior level ECE courses total at least 8 hours. Students are encouraged to discuss an appropriate senior program with their advisors. The selection of Humanities/Social Science electives is left to each individual student but must be made in accordance with established College of Engineering guidelines.

Generally all sophomore and junior level courses of the department are offered every term. Senior level courses will normally be offered in either the Fall or the Spring semester. This arrangement allows the student to elect the minor four year schedule, or may participate in the Cooperative Engineering Program. Where one senior course is a prerequisite for another, the first course of the sequence will be offered in the Fall semester. In all courses where prerequisites are indicated, they must be strictly followed.

The Electrical Engineering program is based on the timely completion of all required freshman courses. In order to be properly enrolled in ECE 201 students must have completed all courses listed in the freshman year of the engineering curriculum. Students must make application for enrollment in 201 in the ECE department during the semester prior to anticipated enrollment. The application should be submitted in sufficient time to permit proper and complete evaluation.

To be eligible for the Bachelor of Science degree in Electrical Engineering a student must achieve a cumulative grade point average of at least 2.00 in all ECE courses taken at the University of Tennessee, Knoxville. At least 30 hours of upper division Electrical and Computer Engineering courses, including at least 8 hours of design credit in senior level courses, must be earned at The University of Tennessee, Knoxville.

GRADUATE

Comprehensive course and research programs for the degrees of Master of Science and Doctor of Philosophy in Electrical Engineering are offered to 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 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 more details on the graduate program.

ENGINEERING PHYSICS

Professor W.M. Bugg (Head); Professor Edward L. Hart, Coordinator.

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. Students are encouraged to enter 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:

Research Professor:
T.F. Moriarty, Ph.D. Illinois, P.E.

Associate Professors:
J.A.M. Boulet, Ph.D. Stanford; E.K. Boyce (Emeritus), M.S. Tennessee; J.E. Caruthers (Space Institute, Tullahoma), Ph.D. Georgia Institute of Technology; R.C. Engels (Space Institute, Tullahoma), Ph.D. Virginia Polytechnic Institute; W.A. Lyday, Jr., M.S. Tennessee; A. Mathews, Ph.D. Illinois, P.E.; M.H. McCoy (Space Institute, Tullahoma), Ph.D. Florida, P.E.; G.H. Parham, Jr. (Emeritus), B.S. Cincinnati; J.S. Stempelhoff (Space Institute, Tullahoma), Ph.D. University of Chicago.

Assistant Professors:
G.N. Brooks, Ph.D. Stanford; J.L. Cezeledx, Ph.D. Rensselaer; R.L. Furgerson, Ph.D. University of California (San Diego); G.S. Iannelli, Ph.D. Tennessee; M.S. Madhukar, Ph.D. Drexel.
The engineering science degree program is a flexible course of study with elective options available to satisfy individual interests and career objectives. The program provides opportunities for an education with breadth in engineering science, mathematics, and physical or biological science. The curriculum is rigorous, non-traditional and interdisciplinary. In addition to their selected area of specialty, students receive a solid foundation in mathematics, the engineering sciences, modern computational techniques. Thus they are prepared to go directly into engineering practice at the baccalaureate level or to continue formal engineering education in a Master's or Ph.D. program.

The first two years of study are similar to other engineering disciplines which require students to take fundamental courses in the basic sciences, engineering science, and mathematics. At the junior and senior level, the engineering science program containsler the required courses necessary for the modern practice of engineering. In addition, selected groups of technical electives provide the opportunity to develop special interests that cannot be accommodated in other traditional engineering disciplines. Examples of special interest elective courses are engineering mechanics, biomedical engineering, computational mechanics, and engineering materials. Other elective groups may be developed upon request.

The engineering mechanics elective group focuses on analytical methods used to investigate practical engineering problems. It is designed especially to develop engineers who are capable of functioning in an industrial environment or research laboratory. Because such preparation involves emphasis on the link between the basic sciences and engineering fundamentals, the engineering mechanics elective group provides an excellent 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 field of applied biomechanics and medicine in such technical areas as prostheses, development of artificial organs, and the application of the engineering sciences to further the basic understanding of biological systems. Qualified students may choose to use this program as a background for graduate study in engineering or the life sciences. The program can include courses required for entrance into most medical school, including The University of Tennessee Center for the Health Sciences in Memphis.

Engineering materials play a primary role in all structures like buildings and bridges, more modern types like airplanes and automobiles, or structures of the future such as space stations and artificial organs. All of these structures must be both safe and economical. The engineer designing these structures must be familiar with materials ranging from classical metals like steels to the newer materials such as ceramics, polymers and composites.

The undergraduate program in engineering materials gives the student a mechanics oriented program in the use of materials for the design of engineering structures. The student can learn to analyze structures such as fracture, fatigue and adverse operating environments. By choosing the technical electives to provide an area of special emphasis, the student can emphasize metals, polymers, composite materials, or non-destructive testing.

Because of the large number of elective courses to be selected in the engineering science program, faculty advising plays an essential role in the process of developing the student's course of study. Students are expected to have advising conferences with their faculty advisor each semester. The advising conference should focus on the broader aspects of the student's career objectives and provide guidance in the selection of appropriate elective courses to help achieve those objectives. Each student, in conjunction with his/her faculty advisor, is required to develop a program of study no later than their junior year. Our program is accredited by the Accreditation Board of Engineering and Technology (ABET).

**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. Graduates of recognized curricula in mathematics, computer science or one of the physical or biological sciences may also qualify for admission depending upon their background or willingness to enroll in selected engineering courses. Each applicant is advised as to any prerequisite courses needed to enter a program. Program options include solid and fluid mechanics (with emphasis toward computational techniques), biomedical engineering, artificial intelligence applications, composite materials and fracture mechanics. Interdisciplinary programs are arranged to meet individual needs or interests. The student's program of study must be approved by his or her advisory committee, and must comply with the requirements of the Graduate School. The student's major professor may be selected from a department other than the Department of Engineering Science and Mechanics. Departmental requirements of the Graduate School relating to admission, residency examinations, and research are described in the Graduate Catalog.

**ENVIRONMENTAL ENGINEERING**

(see civil Engineering)

**INDUSTRIAL ENGINEERING**

Professors:

W.W. Claycombe, Ph.D. Virginia Polytechnic Institute, P.E.; E.L. DePorter (IBM Professor), Ph.D. Virginia Polytechnic Institute; D.C. Doulet (Emeritus), M.S. Tennessee, P.E.; H.P. Emerson (Emeritus), S.B. Massachusetts Institute of Technology, P.E.; R.M. LaForge (Emeritus), M.S. Georgia Institute of Technology, P.E.; H.L. Loveless (Emeritus), M.S. North Carolina State, P.E.; J.N. Snider, Ph.D. Ohio State, P.E.; J.D. Westbrook, Ph.D. Virginia Polytechnic Institute, P.E.

Associate Professors:


Research Associate Professor:

R.S. Sawhney, Ph.D. Tennessee.

Assistant Professors:


Lecturers:

J.A. Bonfadelli, Ph.D. Ohio State; W.B. Fortney, M.S. Purdue.

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 design, 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 environment 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 background 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 techniques, manufacturing processes and materials, production and inventory system 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.T.-accredited undergraduate curricula in Industrial Engineering or to graduates of other technical curricula who take an approved list of prerequisite courses. 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 culmination year in a five-year baccalaureate program which emphasized 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. Spruill (Head), Ph.D. Tennessee; K.H.G. Ashbee, Ph.D. Birmingham (England); D.C. Bogue, Ph.D. Delaware; B.S. Boie (Part-time), Ph.D. Massachusetts Institute of Technology; C.R. Brooks, Ph.D. Tennessee; R.A. Buchanan, Ph.D. Vanderbilt; E.S. Clark, Ph.D. California (Berkeley); D.A. Canonico (Adjunct Status), Ph.D. Akron; J.S. Lin (Adjunct Status), Ph.D. Kansas; D.H. Lowndes (Part-time), Ph.D. Colorado; C.D. Lundin, Ph.D. Rensselaer Polytechnical Institute; C.J. McHargue (Part-time), Ph.D. Kentucky; B.F. Oliver, Ph.D. Pennsylvania State; A.J. Redza, Ph.D. National University (Argentina); Ph.D. Lehigh; J.F. Fellers, Ph.D. Liverpool (England); E.E. Stansbury (Emeritus), Ph.D. Cincinnati.

Associate Professors:
W.T. Becker, Ph.D. Illinois; Roberto S. Benson, Ph.D. Florida State University; C.T. Liu (Adjunct Status), Ph.D. Brown University; T.T. Meek, Ph.D. Ohio State.

BACHELOR OF SCIENCE PROGRAM

Materials Science and Engineering is concerned with the science and technology needed to develop and apply materials for the benefit of society. The undergraduate program is designed to provide education and training in the fundamental and engineering sciences with special attention given to the production, development and utilization of materials. Emphasis is placed on developing the expertise needed to participate in selection, development and production of materials for major engineering systems. The program strives to develop in its graduates the ability to specify materials requirements, select from existing materials, comprehend and characterize new materials and applications, develop the data base required for use of materials (including an understanding of failure modes and phenomena), and develop processes for improvement of materials and/or materials systems. It is anticipated that some of the program's graduates will continue their education in graduate school; hence it is important that the program prepare those students for advanced studies. The field of materials science and engineering is quite broad, encompassing metallic, ceramic, and polymeric materials as well as composites made from combinations of materials. Consequently, the curriculum contains a central core of courses that are applicable to all materials types with flexibility in the upper division years to permit concentration in depth in specific materials categories. By judicious choice of electives the student may get a broad perspective or may develop a special area. A minimum of 18 semester-hours of humanities-social science courses must be taken from the approved list of courses.

Graduation in materials science and engineering requires a minimum grade point average of 2.00 for all departmental courses.

PROGRESSION TO UPPER-DIVISION PROGRAMS

Progression of 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 progress 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 progression 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/or 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; R.V. Arimihi, Ph.D. Virginia Polytechnic Institute and State University; J.F. Bailey (Emeritus), Ph.D. Lehigh; 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. Texas A&M, P.E.; G.A. Flandro (Boiling Chair in Space Propulsion, Space Institute, Tullahoma), Ph.D. California Institute of Technology; G.W. Garrison (Space Institute, Tullahoma), Ph.D. Dalrymple, Ph.D. North Carolina State; W.A. Harris (Space Institute, Tullahoma), Ph.D. Princeton; W.H. Heiser (Space Institute, Tullahoma), Ph.D. Massachusetts Institute of Technology; J.W. Hodgson (Fisher Professor), Ph.D. Georgia Institute of Technology, P.E.; R.W. Holland (Emeritus), M.S. Tennessee, P.E.; W.S. Johnson, Ph.D. Clemson, P.E.; R.J. Krane, Ph.D. Oklahoma; H. Liston, Jr. (Emeritus), M.E.A. George Washington; C.F. Lo (Space Institute, Tullahoma, Research Professor), Ph.D. Cornell; R.L. Maxwell (Emeritus), M.S. Case Western Reserve, P.E.; M.W. Milligan, Ph.D. Tennessee, P.E.; M.K. Newman (Emeritus, Space Institute, Tullahoma), Ph.D. Columbia, P.E.; M. Parang, Ph.D. Oklahoma, P.E.; J.R. Parsons, Jr., Ph.D. North Carolina State, P.E.; C.E. Peters (Space Institute, Tullahoma), Ph.D. Applied Science Brussels; F. Shatrokhi (Space Institute, Tullahoma), Ph.D. Oklahoma; G.V. Smith, Ph.D. Pennsylvania State, P.E.; F.H. Speckhart (IBBM Professor), Ph.D. Georgia Institute of Technology, P.E.; W.K. Star (Emeritus), M.S. Tennessee, J.M. Tucker (Emeritus), M.S. Illinois; H.J. Wilkerson, Ph.D. Tennessee, P.E.; C.C. Wilson, Ph.D. Purdue; J.M. Wu (B.H. Goerthert Professor, Space Institute, Tullahoma), Ph.D. California Institute of Technology; R.L. Young (Emeritus, Space Institute, Tullahoma), Ph.D. Tennessee, P.E.

Associate Professors:
S.E. Becker, Ph.D. North Carolina State, P.E.; R.A. Crawford (Space Institute, Tullahoma), Ph.D. Tennessee; S.M. Cheng (Space Institute, Tullahoma), Ph.D. Penn State, M. Keyhani, Ph.D. Ohio State; T.H. Shen (Space Institute, Tullahoma), Ph.D. Tennessee; R.J. Schulz (Space Institute, Tullahoma), Ph.D. Tennessee, P.E.; A.D. Vakili (Space Institute, Tullahoma), Ph.D. Tennessee.

Assistant Professors:
R.V. Dubey, Ph.D. Clemson; G. Kwiecki, Ph.D. West Virginia; Ke Nguyen, Ph.D. Colorado.

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...
of such areas of applied science as solid and these topics and the program culminates in a guidance, control; and propulsion systems - of aerospace vehicles - aircraft, spacecraft, development, design, testing, and production 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, turbo-jets, 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, performance in selected lower division courses, and evidence of satisfactory and orderly progress through the prescribed curriculum.

A minimum cumulative grade point average of 2.0 for all departmental courses taken at UT, Knoxville is required for graduation.

**FULL STATUS:** A Lower Division student in the department may apply for progression to Upper Division Programs after completing 49 semester hours of Lower Division engineering curriculum course work and with overall GPA of at least 2.4.

**PROVISIONAL STATUS:** Students who have completed 49 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 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 or 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**

Professors:

T.W. Kerlin (Head), Ph.D. Tennessee; H.L. Dodds, Ph.D. Tennessee, P.E.; J.T. Mihalco (Part-time), Ph.D. Tennessee; L.F. Miller, Ph.D. Texas A&M; R.E.; P.F. Pasqua (Emeritus), Ph.D. Northwestern, Ph.D.; R.B. Perez, Ph.D. Madrid (Spain); P.N. Stevens, Ph.D. Northwestern, Ph.D.; E.H. Turner (Part-time), Ph.D., (Vanderbilt), P.E.; U. Uckan (Part-time), Ph.D. Michigan, P.E. Uhrig (Distinguished Professor), Ph.D. Iowa State, P.E.; B.R. Upadhyaya, Ph.D. California, P.E.

Associate Professors:

P.G. Groer, Ph.D. Vienna (Austria); E.M. Katz, Ph.D. Tennessee, P.E.; T.H. Scott, Ph.D. Florida, P.E.

**BACHELOR OF SCIENCE PROGRAM**

The curriculum is designed to provide a thorough educational experience for students interested in careers in nuclear engineering. The first two years are concerned with the fundamental courses needed as preparation for upper division courses. In the last two years students take scientific and engineering courses which equip them for entry into industry, research, or graduate study.

**MASTER OF SCIENCE PROGRAM**

A 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.

**Prerequisites.** 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 dropped from 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>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Chemistry 120, 130</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 141, 142</td>
<td>8</td>
</tr>
<tr>
<td>Basic Engineering 111, 112</td>
<td>6</td>
</tr>
<tr>
<td>Basic Engineering 121, 131</td>
<td>6</td>
</tr>
<tr>
<td>Basic Engineering 100</td>
<td>1</td>
</tr>
</tbody>
</table>

Total: 35 hours

**AEROSPACE ENGINEERING**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Aerospace Engineering 201</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 331</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Social Science Elective</td>
<td>6</td>
</tr>
</tbody>
</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics 231, 241</td>
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</tr>
<tr>
<td>Mathematics 200</td>
<td>1</td>
</tr>
<tr>
<td>Physics 231, 233</td>
<td>7</td>
</tr>
<tr>
<td>Engineering Science and Mechanics 231, 321</td>
<td>6</td>
</tr>
<tr>
<td>Basic Engineering 201</td>
<td>2</td>
</tr>
<tr>
<td>Mechanical Engineering 331</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 332, 341, 391</td>
<td>6</td>
</tr>
<tr>
<td>Aerospace Engineering 345, 351, 370</td>
<td>9</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301, 302</td>
<td>6</td>
</tr>
<tr>
<td>Humanities/Social Sciences Elective</td>
<td>6</td>
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</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Aerospace Engineering 362, 363</td>
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<tr>
<td>Mechanical Engineering 332, 341, 391</td>
<td>6</td>
</tr>
<tr>
<td>Aerospace Engineering 345, 351, 370</td>
<td>9</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301, 302</td>
<td>6</td>
</tr>
<tr>
<td>Humanities/Social Sciences Elective</td>
<td>6</td>
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</table>

**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Mechanical Engineering 334, 451</td>
<td>8</td>
</tr>
<tr>
<td>Aerospace Engineering 426, 429</td>
<td>6</td>
</tr>
</tbody>
</table>
Aerospace Engineering 422, 425 .......................................... 6
Aerospace Engineering 431, 449 ......................................... 4
Technical Elective .......................................................... 3
*Humanities/Social Science Elective ...................................... 6

Total: 136 hours

*Humanities/social science electives: minimum of 18 hours required. (See College of Engineering General Requirements.)

### CHEMICAL ENGINEERING

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
</table>

**Sophomore**

Chemical Engineering 200, 240 .......................................... 8
Chemistry 310-319, 350 .................................................. 7
Mathematics 200, 231, 241 .............................................. 8
Physics 231 ...................................................................... 3

Total: 136 hours

### CIVIL ENGINEERING

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
</table>

**Sophomore**

Mathematics 241, 231, 200 .............................................. 8
Physics 231 ..................................................................... 3
Basic Engineering 201 ..................................................... 2
Engineering Science and Mechanics 231 ............................ 3
Civil Engineering 210, 261, 251 ........................................... 9
Mechanical Engineering 331 ............................................. 3
*Humanities/Social Science .............................................. 6

Total: 136 hours

### ELECTRICAL AND COMPUTER ENGINEERING

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</table>

**Sophomore**

Mathematics 231, 241 ...................................................... 7
Physics 231, 232 ............................................................ 7
Electrical and Computer Engineering 201, 202, 205, 251 .......... 13
Material Science and Engineering 201 .................................. 3
Humans/ Social Science Elective ......................................... 3

Total: 136 hours

### DESIGN CONTENT

Content of all senior ECE electives must sum to at least 8 hours.

### ENGINEERING PHYSICS

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
</table>

**Freshman**

Physics 137 (131), 138 (132) ............................................. 8
Mathematics 141, 142 .......................................................... 8
Chemistry 120, 130 ............................................................. 3
English 101, 102 ................................................................. 6
Basic Engineering 100, 111 .................................................. 4

Total: 126 hours

### ENGINEERING SCIENCE AND MECHANICS

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
</table>

**Sophomore**

Mathematics 241, 231, 200 .............................................. 8
Physics 231, 232 ............................................................ 7
Materials Science and Engineering 201 ............................... 3
Engineering Science and Mechanics 231, 321, 341, 351 .......... 6
Basic Engineering 201 ..................................................... 2
*Humanities/Social Science .............................................. 6

Total: 135 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).

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 chosen in physics, engineering, math, or 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: BIOMEDICAL ENGINEERING CONCENTRATION

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
</table>

**Sophomore**

Mathematics 241, 231, 200 .............................................. 8
Physics 231, 232 ............................................................ 7
Engineering Science and Mechanics 231, 321, 341, 351 .......... 9

Total: 135 hours

*All electives must be approved by the student's faculty advisor and the department head. Technical electives (including biomedical engineering courses) are chosen to form a biomedical engineering emphasis. Pre-med, pre-vet, and pre-dentistry programs must include biology/zooology and organic chemistry courses as part of the technical electives.

### INDUSTRIAL ENGINEERING

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
</table>

**Sophomore**

English Electives ......................................................... 6
Mathematics 241, 231, 200 .............................................. 8
Physics 231, 232 ............................................................ 7
Engineering Science and Mechanics 231, 321, 341, 351 .......... 3
Industrial Engineering 200 ............................................. 3
Industrial Engineering 201 ............................................. 1
Engineering Science and Mechanics 231, 321, 341, 351 .......... 3
Statistics 251 ................................................................. 3

Total: 139 hours

*All electives must be approved by the student's faculty advisor and the department head. Technical electives (including biomedical engineering courses) are chosen to form a biomedical engineering emphasis. Pre-med, pre-vet, and pre-dentistry programs must include biology/zooology and organic chemistry courses as part of the technical electives.
### MATERIALS SCIENCE AND ENGINEERING

<table>
<thead>
<tr>
<th>Sophomore</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Basic Engineering 201</td>
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</tr>
<tr>
<td>Materials Science and Engineering 201</td>
<td>3</td>
</tr>
<tr>
<td>Physics 231, 232</td>
<td>7</td>
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<tr>
<td>Chemical Engineering 200, 240</td>
<td>7</td>
</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>Humanities/Social Science Elective</td>
<td>6</td>
</tr>
</tbody>
</table>

**Junior**

| Materials Science and Engineering 300, 301, 302, 303, 322, 340, 360 | 20       |
| Electric Engineering 301                                         | 3        |
| Engineering Science and Mechanics 321                           | 3        |
| Humanities/Social Science elective                              | 6        |

**Senior**

| Materials Science and Engineering 310, 400, 405, 421, 491, 492 | 16        |
| Technical Elective                                              | 3        |
| Humanities/Social Science elective                              | 6        |

*Total: 134 hours*

*MSE electives: 422, 426, 441, 443, 444, 470, 472, 474, 475, 494, 495, 496 (Selection of MSE electives must include a total of at least two credit hours of design content).*

### MECHANICAL ENGINEERING

<table>
<thead>
<tr>
<th>Sophomore</th>
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<tbody>
<tr>
<td>Mathematics 231, 241, 200</td>
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</tr>
<tr>
<td>Mechanical Engineering 331</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Social Sciences Elective</td>
<td>6</td>
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</tbody>
</table>

**Junior**

| Mechanical Engineering 391, 344, 363, 365, 341, 345, 332, 365 | 22       |
| Electrical and Computer Engineering 301, 302               | 6        |
| Humanities/Social Sciences Elective                    | 6        |

**Senior**

| Mechanical Engineering 451, 466, 476, 449, 431 | 13        |
| Mechanical Engineering 455 and 469 or 456 and 479 | 6        |
| Technical Elective                                  | 3        |
| Humanities/Social Sciences Elective                | 6        |

*Total: 135 hours*

### NUCLEAR ENGINEERING

<table>
<thead>
<tr>
<th>Sophomore</th>
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<tbody>
<tr>
<td>Mathematics 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>Physics 231, 232</td>
<td>7</td>
</tr>
<tr>
<td>Basic Engineering 201</td>
<td>2</td>
</tr>
<tr>
<td>Nuclear Engineering 201, 203, 202, 204</td>
<td>8</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
</tr>
<tr>
<td>Humanities/Social Science electives</td>
<td>6</td>
</tr>
</tbody>
</table>

**Junior**

| Mathematics 435                                  | 3            |
| Electrical and Computer Engineering 302           | 3            |
| Nuclear Engineering 301, 305, 306, 304, 470       | 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 403, 404, 405, 406, 471, 472 | 14           |
| Technical Electives                               | 6            |
| Humanities/Social Science electives               | 6            |

*Total: 135 hours*
The College of Human Ecology ranks among the top 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; the Interior Design program is accredited by the Foundation for Interior Design Education Research (FIDER); the Teacher Education program is NCATE approved; and the dietetics program is approved by the American Dietetic Association.

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 retailing, interior design, hospitality management, applied child development, dietetics, nutrition, teacher education, and family life education.

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 hotel, restaurant administration; the only non-woven textile processing laboratory with melt-blown and spun-bonding lines 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 Textiles, Retailing and Interior Design. Curricula lead to Bachelor of Science degrees in Human Ecology, in Hotel Economics, in Chef and Family Studies, and in Interior Design. Curricula lead to Bachelor of Science degrees in Hotel and Restaurant Administration, in Vocational Education, and in Family Economics Extension Education.

TEACHER CERTIFICATION IN VOCATIONAL HOME ECONOMICS EDUCATION AND EDUCATIONAL PROGRAMS FOR HOME ECONOMICS EXTENSION EDUCATION

A teacher certification program for secondary home economics teachers is available within the College. Individuals interested in community-based home economics programs such as Extension should follow this curriculum or the Family Life Education Program. 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 Applied Child Development, Family and Human Development, and Family Life Education;
- Nutrition;
- Retailing and Consumer Sciences;
- Home Economics Education with concentrations in Home Economics Teacher Education and Family Life Education lead to a Bachelor of Science in Home Economics;
- Interior Design leads to a Bachelor of Science in Interior Design; and
- Hotel and Restaurant Administration leads to a Bachelor of Science in Hotel Restaurant Administration.

COLLEGE POLICIES

Students working toward degrees must complete the last 30 hours of work (two semesters) at UT, Knoxville, 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.

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 CFS 210 - Human Development; NTR 100 - Introductory Nutrition; RCS 350 - Consumers in the Market; and CFS 300 - Family Systems. These undergraduate courses emphasize factors affecting the nature of individuals, families, and environments. Family systems, as a component of human ecology, is emphasized.
**PROGRESSION REQUIREMENTS**

All programs in the College have specific requirements for progression.

**APPLIED CHILD DEVELOPMENT CONCENTRATION**

For progression into the applied child development concentration, students must meet the following criteria:

1. Complete at least 30 semester hours
2. Attain a minimum grade of "C" in all CFS courses and Education courses
3. Earn a cumulative GPA of at least 2.3 (transfer hours included); cumulative GPA of 2.5 required for admission to Teacher Education for students interested in Early Childhood Education licensure
4. Apply for review by the Early Childhood Education Review Panel
5. Successfully complete an interview, which includes evaluation of written and oral communication skills, with Early Childhood Education Review Panel during the first methods course CFS 350. Students will perform within normal limits on speech and written evaluations. If these standards are not met, students will be denied progression and may choose to participate in specified remedial activities through the University Hearing and Speech Center and/or the University's Writing Center. Students who participate in remedial activities may reapply for progression into the program (one time only) after waiting at least two semesters.

For progression into Student Teaching, students must meet the following criteria:

1. Progress into the concentration
2. Complete CFS 110, 211, 350 and 351
3. Complete at least 50 hours (senior standing)
4. Complete an application to student teach (during sophomore year)
5. Obtain written permission from academic advisor or
6. Attain a minimum of "C" in all CFS courses and Education courses
7. Earn and maintain a cumulative GPA of at least 2.3/4.0; cumulative GPA of 2.5 required for students interested in Early Childhood Education licensure
8. Attain a successful participation experience and satisfactory evaluations in CFS 350 and 351
9. Complete the pre-student teaching orientation in the semester prior to student teaching

**FAMILY LIFE EDUCATION CONCENTRATION**

In order to progress into the Family Life Education Concentration, students must:

1. Complete prerequisites for the family life education practicum (CFS 480): CFS 220, 211 or 312, 320 or 360 or 420, 430; HEEED 440; attain senior standing; obtain written permission from advisor; complete practicum application during the sophomore year.
2. Attain a minimum grade of "C" in all College of Human Ecology courses.
3. Attain and maintain a cumulative GPA of at least 2.3/4.0.
4. Receive satisfactory evaluations in HEEED 320 and 440 and CFS 352 and 430.
5. Complete the practicum interview successfully. Interview includes evaluation of written and oral skills with Family Life Education Review Panel prior to the junior year of methods courses and again prior to practicum seminar if student was admitted to Family Life Education with probationary status.
6. Complete Preparation Seminar (CFS 479) in the semester prior to enrollment in Practicum (CFS 480).

**HOME ECONOMICS TEACHER EDUCATION CONCENTRATION**

Potential teachers must meet teacher education requirements of the College of Education and apply to be admitted to Teacher Education. (See College of Education pages 66, 67 and 68.)

**HOTEL AND RESTAURANT ADMINISTRATION**

For progression into the program,

1. 30 semester hours completed.
2. Cumulative GPA of 2.5 or greater
3. Grade of "C" or better in the following courses: English 101, 102, Math 119, 121 and/or 122. NTR 100, 101; HRA 120, 220.
4. For progression through and retention in the program, students must:
   1. Maintain a grade of "C" or better in all HRA courses.
   2. Meet all course prerequisites.

**NUTRITION MAJORS**

Students should apply for progression after completing NTR 201 with a grade of "C" or better and before NTR 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 NTR prefix course.

For retention, students must meet the following criteria:

1. Grade of "C" or better in each required NTR course.
2. Cumulative grade point average 2.0 prior to first semester of senior year.

**RETAIL AND CONSUMER SCIENCES MAJOR**

Upon admission to the University of Tennessee, Knoxville, students may begin the Retail and Consumer Sciences Major. To remain a student in good standing in the major, all students must:

1. Maintain a cumulative grade point average 2.0 or greater.
2. Earn a grade of "C" or better in all required RCS courses.

For progression into the internship experience (RCS 490, 492), students must meet the following criteria:

1. Attain a cumulative grade point average of 2.5 or above the term prior to enrollment in RCS 490 and 492.
2. Secure recommendation of the faculty committee Spring Semester prior to enrollment in RCS 490 and 492 in Fall Semester.

**INTERIOR DESIGN MAJORS**

Upon admission to UT, Knoxville 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 UT, Knoxville 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 declared upon application for graduation. Minors are recorded on the student's transcript without regard to overlap between major and minor course requirements.

**Child and Family Studies:**

A minor in Child and Family Studies consists of 18 credit hours: 210 Human Development (3); 220 Marriage, Roles and Relationships (3); 320 Parent Education (3); 352 Family, School, and Community Relations (3); 360 Family Stress (3); and 3 credit hours selected from: 211 Development in Infancy and Early Childhood (3), 240 Human Sexuality (3), 312 Adolescents and Aging (3); 345 Family Resource Management (3); 420 Families: Ethnicity, Race, Class, and Culture (3).

A minor in Child Development consists of 18 credit hours: 210 Human Development (3); 211 Development in Infancy and Early Childhood (3); 213 Development in Middle Childhood and Adolescence (3); 320 Parent Education (3); 352 Family, School, and Community Relations (3); one 3 credit Child and Family Studies elective.

A minor in Family Studies consists of 18 credit hours: 210 Human Development (3); 220 Marriage, Roles and Relationships (3); 320 Parent Education (3); 345 Family Resource Management (3); 360 Family Stress (3); and 3 credit hours from: 240 Human Sexuality (3), 312 Adolescents and Aging (3); 360 Family Finance (3); 420 Families: Ethnicity, Race, Class and Culture (3).

**Retail and Consumer Sciences:**

A minor in Retail and Consumer Sciences consists of 18 credit hours: 110 Introduction to Retailing (3); 210 Principles and Theories of Buying (3); 350 Consumer Behavior in the Market (3); 410 Retail Management (3); and two of the following: 332 Quantitative Managerial Merchandising (3) or 412 Direct Retail Selling (3) or 415 Retail Promotion (3).

**Nutrition:**

A minor in Nutrition consists of 18 credit hours: 300 Fundamentals of Nutrition (3) or 313 Advanced Nutrition (4); 312 Science of Food (4); and 10-11 hours from: 1 Nutrition in Disease (4); 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); 485 Directed Study: Nutrition and Food Sciences (1-3).

**Retail and Consumer Sciences:**

A minor in Retail and Consumer Sciences consists of 18 credit hours: 110 Introduction to Retailing (3); 310 Principles and Theories of Buying (3); 350 Consumer Behavior in the Market (3); 410 Retail Management (3); and two of the following: 332 Quantitative Managerial Merchandising (3) or 412 Direct Retail Selling (3) or 415 Retail Promotion (3).
## CHILD AND FAMILY STUDIES

### Professors:
- J.E. Allen, Ph.D. Purdue; L. Blinn, Ph.D. Ohio State; C.A. Buehler, Ph.D. Minnesota; J.H. McInnis, Ph.D. Florida State; D. Tegano, Ph.D. Kansas.

### Associate Professors:
- J.E. Allen, Ph.D. Purdue; L. Blinn, Ph.D. Ohio State; C.A. Buehler, Ph.D. Minnesota; J.H. McInnis, Ph.D. Florida State; D. Tegano, Ph.D. Kansas.

### Assistant Professors:
- C. Catron, Ed.D. Vanderbilt; J. Malia, Ph.D. Minnesota; D. Smith, Ph.D. Oklahoma State.
- D. Smith, Ph.D. Oklahoma State; G.L. Cunningham, Ph.D. Michigan State; S. Twardosz, Ph.D. Kansas.

The Department of Child and Family Studies is concerned with the creation/discovery and dissemination of knowledge related to human development, family sciences, early childhood education, home economics education, and family life education. The focus is on integrative approaches to the study of human 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 department offers four concentrations, three are career-oriented and one is a general course of study. The largest career specialization is work in day care centers as teachers or directors. Students also are prepared as family life educators and as professional home economics educators in schools, Extension and business.

Within the curricula, undergraduate majors meet objectives: to enhance their foundation for learning; to obtain a broad, general education; and for most, to prepare to enter a specialized career field within the profession or graduate study. Most concentrations have 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 a professional experience in work settings.

### CHILD AND FAMILY STUDIES: APPLIED CHILD DEVELOPMENT CONCENTRATION

This concentration is designed to meet the educational needs of undergraduates whose career plans focus on early childhood education. Closely related opportunities may be found in agencies delivering services to young children and their families, programs that include children with special needs, hospital programs directed to the particular needs of young children, and similar fields that recognize distinct developmental needs of children. This concentration serves as a foundation for graduate study in the child area.

Students interested in meeting the requirements for Early Childhood Education licensure (PreK-3) in the State of Tennessee can complete the first four years of requirements by following the Applied Child Development concentration with the appropriate modifications noted in footnote #1. Students are encouraged to determine their interest in licensure very early in their college careers and to seek appropriate advising. Information about how to complete the State requirements for Early Childhood Education licensure is available through the Human Ecology Advising Center or the Child and Family Studies Department.

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Child and Family Studies 110</th>
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<tr>
<td></td>
<td>Child and Family Studies 210</td>
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<tr>
<td></td>
<td>Child and Family Studies 211</td>
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<td>English 101, 102</td>
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<td>Mathematics 110, 115</td>
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<td>Sophomore</td>
<td>Child and Family Studies 213, 350, 351</td>
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<td>History Electives</td>
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<tr>
<td></td>
<td>Humanities Electives</td>
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<td></td>
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<tr>
<td></td>
<td>Nutrition 100</td>
<td>3</td>
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<tr>
<td></td>
<td>Retail and Consumer Sciences 350</td>
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<td>Junior</td>
<td>Child and Family Studies 220, 352, 450</td>
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<td></td>
<td>Child and Family Studies 300, 451</td>
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<tr>
<td></td>
<td>Health 310</td>
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<td></td>
<td>Social Science Electives</td>
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<td></td>
<td>Electives</td>
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<td>Senior</td>
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<td></td>
<td>Child and Family Studies Specialization Electives</td>
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<tr>
<td></td>
<td>HE 210/EDUC 304/ECI 324</td>
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<td>Social Science Electives</td>
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</tr>
<tr>
<td></td>
<td>Electives</td>
<td>4-9</td>
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</table>
| Total: 125 hours | Students preparing for Early Childhood Education licensure should take Biology 110, 120 for natural science electives; Psy 110 as a social science elective; Speech 210 at the humanities elective; and LIS 330, CFS 350, EDUC 400, ECI 422, EDUC 401, EDUC 403, and Hum Per 356/409/411 instead of 9 hours CFS Specialization electives, 6 hours social science electives, 3 hours of CFS 210, and 4 hours of electives.

<table>
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<td>Humanities Electives</td>
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<td></td>
<td>Speech 210</td>
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<td>Junior</td>
<td>Child and Family Studies 312, 345, 352</td>
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<td></td>
<td>Child and Family Studies 300</td>
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<td>Child and Family Studies Specialization Electives</td>
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<td>Senior</td>
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<td></td>
<td>Child and Family Studies Specialization Electives</td>
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<tr>
<th>Hours Credit</th>
<th>Total: 125 hours</th>
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<tbody>
<tr>
<td></td>
<td>3 courses are to be chosen from at least two of the following categories: literature, art or music appreciation, philosophy, or religious studies. Select one of the following sequences: Astronomy 151-152, Biology 110-120, Botany 110-120, Chemistry 100-110, Chemistry 120-130, Geography 131-132, Physics 121-122, or Zoology 210-220. At least 6 hours in 200-400 level courses are required. Select one American History course and one other history course. The evolution of artifacts will not satisfy this requirement. Courses are to be selected from at least two of the following categories: political science, economics, psychology, sociology, geography, and anthropology. Courses from applied fields such as nursing, social work, or human services will not satisfy the requirement. Students must select one of the following specializations: Research or Social Science.</td>
</tr>
</tbody>
</table>

### SPECIALIZATIONS AVAILABLE IN THE FAMILY AND HUMAN DEVELOPMENT CONCENTRATION

Research  | 26 hours
---|---
Child and Family Studies 481 | 6 hours
Psychology 395 or Sociology 396 | 3 hours
Electives | 17 hours
Social Science | 26 hours
Social Science Electives (see footnote 5 above) | 9 hours
Electives | 17 hours

### CHILD AND FAMILY STUDIES OR HOME ECONOMICS EDUCATION: FAMILY LIFE EDUCATION CONCENTRATION

This concentration is a program shared by child and family studies and home economics education. Students may enroll as a CFS major or as a HED major. Students pursuing this concentration may receive certification through the American Home Economics Program.
Association as a Certified Home Economist or the National Council on Family Relations as a Family Life Educator. This concentration requires students to take general education, subject matter and professional preparation courses that are common to certification by both associations and allows students to use electives to meet either or both certifications. The concentration recognizes the relationship between home economics education and child and family studies and provides students with a relevant and state of the art course of study which will maximize their professional status and competencies upon graduation. The concentration also prepares students who demonstrate professional competencies in both areas of family studies and home economics education.

Under this concentration, students have a choice of three specializations: a general course of study leading to certification as a Family Life Educator; a course of study leading to both certification as a Family Life Educator and a Certified Home Economist; and a course of study leading to certification as a Family Life Educator with additional preparation in research methods and statistics. Depending on the electives and the professional certification chosen by the student, the graduate will be highly competitive for positions in government, community service, educational agencies, health care settings, and churches.

**SPECIALIZATIONS AVAILABLE IN THE FAMILY LIFE EDUCATION CONCENTRATION**

1. **Home Economics**
   - Hours: 15
   - Child and Family Studies 380...
   - Interior Design 310...
   - Nutrition 101...
   - Retail and Consumer Sciences 101...
   - Retail and Consumer Sciences 120...
   - *This specialization prepares students to seek certification also as a Certified Home Economist."

2. **Research**
   - Hours: 15
   - Child and Family Studies 481...
   - Psychology 385 or Sociology 336...
   - Psychology 385 or Sociology 331...
   - Electives...

3. **Social Sciences**
   - Hours: 15
   - Nine hours are required in Social Science electives. Select at least 3 hours from either political science, sociology, economics, psychology, sociology, geography or anthropology. Additional courses can be taken from applied fields such as nursing, social work, human services, and health.

**HOME ECONOMICS EDUCATION**

**Professors:**
I. Brown (Emerita), Ph.D., Ohio State; N.P. Logan (Emerita), Ed.D., Tennessee.

**Associate Professor:**
L. Blinn, Ph.D., Ohio State; J.H. McInnis, Ph.D., Florida State.

This major is a broadly based course of study encompassing all areas of home economics and designed for concentration in either Home Economics Teacher Education or Family Life Education. The Family Life Education Concentration in Home Economics Teacher Education meets the professional needs of students who seek certification for teaching home economics in junior high, secondary and post-secondary schools and in adult and continuing education programs. Also, the Home Economics Teacher Education concentration is for students whose career plans include work in community-based home economics programs which provide families with 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).

The Family Life Education Concentration is a joint program shared by child and family studies and home economics education. Students may enroll as a CFS major or as a HEED major. Students pursuing this concentration may receive certification through the American Home Economics Association as a Certified Home Economist or the National Council on Family Relations as a Family Life Educator.

**OCCUPATIONAL ENDORSEMENTS**

The following endorsements may be added to the Vocational Home Economics Teaching Certificate. They are not part of the requirements for graduation.

**Care and Guidance of Children Endorsement**
- Hours: 12
- Child and Family Studies 350...
- Child and Family Studies 351...
- Home Economics Education 421...
- Home Economics Education 445...

**Clothing Management, Production and Services Endorsement**
- Hours: 7
- Retail and Consumer Sciences 230...
- Home Economics Education 421...
- Home Economics Education 445...

**Food Management, Production and Services Endorsement**
- Hours: 10
- Hotel and Restaurant Administration 220...
- Hotel and Restaurant Administration 320...
- Hotel and Restaurant Administration 321...
- Hotel Economics Education 421...
- Home Economics Education 445...

**HOME ECONOMICS EDUCATION: HOME ECONOMICS TEACHER EDUCATION CONCENTRATION**

**Professors:**
I. Brown (Emerita), Ph.D., Ohio State; N.P. Logan (Emerita), Ed.D., Tennessee.

**Associate Professor:**
L. Blinn, Ph.D., Ohio State; J.H. McInnis, Ph.D., Florida State.

This major is a broadly based course of study encompassing all areas of home economics and designed for concentration in either Home Economics Teacher Education or Family Life Education. The Family Life Education Concentration in Home Economics Teacher Education meets the professional needs of students who seek certification for teaching home economics in junior high, secondary and post-secondary schools and in adult and continuing education programs. Also, the Home Economics Teacher Education concentration is for students whose career plans include work in community-based home economics programs which provide families with 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).

The Family Life Education Concentration is a joint program shared by child and family studies and home economics education. Students may enroll as a CFS major or as a HEED major. Students pursuing this concentration may receive certification through the American Home Economics Association as a Certified Home Economist or the National Council on Family Relations as a Family Life Educator.

**OCCUPATIONAL ENDORSEMENTS**

The following endorsements may be added to the Vocational Home Economics Teaching Certificate. They are not part of the requirements for graduation.

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- Hours: 7
- Retail and Consumer Sciences 230...
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- Home Economics Education 445...

**Food Management, Production and Services Endorsement**
- Hours: 10
- Hotel and Restaurant Administration 220...
- Hotel and Restaurant Administration 320...
- Hotel and Restaurant Administration 321...
- Hotel Economics Education 421...
- Home Economics Education 445...

**HOME ECONOMICS EDUCATION: FAMILY LIFE EDUCATION CONCENTRATION**

This concentration is a shared concentration with the Child and Family Studies Major. Students selecting this concentration can specialize in Home Economics and meet requirements for becoming a Certified Home Economist, in research or in social sciences. Regardless of major, students pursuing the Family Life Education concentration may become Certified Family Life Educators and/or Certified Home Economists. See Child and Family Studies and Home Economics Education: Family Life Education for the curriculum (previous page).
NUTRITION

Professors:

Associate Professors:
Y. Allam, Ph.D. Tennessee; F.E. Andrews, Ph.D. Ohio State; M.D. Brooks (Memphis), M.S. Alabama; B. Haughton, Ed.D. Columbia; J.D. Skinner, Ph.D. Oregon State.

Assistant Professors:
J.W. Bailey, Ph.D. Iowa State; C. Costello, Ph.D. Tennessee; J.A. Powell (Memphis), MPH, North Carolina (Chapel Hill); J. Whelan, Ph.D. Penn State; P. Zemel, Ph.D. Wayne State.

Instructors:
K. Jones, MBA East Texas State; M. McGrath, M.S. Purdue.

The Department of Nutrition 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 nutritional needs from the smallest unit of the cell to the individual's needs throughout the lifecycle; the ways that attitudes, and beliefs influence food patterns; the management of resources in food service and lodging systems and the properties of foods. Thus, Departmental programs service society through graduates who are able to interpret and contribute to social needs in regard to nutrition and wellness, lodging, foodservice and the related management areas, both as professionals and as responsible citizens.

The professional disciplines of Nutrition and Hotel and Restaurant Administration are rooted firmly in general education and provide a clearly defined base of professional knowledge. The foundation for the Nutrition major includes basic sciences, i.e.,, chemistry, micro-biology, physiology, psychology and sociology. The natural sciences provide a base for understanding nutrient 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 Hotel and Restaurant 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 laboratories or as graduate students in nutrition. Also, the Hotel and Restaurant Administration program provides a good background for Master's programs emphasizing foodservice and lodging administration.

HOTEL AND RESTAURANT ADMINISTRATION

The Hotel and Restaurant 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.

Specializations:
- Foodservice Administration
- Lodging Systems

Instructors:
- K. Jones, MBA East Texas State; M. McGrath, M.S. Purdue

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 experience in the senior year provides a combination of classroom instruction and field-based experiences, which give a graduate a competitive edge in attaining career positions.

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, home health care programs, college and university foodservice facilities, wellness programs, and private practice. Extension Service and food companies are also avenues of employment.

Courses must be selected from one of the following sequences: Biology 110-120, Chemistry 100-110, Plant and Soil Sciences 471, Economics 101, 102, 103, 104, 105, 106.

*At least 48 hours in 300-400 level courses are required.
*Students interested in hotel/motel management should select Hotel and Restaurant Administration 322.
*Courses must be selected from art, music, literature, speech, oral interpretation, philosophy, religious studies or foreign language.
*Credit for these courses must be earned at UT, Knoxville.
*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 human experience through political, social, economic, intellectual, and cultural developments. Courses in which the evolution of artifacts is traced will not satisfy this requirement.
*Cannot be taken with other classes.
TEXTILES, RETAILING AND INTERIOR DESIGN

Professors:

Associate Professors:
R. Bressee, Ph.D. Florida State; C.L. Dyer, Ph.D. North Carolina State; N. Fair (Head), Ph.D. North Carolina State; J. Rabun, Ph.D. Tennessee.

Assistant Professors:
G. Bhat, Ph.D. Georgia Tech; M. Gupta, Ph.D. Missouri; T.L. Houser, M.S. Tennessee; J. Lee, M.S. Ohio State.

The department is dedicated to providing quality undergraduate and graduate teaching, research and public service in the areas of Interior Design, Retail and Consumer Science, Textile Science around the focus of individual needs in the near environment, and is concerned with the design-through-retailing 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 experiences, students prepare for entry level positions in diverse occupations and for advanced education. The largest career concentration in the department is Retail and Consumer Sciences, 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.

RETAIL AND CONSUMER SCIENCES

The field of Retail and Consumer Sciences provides students with knowledge of the retailing industry and the principles and theories involved in managing personnel and merchandise for the consumer. This program is one of the largest of its type in the Southeast. It is designed to respond to and influence a growing but constantly changing retail sector in our economy. A business minor is built into the degree requirements. The progressive direction the program takes provides graduates with excellent management opportunities in the retail sector. By careful use of electives, students can schedule a 12 hour internship experience (RCS 490, 492) in the fall semester of the senior year.

First Year

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<td>Interior Design 140, 140, 200</td>
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Summer before Fifth Year

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<td>Electives</td>
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Total: 158 hours

Select 3 hours from Psychology, Sociology, or Anthropology.

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 experiences. Courses tracing the evolution of artifacts will not satisfy this requirement.

At 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, Women’s Studies and Latin American Studies are represented among the twenty-six departments and twelve special programs that compose the College.

The faculty of the College are committed to providing both comprehensive general education and concentrated study in a particular field to all students enrolled at The University of Tennessee, Knoxville. General education offers opportunities to master the basic learning skills necessary to understand a specialized area of study and is essential for the continuation of learning throughout life.

Liberal Arts faculty are also committed to educating students in a discipline. Education with a disciplinary focus prepares students for further study at the graduate level and 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 and more changeable, the need to endeavor. As our world becomes both more

The College of Liberal Arts faculty help their students prepare for any and all careers. Faculty research and creative activity are the foundations on which the College's faculty help their students prepare for any and all careers. Faculty research and creative activity are the foundations 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 different programs of study leading to the baccalaureate degree and also several pre-professional curricula which prepare the student for advanced study but do not lead to a degree from this college.

DEGREES OFFERED

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

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

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 the cooperative 3+1 program in business and liberal arts or the elementary and secondary pre-teaching programs. Students in the 3+2 business and liberal arts program take three years of coursework leading to a B.A. in Liberal Arts, followed by two years of study in the College of Business leading to the M.B.A.

(2) BACHELOR OF SCIENCE
The Bachelor of Science degree, offered in selected departments and programs, is designed for students who wish to pursue a more scientifically or professionally oriented program of study. Three programs leading to this degree are offered.

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 science.

Pre-Professional Program - The Pre-Professional Program is offered for those who wish to participate in the cooperative 3+1 curricula in the health sciences (medicine, dentistry, pharmacy, veterinary medicine, or
choosing 102, a sophomore literature course in the English Department, or English 355 Advanced Expository Writing. If the sophomore literature course appears on the list for Humanities distribution requirements, it may also be counted toward the majors or minors requirements. c) English 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 obtaining CLEP credit for English composition.

Placement: Student eligibility for English 118 (Honors: English Composition) will be determined on the basis of ACT or SAT scores and a placement exam. Selected students will be placed in English 103 (Writing Workshop) based on ACT or SAT scores, and may not drop this course without departmental approval. (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 credit to satisfy requirements 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 sequence 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. The following sequences satisfy the requirement:

- **German** 201-202 Intermediate German; 203 Honors: Intermediate German.
- **Italian** 211-212 Intermediate Italian. Portuguese 211-212 Intermediate Portuguese.

**Mathematics, Formal Reasoning, 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 (25 or above on the Enhanced ACT) achieve a quantitative score of 500 or above on the SAT, or those 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.

- **Mathematics** 110 Algebraic Reasoning; 130 Precalculus. Philosophy 130 Critical Thinking; 135 Formal Logic.

**Distribution**

1. **Divisional Distribution**
   a. **Non-United States History**
      - To acquire an appreciation for the richness of the past as a statement of human capability, aspiration, and achievement.
      - To develop a historical perspective on a civilization that differs from or serves as the foundation for studying one's own.
      - To develop the ability to explore continuity and change among historical events and movements, and to be able to assess them critically.
      - 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 a civilization.
      - To further develop writing skills.

   **Requirement:** Completion of a six-credit, two-course, writing emphasis', lower-division sequence in non-United States History (6 credits). International students may fulfill this requirement with a United States History sequence. The following sequences satisfy this requirement:

   - **Asian Studies History 101-102 Asian Civilization** History 151-152 Development of Western Civilization; 157-158 Honors: Development of Western Civilization; 161-162 A History of World Civilization.

   **Writing Emphasis Courses** require at least 2,000 words, normally comprising one sustained essay or report of at least 1,000 words plus additional writing assignments such as in-class essay exams, journals, book reviews, etc. The purpose of the requirement is to help students a) learn course materials through writing; b) develop critical thinking skills; c) demonstrate the ability to sustain an argument; and d) strengthen existing writing skills.
Latin American Studies 251-252 Introduction to Latin American Studies.

Medieval Studies 201-202 Medieval Civilization.

Philosophy 120 Foundations of Western Thought: Antiquity through 1500; Philosophy 121 Foundation of Western Thought: 1500 through Early Twentieth Century

a. Natural Science

Purpose:

- To know and understand the basic vocabulary of at least one scientific discipline.
- To learn the basic discoveries and their importance in one scientific discipline.
- To be able to use the tools (i.e. mathematics, laboratory equipment, computers, etc.) of one scientific discipline.
- To understand how to devise hypotheses and how to devise and perform experiments to test them.
- 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:

- Bachelor of Arts students must complete 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.
  - Biology 110-120 General Biology.
  - Botany 110-120 General Botany; 118-128 Honors: General Botany.
  - Chemistry 100 Principles of Chemistry; 110 Introduction to Organic and Biochemistry; and 120-130 General Chemistry; 121-131 General Chemistry for Chemistry majors; 128-138 Honors: General Chemistry.
  - Geography 131-132 Geography of the Natural Environment.
  - Physics 131-132 Fundamentals of Physics; Mechanics and Heat; 221-222 Elements of Physics.
  - b. Bachelor of Science students must complete a minimum of 12 credits from at least two departments or programmatic areas indicated below.
  - Anthropology 120 Prehistoric Archaeology; 130 Cultural Anthropology; 230 American Cultures; 362 Principles of Archeology.
  - Audiology and Speech Pathology 320 Speech and Language Development.
  - Botany 305 Socio-Economic Impact of Plants.
  - Economics 100 Survey of Economic Ideas; 201 Introductory Economics: A Survey Course; 207 Honors: Introductory Economics.
  - Human Services 220 Introduction to Human Services.
  - Music History 310 Introduction to Afro-American Music (Same as African and African-American Studies 310); 390 World Music.
  - Political Science 101 United States Government and Politics; 102 Introduction to Political Science; 310 Political Community; 107 Honors: United States Government Politics.
  - Psychology 110 General Psychology; 117 Honors: General Psychology; 220 Behavior and Experience: Humanistic Psychology.
  - Religious Studies 232 Varieties of Religious Community.
  - 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.

b. Social Science

Purpose:

- To promote understanding of society and individual relationships.
- To develop a critical understanding of one or more approaches, perspectives, or methodologies used in the social sciences.
- 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:

- Bachelor of Arts students must complete a minimum of 6 credits from at least two departments or programmatic areas indicated below.
  - Anthropology 120 Prehistoric Archaeology; 130 Cultural Anthropology; 230 American Cultures; 362 Principles of Archeology.
  - Audiology and Speech Pathology 320 Speech and Language Development.
  - Botany 305 Socio-Economic Impact of Plants.
  - Economics 100 Survey of Economic Ideas; 201 Introductory Economics: A Survey Course; 207 Honors: Introductory Economics.
  - Human Services 220 Introduction to Human Services.
  - Music History 310 Introduction to Afro-American Music (Same as African and African-American Studies 310); 390 World Music.
  - Political Science 101 United States Government and Politics; 102 Introduction to Political Science; 310 Political Community; 107 Honors: United States Government Politics.
  - Psychology 110 General Psychology; 117 Honors: General Psychology; 220 Behavior and Experience: Humanistic Psychology.
  - Religious Studies 232 Varieties of Religious Community.
  - 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).

d. Humanities

Purpose:

- To learn to appreciate and interpret significant literary, philosophical, or religious texts by study and application of selected methods or traditions of thought.
- 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.
- To develop further writing skills.
- To develop the ability to manipulate words, sounds, images, body movements in a variety of ways and to employ these symbols critically, affectively, and evaluatively.
- 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:

- 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 or practice of the arts; or one course in literature if a philosophical perspectives package is chosen to meet Part I, or one course in a philosophical perspective if a literature package is chosen for Part I. Writing Emphasis Courses, except for hands-on practice of the arts courses1. Part I and Part II will be satisfied by selecting packages/courses from the following four lists in accordance with the instructions above.
  - a. Bachelor of Science students must complete a minimum of 6 credits from the courses listed below; 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.

1 Writing Emphasis Courses require at least 2,000 words, normally comprising one sustained essay or report of at least 1,000 words as well as additional writing assignments such as in-class essay exams, journal book reviews, etc. The purpose of the requirement is to help students a) learn course materials through writing; b) develop critical thinking skills; c) demonstrate the ability to sustain an argument; and d) strengthen existing writing skills.
French 291-292 French Literature in English Translation.

Library and Information Science 330 Books and Related Materials for Children.

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; 321 Works of Dostoevsky in English Translation; 322 Works of Tolstoy in English Translation; 325 Modern German Novel in English Translation; 326 German Drama in English Translation.

Spanish 291 Spanish Literature in English Translation; 292 Spanish American Literature in English Translation.


2. The following course packages are designated philosophical perspectives packages.

a. Early Greek Mythology; 222 Classical Greek and Roman Mythology.

Philosophy 110 The Human Condition: Value and Reality; 111 The Human Condition: Knowledge and Reality; 240 Ethics; plus one of the following: 342 Business Ethics; 344 Professional Responsibility; 345 Medical Ethics, 349 War and Morality; 393 The Concept of Woman (Same as Women's Studies 380); 382 Philosophy of Feminism (Same as Women's Studies 382).


3. The following courses are designated study or practice of the Arts courses.

Architecture 111 Architecture and the Built Environment.

Art 191 Introduction to Studio Art: Various Media.

English 263 Introduction to Creative Writing.

German 323 German Film.

Music General 110 Music Appreciation; 120 History of Rock.

Philosophy 350 Philosophy and Literature.

Theatre 100 Introduction to Theatre; 210-211 Survey of World Drama.

Women's Studies 330 Women in Music. (Same as Women's Studies History 350.)

2. Upper-Level Discounts

Bachelor of Arts students must complete a minimum of 6 credits in one of the three areas indicated below and 3 credits from one of the remaining two areas (total 9 credits for this requirement). Writing Emphasis Courses':


a. 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 an 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:

American Studies 430 University of New York; 364 African-American Studies in American Literature (Same as American Studies 345); 440 American Women in American Society (Same as Women's Studies 483).

American Studies 310 Introduction to American Studies.

Anthropology 310 North American Indians; 312 Appalachian Culture; 315 Afro-American Anthropology (Same as African and African-American Studies 315); 320 American Cultures; 360 North American Prehistory.

Audiology and Speech Pathology 465 Speech and Language of the Culturally Different Child.

Economics 413 Macroeconomic Fluctuations; 462 Economics of Resources and Development.


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.

Psychology 434 Psychology and Gender (Same as Women's Studies 434).


Sociology 310 American Society; 340 Class Structure; 342 Race and Ethnicity (Same as Afro-American Studies 345); 442 Comparative Patterns of Poverty and Development; 455 Society and Law.

Speech Communication 466 Rhetoric of the Women's Rights Movement (Same as Women's Studies 466).

Theatre 312-313 History of the American Theatre.

Women's Studies 310 Emergence of the Modern American Woman; 340 Women, Law and Politics.

b. 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 in a highly interdependent world system.

e. To further develop writing skills.

The following courses are designated Foreign Studies courses:

NOTE: If Western Civilization (History 151-152), Medieval Civilization (Medieval Studies 201-202), or Foundations of Western Thought (Philosophy 120-121) is taken to satisfy the non United States History requirement under Divisional Distribution, the European concentration may not be elected here. This option may also be satisfied by literature courses in Arabic, Chinese, French, German, Greek, Hebrew, Italian, Japanese, Latin, Portuguese, Russian, Sanskrit, or Spanish. (Literature courses in English translation will not meet this requirement.)

Africa


Anthropology 310 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).

Linguistics 442 African Political Studies.

Religious Studies 373 African Religions (Same as Afro-American Studies 373 and Anthropology 373).

Asia

Arts 392 Chinese Film; 396 Japanese Art; 486 Art of Indian Asia.

Economics 424 Political Economy of World Development (when topic is Asian).

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); 383 Religion in Japan.

European 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; 383 Women in the Greek and Roman World (Same as Women's Studies 383).

Economics 325 Economic History of the North Atlantic Community.

English 301 British Culture to 1660; 302 British Culture: 1660 to Present; 401 Medieval Literature.

French 420 French Cinema; 431 Highlights of French Civilization; 324 Women in French Culture (Same as Women's Studies 324); 432 Contemporary French Culture.

Geography 375 Geography of the Soviet Union.

German 323 German Film; 363 Modern German Culture.

History 319 Modern Europe, 1750-1914; 320 Contemporary Europe, 1900-present; 432 Women in European History (Same as Women's Studies 432).

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 Democracies; 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.

Latin American Anthropology 313 Peoples and Cultures of Mesoamerica (Same as Latin American Studies 313); 319 Caribbean Societies and Cultures (same as African and African-American Studies 319) and Latin American Studies 319).

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.

Religious Studies 371 Eastern Religions and Western Thought.

Sociology 466 The Modern World System.

Women's Studies 360 Women in Cross-Cultural Perspective.

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 students' mastery of prose communication within the professional context of their major.

The following 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.


2. Biochemistry 420 Advanced Topics in Biochemistry.

3. Chemistry 405 Topics in the Development of Chemistry.


5. Computer Science 411 Senior Thesis I; 412 Senior Thesis II.

6. French 440 Capstone Experience in French.

7. Geography 490 Seminar in Geography.

8. History 490 Colloquium in History.

9. Human Services 430 Working Within the System.

10. Mathematics 411 Mathematical Modeling;

11. Physics 401 Background of Physics; 402 Forefront of Physics.

12. Psychology 496 Senior Seminar: Great Ideas in Psychology.


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. In addition, students making A or B in English 118 may use a 200-level literature course in the English Department to satisfy both the second half of their Basic Skills English Composition requirement and part of their Humanities requirement if the course is listed there. A minimum grade of C must be earned in every course counted as part of a major. Students transferring from other institutions must complete at least 9 credit hours at UT, Knoxville 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, Economics, English, French, Geography, Geology, German, History, Interdisciplinary Studies, Italian, Mathematics, Microbiology, Music, Philosophy, Physics, Political Science, Psychology, Religious Studies, Russian, Sociology, Spanish, Speech Communication, 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 may declare this intent at the time of application for graduation. Once students are admitted to the College of Liberal Arts, 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, not the 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 and Cinema Studies. Minors may be developed in other colleges or schools of the University, but must be approved by the department head in which the minor is proposed and by the Associate Dean for Student Academic Affairs in Liberal Arts. At least 6 of the 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 UT, Knoxville. 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's interests to supplement and support the work being done in the major and Basic Skills and Distribution requirements. This dimension of the student's experience in the University represents that freedom within which total education may be rounded out and enriched. Elective courses should be chosen with care so that they will truly enhance the student's total program and help in the achievement of well thought-out educational objectives.

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

(1) Additional courses in the major field;
(2) A related minor;
(3) An area in the humanities;
(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 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 individualization takes place, 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 fulfill departmental requirements for additional majors or minors, these will be recorded on the Scholars' transcripts. Scholars will not be required to meet Basic Skills or Distribution requirements in order to have such majors or minor officially recognized.

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

PRE-PROFESSIONAL PROGRAMS

PRE-DENTAL PROGRAM
The college offers both a three-year program leading to a Bachelor of Science degree and a four-year program leading to a Bachelor of Arts 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.S. 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 requirement for a major is waived for those who complete the four-year program.

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 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-MBA PROGRAM
The college offers a joint B.A./M.B.A. program with the College of Business Administration. Admission requirements are higher than those normally expected of M.B.A. applicants. Desired qualifications include a minimum of 3.4 GPA and a Graduate Management Admission Test Score of 600 or higher.

Students in this program take their first three years of coursework in Liberal Arts, and their last two years in the College of Business Administration. Within their first three years, students will fulfill all general education requirements for the B.A. degree, both upper and lower division, along with a minor offered by one of the Liberal Arts departments. They may use one Economics course only to fulfill distribution requirements, and they are required to take a year of calculus as the only pre-requisite to the M.B.A.

Students interested in the Dual B.A./M.B.A. program are counseled initially in the Liberal Arts Advising Center regarding admission standards and Liberal Arts requirements. At the end of their second year, they will have a conference with the Associate Dean for Graduate Business Programs and be advised of their prospects for formal admission. If the student is a likely candidate, he/she will be advised to take the G.M.A.T. in October of the third year and to submit an application to the
PRE-MEDICAL PROGRAM

The college offers a three-year program leading to a B.S. degree and a four-year program leading to a Bachelor of Arts or Science 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.S. 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 outlined 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 30 hours of credit in residence at UT, Knoxville before entering UT-Memphis.

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. Bulletin descriptions of the three pre-pharmacy programs in detail may be obtained from the Health Professions Office, 220 Ayres Hall. Information may be obtained from the Health Professions Office, 220 Ayres Hall.
PRE-TEACHING PROGRAMS FOR PROSPECTIVE K-8 TEACHERS

These programs are designed to prepare students for teaching grades K-8. Alternatively, prospective K-8 teachers may complete a Liberal Arts Major in a department, in one of the Interdisciplinary Programs, or, if eligible, in the College Scholars Programs. (Prospective teachers of secondary school must fulfill the requirements of appropriate content majors in Liberal Arts.)

To be licensed for teaching, students must also gain formal admission, normally by the end of the sophomore year, to the Teacher Education Program in the College of Education. This involves completing a series of requirements, including presentation of satisfactory scores on certain tests, completing professional courses in Education, maintenance of a 2.5 or higher GPA and completing a fifth year program that emphasizes practical application. For details, see the College of Education section of the Undergraduate Catalog and contact the Education Advising Center, 214 Claxton Addition.

PRE-TEACHING SCIENCE AND MATHEMATICS OPTIONS: BACHELOR OF SCIENCE

(1) Environmental Science

This concentration should develop the knowledge and understanding of the environmental sciences appropriate to the needs of the teacher in grades K-8. The prerequisite courses assure that the student has an adequate background in the biological, chemical and physical sciences to proceed to upper division courses in either of the chosen areas of concentration. The core curriculum stresses the interrelatedness of biological and physical systems. The two tracks beyond the core stress the two major emphases of the ecological sciences—the biological and the chemical-physical. The student choosing to emphasize the biological-physical track should be prepared to teach courses in biological science through the middle school years. The student choosing to emphasize the chemical-physical track should be prepared to teach general and earth science through the middle school years.

Prerequisite courses: NB: One mathematics and one science sequence or two science sequences (14-16 hours) may be used to satisfy general education requirements.

1. Mathematics 121-115 (3,3) or Mathematics 121-122 (3,3) or Mathematics 141-142 (4,4) or Mathematics 151-152 (3,3)
2. Chemistry 100-110 (4,4) or Chemistry 120-130 (4,4)
3. Biology 110-120 (4,4) or Botany 110-120 (4,4) or Zoology 117-118 (4,4)

Total: 22-24 hours

Core courses: (14-16 hours)
1. Biology 220: General Genetics (4)
2. Biology 230: General Ecology (4)
3. Zoology 205: Primate Evolution (4)
4. Anthropology 210: Principles of Anthropology (3)
5. Anthropology 161-162 (4,4) or Geography 131-132 (4,4) or Physics 141-142 (3,3)

Beyond the core curriculum, the student must choose to follow either a Biological Sciences track (12 hours) or a Physical-Chemical Sciences track (12 hours).

A. Biological Sciences Track (At least 12 hours chosen from among the following): Botany 305: Socio-Economic Impact of Plants (3); Botany 310: Plants: Evolutionary Survey I (3); Botany 320: Plants: Evolutionary Survey II (3); Botany 330: Field Botany (4); Botany 346: Introduction to Oceanography (3); Botany 431: Plant Ecology (3); Botany 451: Plant Tissue Culture (3); Ecology 370: Environment and Conservation (2); Forestry, Wildlife and Fisheries: Forestry, Ecology, Silvics (3); Geography 435: Biogeography (3); Zoology 320: Paleobiology (3); Zoology 420: Paleocology (4); Zoology 426: Paleobotany and Paleynology (3); Microbiology 310-19: Introduction to Microbiology and Lab (3,1); Zoology 380: General Entomology (3); Zoology 450-459: Comparative Animal Behavior and Lab (3,3); Zoology 470: Aquatic Ecology (3); Zoology 473: Herpetology (3); Zoology 474: Ichthyology (3); Zoology 475: Ornithology (3); Zoology 476: Mammalogy (3).

B. Physical-Chemical Sciences Track (at least 12 hours chosen from among the following): Biochemistry 310: Introduction to Biochemistry (3); Chemistry 350-360-369: Organic Chemistry and Lab (3,2,2); Ecology 370: Environment and Conservation (2); Geography 334: Meteorology (3); Geography 433: Land Surface System (3); Geography 434: Climatology (3); Geography 436: Water Resources (3); Geography 203: Geology of National Parks (3); Geology 325: Geologic History of Land Organisms (3); Geology 450: Process Geomorphology (3); Geology 455: Basic Environmental Geology (3); Geology 485: Principles of Geohydrology (3)

Total: 26-28 hours

(2) Science

This concentration should develop the knowledge and understanding of the sciences appropriate to the needs of the teacher in grades K-8. The curricular requirement that the student take courses in both biological science (anthropology, biochemistry, biology, botany, microbiology, psychology, zoology) and in physical science (physics, geography, geology, physical science in addition to the 13 hours in the core curriculum is designed to fulfill the state competencies for General Science and Physical Science and II Biology.

Prerequisite courses: NB: One mathematics and one science sequence or two science sequences (14-16 hours) may be used to satisfy general education requirements.

1. Mathematics 121-115 (3,3) or Mathematics 121-122 (3,3) or Mathematics 141-142 (4,4) or Mathematics 151-152 (3,3)
2. Chemistry 100-110 (4,4) or Chemistry 120-130 (4,4)
3. Biology 110-120 (4,4) or Botany 110-120 (4,4) or Zoology 117-118 (4,4)

Total: 22-24 hours

Core courses: (12-14 hours)
1. Two of the following three courses must be taken: Biology 210: Cell Biology (4); Biology 220: General Genetics (4); Biology 230: General Ecology (4)
2. One sequence from among the following: Astronomy 161-162 (4,4) or Geography 131-132 (4,4) or Zoology 101-102 (4,4)
3. Philosophy 360: Introduction to the Philosophy of Science (3)

Total: (part a) 19 hours

At least twelve hours must be taken from the courses listed below, but no more than nine hours may be taken from either part b (Biological Sciences) or part c (Physical Sciences).

b. Biological Sciences

1. Anthropology 210: Principles of Biological Anthropology (3); Anthropology 464: Principles of Zoology (3); Anthropology 465: Human Osteology (3); Anthropology 469: Primate Evolution (3); Anthropology 495: Human Paleontology (3); Anthropology 496: Biology of Human Variability (3); Biochemistry 310: Introduction to Biochemistry (3); Of the following three courses you must choose two:
   a. Botany 305: Socio-Economic Impact of Plants (3); Botany 306: Genetics and Society (3); Botany 309: Biology of Human Affairs (3); Botany 310: Plants: Evolutionary Survey I (3); Botany 320: Plants: Evolutionary Survey II (3); Botany 331: Introductory Plant Physiology (3); Botany 330: Field Botany (4); Geology 201: Fossils and the Meaning of Evolution (3); Zoology 320: Paleobiology (3); Zoology 420: Paleocology (4); Microbiology 201: General Microbiology (3); Microbiology 310-315: Introduction to Microbiology and Lab (3,1); Psychology 210: Biological Basis of Behavior (3); Psychology 370: Ethology and Sociobiology (3); +Psychology 410: Sensory Processes and Perception (3); +Psychology 461: Physiological Psychology (3); Zoology 230: Human Physiology (5); Zoology 240: Human Anatomy (3); Zoology 330-331: Animal Development and Embryology and Lab (3,2); Zoology 350: Comparative Vertebrate Biology (4); Zoology 360: Comparative Invertebrate Biology (4); Zoology 380: General Entomology (3); Zoology 450-459: Comparative Animal Behavior and Lab (3,3); Zoology 473: Herpetology (3); Zoology 474: Ichthyology (3); Zoology 476: Mammalogy (3).
2. Course has prerequisite other than those prerequisite to this major. See catalog for details.

c. Physical Sciences

Chemistry 350-360-369: Organic Chemistry and Lab (3,3,2); Geography 334:
Mathematics (3): Geography 433: The Land-Surface System (3); Geography 434: Climatology (3); Geography 435: Biogeography (3); Geography 436: Water Resources (3); +Geography 445: Geography of Resources (3); Geology 203: Geology of Natural Parks (3); Geology 310: Mineralogy (3); Geology 330: Igneous and Metamorphic Petrology (3); Geology 340: Stratigraphy and Sedimentation (3); Geology 346: Introduction to Oceanography (3); Geology 370: Structural Geology (4); Geology 380: Resource Crises-Minerals and Energy (3); Physics 131-132: Fundamentals of Physics (4,4) or Physics 141-142: Nature of the Physical World I and II (4,4).

+Course has a prerequisite other than courses prerequisite to this major. See catalog for details.

Total: (parts b and c) 12 hours

(3) Mathematics

This concentration aims at developing a fundamental understanding of some of the primary avenues of mathematical thought including algebra, calculus, computing, geometry, history of mathematics, probability, and statistics.

Mathematics 115: Statistical Reasoning (3); Mathematics 130: Precalculus I (3); Mathematics 141-142: Calculus I and II (4,4); Mathematics 221: Discrete Mathematics (3); Mathematics 241: Calculus III (3); Mathematics 251: Matrix Algebra (3); Mathematics 323: Probability (3); Mathematics 400: History of Mathematics (3); Mathematics 401: Math and Microcomputing (3); Mathematics 460: Geometry (3).

Total: 35 hours

(4) Mathematics and Science

This concentration should develop the knowledge and understanding of the natural sciences and mathematics appropriate to the needs of the teacher in grades K-8 and is intended to provide the student pursuing this option with the minimal competence to teach in either or both disciplinary areas. Of necessity, depth in any particular discipline is secondary to obtaining breadth from an array of natural science and mathematics areas. Courses included in the major have been selected to maximize the number of upper division courses that can be taken without prerequisites.

Prerequisite sequence: Mathematics 151-152: Biocalculus I and II (3,3).

Mathematics (12 hours): Mathematics 221: Discrete Mathematics (3); Mathematics 251: Matrix Algebra (3) Any two of the following: Mathematics 400: History of Mathematics (3); Mathematics 401: Microcomputing (3); Mathematics 460: Geometry (3).

Science (20-24 hours) NB: One of the science sequences listed below may be used to satisfy general education requirements.

Part I. (14-16 hours) A sequence from two of the following three scientific areas (A, B, or C):

A. Biological Sciences (two of the following three courses): Biology 210: Cell Biology (4); Biology 220: General Genetics (4); Biology 230: General Ecology (4); Zoology 230-240: Human Physiology, Human Anatomy (4,3)

B. Chemistry: Either Chemistry 100-110: Principles of Chemistry, Introduction to Organic and Biochemistry (4,4) or Chemistry 120-130: General Chemistry I and II (4,4).

C. Physical Sciences: Either Geology 101-102: General Geology I and II (4,4); or Geography 131-132: Geography of the Natural Environment I and II (4,4) or Physics 141-142: Nature of the Physical World I and II (3,3).

Part II. (6-8 hours) Either another sequence from Part I above or two of the following courses:

Astronomy 161: Introductory Astronomy with Lab (4); Botany 305: Socio-Economic Impact of Plants (3); Botany 309: Biology of Human Affairs (3); Geography 334: Meteorology (3); Geology 201: Fossils and the Meaning of Evolution (3); Geology 203: Geology of National Parks (3); Geology 380: Resource Crises: Minerals and Energy (3).

Total: 32-36 hours

PRE-TEACHING HUMANITIES OPTIONS: BACHELOR OF ARTS

(5) Arts

This concentration should develop the knowledge and understanding of the role of the arts in society and should include experiences with the visual arts, music, drama, and creative dance. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required courses:
Art 172: Western Art I (3) or Art 183: Asian Art (3); Music 110: Music Appreciation (3); Theatre 100: Introduction to Theatre (3).

9 hours in performance courses from 2 or 3 of the following areas: Studio Art (any course); Dance (any course); Music Performance (any course); Speech Communication 280: Introduction to Oral Interpretation (3); Speech Communication 380: Oral Interpretation of Prose Literature (3); Speech Communication 385: Oral Interpretation of Poetry (3); Speech Communication 480: Ensemble Interpretation (3); Theatre 220: Acting (3); Theatre 221: Acting (3); Theatre 245: Basic Costuming (3); Theatre 250: Introduction to Scene Technology (3); Theatre 260: Fundamentals of Light and Sound (3); Theatre 320: Advanced Acting (3); Theatre 340: Introduction to Costume Design (3).

(6) Language Arts

This concentration should develop knowledge, understandings, and skills for effective communication, appreciation of literature, and competence in use of language.

Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-Statistics 201, 122-115, 141-142, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required: Linguistics 200: Language, Linguistics, and Society (3)

12 hours in courses from at least two of the following areas: Audiology and Speech Pathology; Comparative Literature, English, Library and Information Science, Linguistics, Speech Communication 1
At least 9 hours at the 200 level or above from Philosophy 110-111: The Human Condition satisfy the distribution requirements under Natural Science, Part II of Liberal Arts Distribution. Of the 33 hours, at least 21 must be in literature courses in Departments of Modern English, Classics, or Foreign Language at 300 level or above. Total: 33 hours (at least 24 at 300 level or above)

(7) Ideas and Values
This concentration aims at developing an understanding of the variety of ideas and values evolved by different civilizations in their attempts to comprehend and manage the human condition. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Science, Part II.

Required courses: (15 hours)
- Philosophy 110-111: The Human Condition (3,3)
- Religious Studies 101: World Religions in History (3)
- Religious Studies 211: Ways of Understanding Religion (3)
- one of the following: Philosophy 380: The Concept of Woman (3), Philosophy 382: Philosophy of Feminism (3)


Total: 30 hours (at least 21 at 300 level or above)

PRE-TEACHING SOCIAL SCIENCE OPTIONS: BACHELOR OF ARTS

(8) United States Culture
The aim of this concentration is to develop both breadth and depth of understanding about American culture, its uniqueness, its strengths, and its origins. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Sciences, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-122, 121-122, 121-122, 141-144, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Required courses: (6 hours)
- American Studies 310: Introduction to American Culture: Voices of Dissent (3), American Studies 410: Topics in American Culture (3)

6 hours from any U.S. History course

3 hours in Appalachian Studies selected from: Anthropology 312: Appalachian Culture (3), Geography 367: Geography of Appalachia (3), History 449: Tennessee History (3)

6 hours in American Literature at 400 level


Total: 30 hours

(9) Human Learning and Behavior
The purpose of this option is to develop knowledge and insights into societal influences and the ways in which humans learn, think, and act through various stages of development. Of the 33 hours, at least 21 must be within the College of Liberal Arts. Prerequisite to this concentration is Mathematics 201-202 or one of the Mathematics sequences listed under Natural Sciences, Part II of the Liberal Arts Distribution requirements: Math 121-115, 121-122, 121-122, 121-122, Social Science 351, 121-144, or 151-152. If the Math 201-202 sequence is chosen, it will satisfy the distribution requirements under Natural Science, Part II.

Core courses:

Prerequisites: History 151-152: Development of Western Civilization (3,3) or History 161-162: History of World Civilization (3,3); Geography 101-102 (3); Political Science 101: United States Government and Politics (3) or Political Science 102: Government and Politics (3); History 251-252: History of the United States (3,3); Anthropology 120: Prehistoric Archaeology (3) or Anthropology 130: Cultural Anthropology (3); or Sociology 100: General Sociology (3)

Total: 24 hours

Core courses: Geography 320: Cultural Geography; Core Concepts (3); History 373: Historical Issues (3) or History 379: American Issues: Individualism and Community (3) or History 380: American Issues: War and the Peaceful Ideal (3)

6 hours from the following: History 360-361: History of Latin America (3,3); History 362-363: History of East Asia (3,3); History 364: History of China (3); History 365: History of Japan (3); History 366: Ancient Near East Civilization (3); History 369-370: History of the Middle East (3,3)

6 hours from the following: Afro-American Studies: 371-372: African History (3,3); Economics 201: Introductory Economics; Economics 202: Intermediate Economics: A Survey Course (4); History 376: History Behind the News (3); History 449: History of Tennessee (3); Human Services 220: Introduction to Human Services (3)

Required courses: (9 hours)

Geography 101-102: World Geography (3,3); Anthropology 130: Cultural Anthropology (3)

3 hours from: Sociology 340: Class Structure (3); Sociology 343: Race and Ethnicity (3); Sociology 344: Power and Society (3)

3 hours Sociology 446: The Modern World System (3)

3 hours Curriculum and Instruction 451: Education in Cultural Perspective (3)

18 hours selected from Geography, Afro-American Studies, Anthropology, Economics, History, Latin-American Studies, Religious Studies, Sociology with a multicultural/international emphasis or in a given geographic area (such as Africa, Asia, Latin America)

Total: 30 hours

PRE-VETERINARY MEDICINE PROGRAM

The following program is designed for students who wish to pursue a B.S. degree while preparing for the study of Veterinary Medicine. Students in this program must complete a minimum of 12 credits from at least two areas and must complete a minimum of 6 credits from at least two areas for the Social Science requirements.

6 hours from the following: Statistical Analysis (3); Economics 201: Introductory Economics; Economics 202: Intermediate Economics: A Survey Course (4); History 376: History Behind the News (3); History 449: History of Tennessee (3); Human Services 220: Introduction to Human Services (3)

Total: 18 hours

12 additional hours at 300 level or above from one of the following: U.S. History, European History, Ancient and Medieval History, Geography, Political Science, Modern History, African and/or Asian History

Total: 30 hours (at the 300 level or above)

SCIENCE-MEDICAL TECHNOLOGY CURRICULUM

Students who complete the Science-Medical Technology Curriculum receive the B.S. degree with a major in medical technology from the College of Liberal Arts. The curriculum requires a minimum of 94 hours of credit which includes the Basic Skills and Distribution requirements of the college prior to application for admission to a final year of study at the University of Tennessee Medical Center, Knoxville (UTMCK). After the course of study is completed, UTMCK, awards the student a Certificate of Laboratory Training. Students are then eligible for examination by the Board of Registry of the American Society of Clinical Pathologists to earn certification as registered medical technologists.
Math placement depends on high school courses. This requirement assumes a student has had enough general chemistry to be eligible to go directly into biology in high school (e.g., two years of biology or an equivalent honors course). Students must include at least eight hours in biological science in their electives to satisfy the requirement for admission to the medical technology course of study.

Mathematics

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
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<tbody>
<tr>
<td>Chemistry 110, 111</td>
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</tr>
<tr>
<td>Zoology 230</td>
<td>5</td>
</tr>
<tr>
<td>Biology 210, 220</td>
<td>8</td>
</tr>
<tr>
<td>Microbiology 310, 319</td>
<td>4</td>
</tr>
<tr>
<td>Divisional Distribution (A) U.S. Studies (B) Foreign Language (Intermediate Level Sequence)</td>
<td>6</td>
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<tr>
<td>Mathematics</td>
<td>6</td>
</tr>
<tr>
<td>Sophomore</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 110</td>
<td>4</td>
</tr>
<tr>
<td>Biology 230</td>
<td>5</td>
</tr>
<tr>
<td>Microbiology 420, 429</td>
<td>5</td>
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<tr>
<td>Chemistry 310, 319</td>
<td>4</td>
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<td>Microbiology 430</td>
<td>3</td>
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<tr>
<td>Divisional Distribution Humanities Part I-II</td>
<td>3</td>
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<tr>
<td>Divisional Distribution Social Sciences</td>
<td>6</td>
</tr>
<tr>
<td>Upper Level Distribution (A) U.S. Studies (B) Foreign Studies or (C) Capstone Experience</td>
<td>6</td>
</tr>
</tbody>
</table>

**Total: 124 Minimum hours**

**Senior:**

Medical Technology course of study at UTMCK (12-month program)

**Total: 94 hours**

**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 toward graduation although neither S nor NC grades will be calculated in the student's grade point average. Satisfactory is defined as C or better on this basis, except in areas where the option is specifically prohibited. Such courses, if successfully completed, will count as hours toward graduation although neither S nor NC grades will be calculated in the student's grade point average. Satisfactory is defined as C or better on this basis.

**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 department concerned. It may include certain kinds of work experiences, community involvements, working in political campaigns, etc. 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 UT, Knoxville 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 program. 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.
exclusively of that earned in group programs offered by departments, could apply toward a degree in the college. Departments may in any of the above forms, however, limit the hours of credit which can be applied toward a given major.

AFRICAN AND AFRICAN-AMERICAN STUDIES
See Interdisciplinary Programs.

AMERICAN STUDIES
See Interdisciplinary Programs.

ANCIENT MEDITERRANEAN CIVILIZATIONS
See Interdisciplinary Programs.

ANTHROPOLOGY

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:
P. Longobardi, M.F.A. Montana State; 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 advice 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 UT, Knoxville. Transfers who expect to enroll in 300 (junior level) or 400 (senior level) courses must present a portfolio of 10-15 works. The 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 advice 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 UT, Knoxville. Transfers who expect to enroll in 300 (junior level) or 400 (senior level) courses must present a portfolio of 10-15 works, the majority of which must be in their major area of concentration.

No grade below "C" in any of these courses may be applied to the B.F.A. major. A minimum of 40 credit hours, 300 level or above, must be earned prior to graduation.

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</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Art History 171, 172, 173</td>
<td>9</td>
</tr>
<tr>
<td>Additional hours</td>
<td>9</td>
</tr>
<tr>
<td>Studio 101, 103</td>
<td>4</td>
</tr>
<tr>
<td>Studio 295</td>
<td>9</td>
</tr>
<tr>
<td>Studio 211 Drawing I; 213 Painting I (or 215 Watercolor I); Sculpture (241 or 243 or 244 or 245 or 246); Printmaking (161 or 263 or 264)</td>
<td>12</td>
</tr>
<tr>
<td>9 hours from the following: Fiber-Fabric (201 or 202 or 203 or 204); 242 Life Modeling; 106 Metal Design; 231 Photography; 282 Film Design; 221 Ceramics</td>
<td>9</td>
</tr>
</tbody>
</table>

Total: 46

Concentration - Ceramics; Drawing; Painting;
Printmaking; Sculpture; Watercolor; or Inter-Area (approved combinations of studio media).

Portfolio Review (pre-requisite to 300 and 400 courses) (S/N)

0

300 and 400 level

20

Approved Studio Electives for Concentration

9

Total: 32

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 an additional major in Art Education and licensure to teach must take 14-15 hours in undergraduate Art Education courses.

Total: 15 hours

General Curriculum

English Composition

6

Non-U.S. History/Social Science

6-8

Natural Science/Mathematics

6-8

Liberal Arts Non-Art Electives

14-16

Total: 34 hours

Total: 127 hours


B.F.A. in Studio Art with an Additional Major in Art Education

Students who wish to obtain licensure to teach art in the schools should pursue the B.F.A. degree in studio with an additional major in Art Education. For details, see Art Education listings in the College of Education section of this catalog.

B.F.A. in Graphic Design/Illustration

The Graphic Design/Illustration major is specifically designed to provide the basic visual education for those persons who wish to pursue careers in the commercial application of art in fields such as advertising, art direction, package design, publications, television, etc. 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 UT, Knoxville. Transfers who expect to enroll in 300 (junior level) or 400 (senior level) courses must present a portfolio of 10-15 works, the majority of which must be in graphic design.
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 prior to graduation. A minimum of 127 credit hours are required for graduation. Two options are available: Graphic Design or Illustration. Students are advised that courses in Graphic Design/ Illustration must be taken in sequence, and that successful completion of Art 350 (Portfolio Review, S/NC) is prerequisite to all upper division courses.

GRAPHIC DESIGN CONCENTRATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Core</td>
<td>9</td>
</tr>
<tr>
<td>Art 171, 172, 173</td>
<td></td>
</tr>
<tr>
<td>Art History electives</td>
<td>6</td>
</tr>
<tr>
<td>Art 101, 103</td>
<td></td>
</tr>
<tr>
<td>Art 295, 211, 213 (or 215)</td>
<td>9</td>
</tr>
<tr>
<td>Art 251, 252, 351/356, 352, 451, 452, 455 in sequence</td>
<td>22</td>
</tr>
<tr>
<td>Art 356</td>
<td>1</td>
</tr>
<tr>
<td>Art 456</td>
<td>12</td>
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<tr>
<td>Total:</td>
<td>28</td>
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Design and Professional Electives

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<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tbody>
<tr>
<td>Art 259, 292, 331, 353, 354, 355, 392, 396, 404, 405, 453, 454, 456, 491, 492, 498; Advertising 250, 350, 490, Marketing 301</td>
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<td>Total:</td>
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Studio Electives

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>Art 212, 3 hours drawing elective</td>
<td>6</td>
</tr>
<tr>
<td>Art 231</td>
<td>3</td>
</tr>
<tr>
<td>Art 151</td>
<td>2</td>
</tr>
<tr>
<td>Art 251, 252, 351/356, 352, 451, 452, 455 in sequence</td>
<td>22</td>
</tr>
<tr>
<td>Art 356</td>
<td>1</td>
</tr>
<tr>
<td>Art 456</td>
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<tr>
<td>Total:</td>
<td>45</td>
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General Curriculum

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>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>
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<tr>
<td>Art 491</td>
<td>3</td>
</tr>
<tr>
<td>Total:</td>
<td>30</td>
</tr>
</tbody>
</table>

In addition to the general B.A. requirements (found in the Undergraduate Catalog), the following are required for B.A. majors in the Art Department:

B.A. Majors in Art History

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisite: Art 172, 173, 183</td>
<td>9</td>
</tr>
<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>
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</tr>
<tr>
<td>Art 491</td>
<td>3</td>
</tr>
<tr>
<td>Total:</td>
<td>39</td>
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</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>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisite: Art 101, 295, 103</td>
<td>7</td>
</tr>
<tr>
<td>Major: Studio courses numbered 200 and above, including a minimum of 15 hours in 300-400 level courses</td>
<td>24</td>
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<td>Total:</td>
<td>40</td>
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</table>

In addition to the general B.A. requirements, the following are required for minors in the Art Department:

B.A. Minor in Art History

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Prerequisite: Art 172, 173</td>
<td>6</td>
</tr>
<tr>
<td>Minor: Art History courses numbered 200 and above</td>
<td>15</td>
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<tr>
<td>Total:</td>
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B.A. Minor in Studio

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prerequisites: Art 101, 103, 295</td>
<td>7</td>
</tr>
<tr>
<td>Major: Studio courses which include a minimum of 8 additional upper-division hours, Concentration may be Ceramics, Drawing, Fiber-Fabric, Painting-Watercolor, Printmaking, Sculpture or a combination from these areas</td>
<td>15</td>
</tr>
<tr>
<td>Total:</td>
<td>28</td>
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</tbody>
</table>

ILLUSTRATION CONCENTRATION

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>Art Core</td>
<td>9</td>
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<tr>
<td>Art 171, 172, 173</td>
<td></td>
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<tr>
<td>Art History electives</td>
<td>6</td>
</tr>
<tr>
<td>Art 101, 103</td>
<td></td>
</tr>
<tr>
<td>Art 295, 211, 213 (or 215)</td>
<td>9</td>
</tr>
<tr>
<td>Illustration</td>
<td>12</td>
</tr>
<tr>
<td>Art 350 (S/NC)</td>
<td>0</td>
</tr>
<tr>
<td>Art 212, 3 hours drawing elective</td>
<td>12</td>
</tr>
<tr>
<td>Art 231</td>
<td>3</td>
</tr>
<tr>
<td>Art 151</td>
<td>2</td>
</tr>
<tr>
<td>Art 251, 252, 351/356, 352, 451, 454, 455 in sequence</td>
<td>22</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>44</td>
</tr>
</tbody>
</table>

IASTRONOMY

See Physics and Astronomy.

AUDIOLOGY AND SPEECH PATHOLOGY

Professors:

P.J. Carney (Head), Ph.D. Iowa; S. Adler, Ph.D. Ohio State; C.W. Asp, Ph.D. Ohio State; D.M. Lipscomb (Adjunct), Ph.D. Washington; S.J. Blain, M.F.A. Wisconsin.

Associate Professors:

S.B. Burchfield, Ph.D. Michigan State; C.J. Ferrell, M.A. Tennessee; E.L. Hamby, Ph.D. Iowa; J. Thein, Ph.D. Iowa; G. Wallace, Ph.D. Northwestern.

Assistant Professors:

P. Gordon, Ph.D. Tennessee; A. Krishnan, Ph.D. Texas (Dallas).

Instructors:

D. King, M.A. Tennessee; T.R. Singletary, M.S. Colorado State.

PI BETA PHI ARROWMONT SCHOOL OF ARTS AND CRAFTS

Director:

S.J. Blain, M.F.A. Wisconsin.

Arrowmont, located 40 miles from the UT, Knoxville campus, is a visual arts complex which functions as a regional and national cultural center. In 1954, Pi Beta Phi Fraternity established an affiliation with The University of Tennessee, and with the Department of Art in 1976. The program currently includes spring and summer one and two week media workshops, special weekend conferences, and community classes. Media offerings include: clay, fiber, fabric, metal, wood, stained glass, leather, papermaking, drawing, painting, graphics and photography. Students may receive audit, undergraduate or graduate credit for spring and summer classes through The University of Tennessee, Department of Art. Facilities include well equipped studios, on campus book and supply store, a large auditorium, art library, and resident accommodations. The Arrowmont Gallery presents changing juried, invitational, theme or media oriented exhibitions. The Gallery and Library are open to the public Monday-Saturday, 8:30 a.m. - 5:30 p.m. Arrowmont receives financial support from chapters of the Pi Beta Phi Fraternity, alumnae clubs, and individual members.

Courses are offered periodically at the Pi Beta Phi Arrowmont School of Arts and Crafts, Gatlinburg, Tennessee. Content varies with faculty. Students should check specific course content as printed in the Arrowmont timetable published each spring.

ASIAN STUDIES

See Interdisciplinary Programs.
The Department of Audiology and Speech Pathology offers courses for the study of human communication sciences and disorders. The two undergraduate majors (audiology and speech pathology) are preparatory to graduate work and to professional certification in some aspect of speech, language, and hearing disorders. The master's degree is required for most professional certificates and employment positions. Information about the audiology and speech pathology programs may be obtained from the departmental office, 457 South Stadium Hall, and students are strongly encouraged to consult with the undergraduate advisors in the department as early as possible in their programs. Suggested elective courses for students not majoring in Audiology and Speech Pathology include 304, 305, 320, 331, 431, 445, 461, 473, plus six (6) hours from the following courses: 431, 440, 494.

The B.A. major in speech pathology consists of Audiology and Speech Pathology 304, 305, 306, 320, 331, 371, 433, 461, 465, 473 plus six (6) hours from the following courses: 431, 440, 494.

BACTERIOLOGY
See Microbiology.

BIOCHEMISTRY

Professors: W.D. Wicks, Ph.D. Harvard (Head); J.E. Churchich (Chancellor's Research Scholar), Ph.D. Sheffield (England); J.G. Joshi, Ph.D. Poona (India); K.J. Monty, Ph.D. Rochester.

Associate Professors: J. Koontz, Ph.D. Kentucky.

Assistant Professors: H. Howell, Ph.D. Lehigh; C. Peterson, Ph.D. Louisiana State; D. Roberts, Ph.D. California (Davis); E. Serpersu, Ph.D. Hacettepe (Turkey).

The B.S. major in Biochemistry consists of Biology 210-220, Chemistry 350-360-369, Physics 221-222, Biochemistry 410, 419, 420, 471, 481, and 3 hours chosen from: Biochemistry 452; Botany 321; Microbiology 310, 319, 410, 430, 439; Zoology 330, 350, 410, 430, 439, 440. Prerequisites to this major are Biology 110-120, 120 or 118-128, and 3 hours of upper-division courses selected from Biochemistry 310-319 or Biochemistry 419, 420, 430, 440, 452; Botany 310-320, 321, 412, 441, 451; Microbiology 310-319, 400, 410, 419, 430-439, 440-445; Zoology 330-331, 350, 360, 400, 403, 404, 410, 420, 440, 445, 449, 460, 465, 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.

Concentration in Organismal and Systems Biology consists of Biology 210, 220, 230, Chemistry 350, 360, 369, Biochemistry 410, either Chemistry 310-319 or Biochemistry 419, and 12 hours of upper-division courses selected from Biochemistry 310, 419, 420, 452; 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. At least 6 hours must be at the 400 level. 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.

Concentration in Ecology consists of Biology 210, 220, 230, Chemistry 350, 360, 369, one course from among Botany 431, Zoology 450 or 460; either Zoology 470 or Botany 346; and one course from among Forestry, Wildlife and Fisheries 311, 315 or; Wildlife and Fisheries Science 443, 444, or 445. An additional 9 hours must be chosen from among these courses: Either Biochemistry 310 or 410; Botany 321, 330, 436, 401, 402, 403, 431; one course from among Geology 413, 433, or 434; Microbiology 470, 479; Zoology 445, 450, 459, 460, 470.

A Minor consists of Biology 210, 220, 230 and 8 hours of upper-division courses chosen from the list below. Biochemistry 410-419; Botany, any 300- or 400-level courses; Microbiology, any 300- or 400-level courses; Zoology, any 300- or 400-level courses. (In meeting the upper-division minimum requirement, not more than 6 hours may be credited from any one biological science department, and not more than 3 hours of research courses may be credited.) Prerequisites to the minor are introductory biology courses (Biology 110-120 or Botany 118-128 or Zoology 117-118) and Chemistry 120-130.

BOTANY


Associate Professors: C.C. Amundsen, Ph.D. Colorado; A.S. Hallman, Ph.D. Ohio State; O.J. Schwarz, Ph.D. North Carolina State; D.K. Smith (Undergraduate Coordinator), Ph.D. Tennessee; B.E. Wofford (Director of Herbarium) Ph.D. Tennessee.

Lecturer: K.D. McFarland, Ph.D. Tennessee.

The 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. Corequisites 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.

General Program requirements are: 2 courses from Biology 210-220-230; Botany 310, 320, 321, 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 31 hours completes this major's option.

Concentration in Organismal Botany requirements are: Biology 210, 230; Botany 331, 341, 342, 330, 1 hour of 371, 2 hours from 400 or 441-442; and 7 additional hours selected from Botany 305, 306, 309 do not meet this requirement), Biology 220 (recommended for partial fulfillment of this requirement), or upper division Biochemistry, Microbiology, or Zoology. A minor completes this major's option (includes 8 hours of Organic Chemistry).

Concentration in Cellular and Molecular Botany requirements are: Biology 210, 220; Botany 321, 310, 320, 330, or 451, 1 hour of 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 31 hours completes this major's option.
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 is recommended for fulfilling this requirement); or upper division Biochemistry, Microbiology, Zoology. A minimum of 40 hours completes this major's option (includes 8 hours of Organic Chemistry). **Minor** consists of 2 courses from Biology 210, 220, 230, 1 hour of Botany 371, and 6 additional hours of upper-division Botany (not more than one course from 305, 306, 309, and 3 additional hours of upper-division Botany or related Biological Sciences). Prerequisite for the minor is Botany 110, 120, or 118, 126 (recommended) or Biology 110, 120.

**CHEMISTRY**

**Professors:**
- G. Mamantov (Head and Alumni Distinguished Service Professor), Ph.D. Louisiana State;
- D.C. Baker, Ph.D. Ohio State; J.E. Bloor, Ph.D. Manchester (England); W.E. Bull, Ph.D. Illinois;
- J.O. Chambers, Ph.D. Kansas; J.A. Dean (Emeritus), Ph.D. Michigan; J.F. Eastham (Emeritus), Ph.D. California (Berkeley);
- W.H. Fletcher (Emeritus), Ph.D. Minnesota; F.A. Grimm, Ph.D. Cornell; G.A. Guiochon (Emeritus), Ph.D. Michigan;
- J.F. Eastham (Emeritus), Ph.D. North Carolina State; F.M. Schell, Ph.D. Indiana; C. K.D. Cook, Ph.D. Wisconsin;
- C.A. Lane, Ph.D. Stanford; J.E. Bartmess, Ph.D. Northwestern;
- B.W. Smith (Emeritus), Ph.D. Illinois; M.J. Sepaniak, Ph.D. Illinois; W.T. Smith (Emeritus), Ph.D. Ohio State;
- W.A. Van Hook, Ph.D. Johns Hopkins; E.L. Wehry, Ph.D. Purdue; T.F. Williams (Emeritus), Ph.D. Northwestern;
- J.R. Peterson (Emeritus), Ph.D. California (Berkeley); G.K. Schweitzer (Alumni Distinguished Service Professor), Ph.D. Illinois; M.J. Sepaniak, Ph.D. Iowa State; W.T. Smith (Emeritus), Ph.D. Ohio State;
- J.R. Peterson, Ph.D. California (Berkeley); G.K. Schweitzer (Alumni Distinguished Service Professor), Ph.D. Illinois; M.J. Sepaniak, Ph.D. Iowa State; W.T. Smith (Emeritus), Ph.D. Ohio State.

**Associate Professors:**
- J.L. Adcock, Ph.D. Texas; S.D. Alexandratos, Ph.D. California (Berkeley); C.E. Barnes, Ph.D. Stanford;
- J.E. Bartmess, Ph.D. Northwestern; K.D. Cook, Ph.D. Wisconsin; C.A. Lane, Ph.D. California (Berkeley); C.S. Feigl, Ph.D. Colorado;
- F.M. Schell, Ph.D. Indiana; C. Woods, III (Associate Dean), Ph.D. North Carolina State.

**Assistant Professor:**

**Bachelor of Science in 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 Training 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 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>Requirement</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Chemistry 120-130 or (preferably) 121-131 or 128-138</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics 141-142</td>
<td>8</td>
</tr>
<tr>
<td>English Composition</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language (intermediate level sequence)</td>
<td>6</td>
</tr>
<tr>
<td>10 hours of upper-division Botany (includes 8 hours of Organic Chemistry)</td>
<td>8</td>
</tr>
<tr>
<td>Biology 110, 120</td>
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<td>Sophomore Chemistry 340</td>
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<td>Chemistry 350-360</td>
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<td>Chemistry 473-483</td>
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<td>Distribution</td>
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</tr>
<tr>
<td>Electives</td>
<td>9</td>
</tr>
<tr>
<td>Total: 124 hours</td>
<td></td>
</tr>
</tbody>
</table>

*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 intermediate sequence before taking the intermediate level sequence.*

*The distribution requirements of the College of Liberal Arts are satisfied by taking: Non-U.S. History (6 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 Capstone Experience). 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.*

*B.S. Degree and Chemistry Major*

For students wishing to major in chemistry but desiring a more flexible course of study than the B.S. in Chemistry, there is the regular B.S. degree. Because these two programs are designed for students with different career goals, the following paragraphs should be carefully considered before selecting courses.

A student who decides to major in chemistry should ask the Liberal Arts Advising Center for assignment of a faculty advisor in the Department of Chemistry. For further information, contact the Head of the Department of Chemistry, 575 Buehler Hall.

The B.S. degree is intended primarily for students who may have career objectives in fields other than chemistry, but in fields where chemistry has direct application such as medicine, dentistry, pharmacy, business, and ecology. The B.S. in Chemistry degree is recommended for students planning a career in chemistry. However, with the proper choice of physics, mathematics, and physical chemistry courses, the regular B.S. program is also suitable for such students.

**Placement in General Chemistry Sequences**

The sequences which meet all requirements of a year of general chemistry and which serve as prerequisites for upper-division courses are 120-130, 121-131, and 128-138; chemistry majors are strongly encouraged to take either of the latter sequences. Courses 100 and 110 emphasize organic and biochemistry, and may be used as prerequisites only for 431.

It is possible to move from one sequence to another if permission for substitution is obtained in advance. For example, a student who finds a need to complete the 120-130 series after having completed 100 may substitute 100 for 120 with approval of the Department of Chemistry, and may then take 130. Credit may be received for only one of the courses 100, 120, 121, or 128.

In any chemistry course above the freshman level which has Chemistry 130 as a prerequisite, 110 may be used as a prerequisite with approval of the Department of Chemistry.
Chemistry 128-138 is an honors course designed for the student who has already made considerable progress in science. Class size is limited to promote faculty-student interaction. Selection is based on ACT scores, high school chemistry grade, and, if necessary, performance on a placement examination to be given during the first class meeting. A student receiving a passing grade below B in 128 will complete the year's work by taking 130 or 131.

Beginning 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 Interdisciplinary Programs (Asian Studies).

CLASSICS
Professors:
G.C. Gesell, Ph.D. North Carolina (Chapel Hill); H.C. Rutledge, Ph.D. Ohio State.

Associate Professors:
C.P. Craig, Ph.D. North Carolina (Chapel Hill); S.D. Martin (Head), Ph.D. Michigan; J.E. Sholton, 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 student majoring in Greek is strongly encouraged to have as background History 310 before taking the capstone course. The student concentrating in Greek 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).

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 or 311 before taking the capstone course. The student concentrating in Latin is encouraged to begin or take advanced work in Greek.

The Latin minor consists of 18 hours including 12 hours of Latin language courses numbered above 200, and 6 hours chosen from Classics 221-222, 331, 334. The student minoring in Latin is encouraged to take Classics 422 (capstone).

Placement Examination. Students who transfer to UT, Knoxville 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.

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

COMPARATIVE LITERATURE
See Interdisciplinary Programs.

COMPUTER SCIENCE
Professors:
J.H. Poore (Head), Ph.D. Georgia Tech; Jack Dongarra, Ph.D. New Mexico; R.C. Gonzalez (ECE), Ph.D. Florida; G.R. Sherman (Director, UTCG), Ph.D. Purdue; M.G. Thomason, Ph.D. Duke.

Associate Professors:
J.D. Case, Ph.D. Illinois; M.A. Langston, Ph.D. Texas A&M; B.J. MacLennan, Ph.D. Purdue.

Assistant Professors:
Michael W Berry, Ph.D. Illinois; J.R.S. Blair, Ph.D. Pittsburgh; H.A. Booth, Ph.D. Princeton; Jena Gregor, Ph.D. Aalborg (DK); D.C. Metcalf, Ph.D. Duke; D.W. Straight, Ph.D. Texas; B.T. Vander Zanden, Ph.D. Cornell; M.D. Vose, Ph.D. Texas.

Instructor:
J.W. Mayo, M.S. Tennessee.

Computer Science 102, 111, and 112 are prerequisites to a major in computer science which consists of 311, 320, 340, 360, 371, and 380; plus an additional 3 hours of CS Advanced Topics Courses. Mathematics 141-142, 221-222, 231, 241, and 251, Physics 151-152, and English 461 are also required. 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.

An undergraduate minor in Computer Science consists of 111 and 112 plus fifteen hours of 300 or 400 level courses.

Progression Standards. Progression into the Computer Science major is based on the availability of space in the laboratories and other resources. Progression requirements are adjusted periodically and current requirements can be determined by consulting with an advisor in the Undergraduate Programs Office, or by contacting the Computer Science Department directly. Students who enter the College of Liberal Arts as freshmen or sophomores are expected to apply for the major immediately after attempting 10 hours in Computer Science.

Transfers from Other UTK Programs: Students in other colleges or majors at UTK must apply for progression to the major at the earliest possible date but definitely prior to 75 hours. As a minimum, all students must be admitted to the CS major for at least the last 30 hours of work. Only in exceptional circumstances will application be considered after 75 hours of coursework (at UTK or elsewhere) have been attempted. It should not be supposed that CS admission must be granted to those who accumulate a substantial number of hours in CS courses. On the contrary, an academic record reflecting substantial work after 75 hours in the CS curriculum may be taken as prima facie evidence of intent to evade this policy and may result in denial of admission.

In 1991 the progression standards were:
1. Has completed at least the following three courses at UTK with an average of 3.0 or better: CS 102, 111, 112.
2. Has achieved an average of 2.5 or better of grades in all Computer Science courses taken at UTK that apply to the major. All grades received for these courses are averaged.
3. Has received at most one W or repeated grade in a Computer in a Computer Science courses.
4. Has not been disciplined for academic dishonesty in a Computer Science course or for abuse of university computing privileges.

Progression standards are subject to change; current standards are available in Undergraduate Programs Office and the Computer Science Department Office, 107 Ayres Hall.

Transfers from other institutions
Transfers from other institutions are generally handled the same as transfers from other UTK programs. However, a prospective transfer student should consult with an advisor in the Computer Science Department to determine which courses can be accepted toward the Computer Science major. It should not be assumed that courses with similar names to UTK courses can be accepted toward the major.

Appeals
Those students denied progression may appeal to the Undergraduate Committee of the Computer Science Department. Information on the appeals process can be obtained by calling the Computer Science Department, 974-5067, the Undergraduate Programs Office, 974-5096, or by contacting an advisor in that office.

ECOLOGY
Director:
Dewey L. Bunting

Basic Faculty:
C.G. Amundsen, Ph.D. Botany; B.G. Blaylock, Ph.D. O.R.N.L.; E.R. Buckner, Ph.D. Forestry; D.L. Bunting, Ph.D. Zoology; G.M. Burghardt,
ECONOMICS

See faculty listing the College of Business Administration.

The program in economics combines a broad liberal education with the rigorous study of current issues of the day such as economic growth, 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, 121-122, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.

B.A. Honors: The Department of Economics offers an honors B.A. degree. Candidates for the honors degree must complete 311, 313, and 21 upper division hours to include the honors seminar 491. Honors in the honors degree should contact the departmental advisor for details.

A minor consists of (1) Economics 201 and (2) 12 additional hours 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


Instructors: R.J. Strange, Ph.D. Forestry; W. Van Winkle, Ph.D. ORNL; J.L. Vaughn, Ph.D. Zoology; E.L. Wehey, Ph.D. Chemistry; D.C. West, Ph.D. ORNL; J.L. Wilson, Ph.D. Forestry; J.P. Witherspoon, Ph.D. ORNL; F.W. Woods, Ph.D. Forestry.

Ecology Program Faculty


The Graduate Program in Ecology offers Master of Science and Doctor of Philosophy degrees. These programs should be designed to provide students in consultation with their advisors. The program in economics combines a broad liberal education with the rigorous study of current issues of the day such as economic growth, 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, 121-122, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.

B.A. Honors: The Department of Economics offers an honors B.A. degree. Candidates for the honors degree must complete 311, 313, and 21 upper division hours to include the honors seminar 491. Students interested in the honors degree should contact the departmental advisor for details.

A minor consists of (1) Economics 201 and (2) 12 additional hours 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.

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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, 121-122, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.

B.A. Honors: The Department of Economics offers an honors B.A. degree. Candidates for the honors degree must complete 311, 313, and 21 upper division hours to include the honors seminar 491. Students interested in the honors degree should contact the departmental advisor for details.

A minor consists of (1) Economics 201 and (2) 12 additional hours 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.

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Ecology Program Faculty


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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, 121-122, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.

B.A. Honors: The Department of Economics offers an honors B.A. degree. Candidates for the honors degree must complete 311, 313, and 21 upper division hours to include the honors seminar 491. Students interested in the honors degree should contact the departmental advisor for details.

A minor consists of (1) Economics 201 and (2) 12 additional hours 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.
achieve academically sound objectives that are not addressed by the above requirements.

Honors: For students who qualify, the English Department offers specially designed courses at the freshman, sophomore, junior 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. To be given "Honors" in English on the transcript, a student must have achieved a 3.0 or better GPA, a 3.5 or better grade point in English courses, and grades of A or B in English 398 and 498.

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 consult the Certification Clerk, 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 in general 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

Professors:
S.R. Jumper (Head), Ph.D. Tennessee; C.S. Aiken, Ph.D. Georgia; T.L. Bell, Ph.D. Iowa; E.H. Hammond (Emeritus), Ph.D. California (Berkeley); R.G. Long (Emeritus), Ph.D. Northwestern; C.W. Minkel (Vice Chancellor for Academic Affairs and Dean of the Graduate School), Ph.D. Syracuse; C.T. Paludan (UTSI), Ph.D. Denver; B.A. Ralston, Ph.D. Northwestern; T.H. Schmudde, Ph.D. Wisconsin; T.J. Wilbanks (Adjunct), Ph.D. Syracuse.

Associate Professors:
T.J. Blasing (Adjunct), Ph.D. Wisconsin; L.W. Brinkman, Jr., Ph.D. Wisconsin; M.A. Brown (Adjunct), Ph.D. Ohio State; R.A. Foresta, Ph.D. Rutgers; L.M. Pulsipher, Ph.D. Southern Illinois; J.B. Rehder, Ph.D. Louisiana State.

Assistant Professors:
C.P. Harden, Ph.D. Colorado (Boulder); S.P. Horn, Ph.D. California (Berkeley); Cheng Liu, Ph.D. Tennessee; J.J. Ray (Adjunct), Ph.D. Tennessee.

A B.A. major in Geography Geography 131 and 132 are prerequisite to a major in Geography, which consists of Geography 310, 320, 340, 415, and 499, and 12 additional credits selected from Geography courses at the 300 and 400 levels. At least one course must be chosen from among Geography 361, 393, 365, 372, 373, 375, and 379, and at least nine of these must be at the 400 level.

Students who enter the major with more than 60 hours of credit, and who have completed a laboratory science sequence other than Geography, may petition the department to substitute certain upper division physical geography courses for 131 and/or 132.

Minor: The B.A. minor in Geography consists of 15 semester hours of Geography courses at the 300 level or above.

GEOLOGICAL SCIENCES

Professors:
H.Y. McSween (Head), Ph.D. Harvard; R.D. Hatcher (UT, Knoxville/ORNL Distinguished Scientist), Ph.D. Tennessee; O.C. Kopp, Ph.D. Columbia; K.C. Misra, Ph.D. Western Ontario; R.E. McLaughlin (Emeritus), Ph.D. Tennessee; L.A. Taylor, Ph.D. Lehig; K.R. Walker (Carden Professor), Ph.D. Yale; J.G. Walls (Emeritus), Ph.D. North Carolina.

Associate Professors:
D.W. Byerly, Ph.D. Tennessee; T.W. Broadhead, Ph.D. Iowa; G. M. Clark, Ph.D. Pennsylvania State; P.A. Delcourt, Ph.D. Minnesota; S.G. Driese, Ph.D. Wisconsin; W.M. Dunne, Ph.D. Bristol; T.C. Labotka, Ph.D. Caltech; M. L. McKinney, Ph.D. Yale; R.T. Williams, Ph.D. V.P.I.

Assistant Professor:
Hazel R. Delcourt, Ph.D. Minnesota; Claudia I. Mora, Ph.D. Wisconsin.

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 course work in that area.

Major requirement consists of:
Geology 310, 320, 330, 340, 370 (16 hours); 3 courses from Geography 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.

Concentration in Engineering Geology:
Students wishing to prepare for a career in environmental/engineering geology where communication with engineers is important may elect this multidisciplinary concentration. Electives in the major and some of the courses necessary to satisfy the Liberal Arts College Distribution requirements are specified. Required coursework includes: Geology 310, 320, 330, 340, 370, 440, 450, 460, 470 and 485; Mathematics 141, 142 and 231; Physics 131 and 132; Basic Engineering 101 and 121; Civil Engineering 330, 335 and any one of the following: 340, 390, 530, 532 or Environmental Engineering 535; Plant and Soil Science 210; English 459; and Speech 240. Courses from the College's approved lists for satisfying the Social Sciences, Humanities and Upper Level Distribution requirements will be recommended and approved by the student's advisor.

Honors:
Students who have completed 5 upper division courses in the major and have an overall GPA of 3.0 may elect to participate in an enrichment program involving research in the geological sciences. Research, in the form of an approved senior thesis, will be accomplished by successful completion of a minimum of 6 semester hours of Geology 491, 492, or 493 under the direction of a faculty member. The results of the research must be formally presented to the Department's Seminar (Geology 596), the Tennessee Academy of Science, or other acceptable professional organization. Also, an approved written copy of the "thesis" must be submitted to the Department of Geological Sciences. A GPA of 3.0 must be maintained throughout matriculation. Interested students should consult their advisor for details about participation.

GERMANIC AND SLAVIC LANGUAGES

Professors:
James E. Falen, Ph.D. Pennsylvania; Donald M. Fiene, Ph.D. Indiana; H.W. Fuller (Emeritus), Ph.D. Wisconsin; Henry Kratz, Ph.D. Ohio State; John C. Osborne, Ph.D. Northwestern; Martin P. Rice, Ph.D. Vanderbilt; Ursula C. Ritzenhoff, Ph.D. Connecticut.

Associate Professors:
Carolyn Hodges, Ph.D. Chicago; Nancy A. Lauckner, Ph.D. Wisconsin; David E. Lee (Head), Ph.D. Stanford; Chauncey J. Mellor, Ph.D. Chicago.

Instructors:
Rosenmarie Greenman, M.A. Pennsylvania State; Avigail 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, participate 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, Knoxville. 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 or minors 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, including German 363 and usually including German 301-302. Courses in English translation or German 331-332 do not count toward the major. 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).

Major in German with a Concentration in Language and World Business: Students who wish to prepare for careers in international business may complete (a) a special major in German, (b) a professional emphasis in either International Business or International Logistics and Transportation, or (c) some form of practical experience related to the concentration. Admission is with the permission of the program advisor. For more information contact the departmental office, 701 McClung Tower, or the program office, 601 McClung Tower.

(a) Language Major: The German major with a concentration in Language and World Business consists of 28 hours. The following are required: German 199, 301-302, 311-312, 363, 485, 3 hours from either 491 or 493, and at least two courses chosen from among German 323, 411-12, 420-24, 426, or 435-38. 411-12 is strongly recommended.

(b) Professional Emphasis:
   (1) International Business students will take 25 hours. The following are required: Accounting 201, Economics 201 or 207, and 321, Business Administration 311 and 495, Management 471, Logistics and Transportation 441, and an elective from a related business area chosen in consultation with an advisor.
   (2) International Logistics and Transportation students will take 25 hours. The courses required are: Accounting 201, Economics 201 or 207, Business Administration 311 and 495, Management 471, and Logistics and Transportation 301, 302, and 441.
   (c) Practical Experience: Through German 491 or 493 each L&W student must undertake an internship, or a relevant research project for a minimum of 3 hours (included in the requirements for a concentration in Language and World Business).

Additionally, L&W students must consult an advisor in the Department of Germanic and Slavic Languages for help in selecting relevant courses under the Basic Skills and Distribution requirements of the College.

Students interested in the Language and World Business program should contact the Department for advising as early as possible in their college career. Students must have attempted 45 hours in order to be considered for progression to the L&W concentration.

The academic record presented will be assessed by the Director of Language and World Business. Minimum requirements for progression to the concentration are a 2.75 cumulative average in the courses specifically required by the College of Liberal Arts in Basic Skills and Distribution and in the Language and World Business plan of studies, and a 3.0 average in language courses. Progression is based on availability of space in the program. Progression standards are adjusted periodically, and current requirements are available from the Director of L&W.

B.A. Major in Russian: Russian 201-202 is a prerequisite to the major. Russian majors should consult 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 in 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: P.H. Bergeron, Ph.D. Vanderbilt; R.D. Buhite (Head), Ph.D. Michigan State; E.V. Chmielewski, Ph.D. Harvard; J.C. Cobb (Bernadotte Schmidt Professor), Ph.D. Georgia; J.R. Fingers, Ph.D. Washington, L.D. Good 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. Haskins (Emeritus); Ph.D. California (Berkeley); C.O. Jackson (Associate Dean, Liberal Arts College), Ph.D. Emory; M.M. Klein (Alumni Service Professor and Emeritus), Ph.D. Harvard; A.G. Haas, Ph.D. Chicago; R.W. Haskins (Emeritus); Ph.D. California (Berkeley); C.O. Jackson (Associate Dean, Liberal Arts College), Ph.D. Emory; M.M. Klein (Alumni Service Professor and Emeritus), Ph.D. Harvard; A.G. Haas, Ph.D. Chicago; R.W. Haskins (Emeritus); Ph.D. California (Berkeley); C.O. Jackson (Associate Dean, Liberal Arts College), Ph.D. Emory; M.M. Klein (Alumni Service Professor and Emeritus), Ph.D. Harvard; A.G. Haas, Ph.D. Chicago; R.W. Haskins (Emeritus); Ph.D. California (Berkeley); C.O. Jackson (Associate Dean, Liberal Arts College), Ph.D. Emory; M.M. Klein (Alumni Service Professor and Emeritus), Ph.D. Harvard; A.G. Haas, Ph.D. Chicago; R.W. Haskins (Emeritus); Ph.D. California (Berkeley); C.O. Jackson (Associate Dean, Liberal Arts College), Ph.D. Emory; M.M. Klein (Alumni Service Professor and Emeritus), Ph.D. Harvard; A.G. Haas, Ph.D. Chicago; R.W. Haskins (Emeritus); Ph.D. California (Berkeley);

Associate Professors: S.D. Becker, Ph.D. Case Western Reserve; J.D. Bing, Ph.D. Indiana; J. Bohstedt, Ph.D. Harvard; W.W. Farris, Ph.D. Harvard; C.W. Johnson, Ph.D. Michigan; C.G. Fleming, Ph.D. Duke; J. Muldowny (Acting Head), Ph.D. Yale; P.J. Pinckney, Ph.D. Vanderbilt; J.G. Utley, Ph.D. Illinois.

Assistant Professors: P.H. Brummett, Ph.D. Chico; T.E. Burman, Ph.D. Toronto; T.A. Daborn, Ph.D. Wisconsin; P.R. Gavitt, Ph.D. Michigan; B.L. Plummer, Ph.D. Maryland; R. Wakeman, Ph.D. California-Davis.

The department's program is designed to provide students with a working knowledge of their cultural traditions and of their world, past and present, and thus to prepare them for responsibilities in 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 department faculty advisor. History 151-152 (or their honors equivalents) or 161-162 are prerequisites to the 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 and at least one course in each of the following 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 one special course at the junior level (307), and a senior thesis (407-408). The honors major consists of 30 hours, including 27 hours as outlined above, plus 307. All prospective 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.

INTERDISCIPLINARY PROGRAMS

Director: Lorayne Lester (College of Liberal Arts)

In keeping with the philosophy that integration of knowledge is as important as proficiency in a given field, the College of Liberal Arts has combined the resources of several departments to offer a series of interdisciplinary majors and minors. These programs are as follows: 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 and/or minor requirements.

AFRICAN AND AFRICAN-AMERICAN STUDIES

Director: Dr. Cynthia G. Fleming (History and African and African-American Studies)

Assistant Professors: Dr. Asafa Jalata (Sociology), Ph.D. State University of New York (Binghamton); Dr. Betty Plummer (Special Programs/History), Ph.D. University of Maryland.
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 credits. A maximum of 3 hours in AAS 492 and 493 combined can be applied to the 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**

**Chair:**
Dr. George B. Hutchinson (English)

**Major concentration:** English 231 and either 232 or 233 are prerequisite to a major concentration in American Studies which consists of 27 upper-division semester hours including American Studies 310 and 440; at least one approved American History course besides History 440; and six hours of approved courses chosen from the following disciplines: anthropology, economics, political science, or sociology. Courses in the major will be chosen in consultation with an American Studies advisor, from a list approved by the program, insuch a way that at least 3 courses help the student achieve a focus within the field. One course in the student's curriculum must specifically focus upon one or more American ethnic minority cultures. An additional 3-6 hours of American Studies 493 (Independent Study) are recommended for majors in their senior year. A list of approved elective courses is published annually.

All majors and prospective majors should contact the Chair of the program.

**The American Studies minor** consists of at least 15 hours of coursework chosen from the program's list of electives, including American Studies 310, American Studies 410 or 440, and nine additional hours from at least two different disciplines.

**ANCIENT MEDITERRANEAN CIVILIZATIONS**

**Chair:**
Dr. David W. Tandy (Classics)

**Co-chair:**
Dr. W.L. Humphreys (Religious Studies)

**The major concentration in Ancient Mediterranean Civilizations consists of Classics 381 and 382, History 366, and 18 additional hours from the following list, distributed in such a way that no more than 12 hours are in any one of the three divisions: (a) Ancient Near Eastern Cultures: Religious Studies 311, 312, 316 and 317; (b) Greek Culture: Classics 221, 222, 232, 233, 253, 311, 334, 383, History 310; Philosophy 120, 320; Political Science 475; Religious Studies 321, 322, 326, and (c) Roman Culture: Classics 222, 233, 254, 383, 452; History 311; Philosophy 120, 320; Political Science 475; Religious Studies 321, 322, 326, 416.

**A minor in Ancient Mediterranean Civilizations consists of** 18 hours, including at least two of the three core courses (Classics 381, 382, and 440), and six additional hours from Subdivision A. The remaining hours can come from one division.

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

Students are encouraged to satisfy the foreign language requirement with Greek, Latin, or Classical Hebrew.

**ASIAN STUDIES**

**Chair:**
Mr. Stephen Young (Music)

**The Asian Studies major concentration consists of** 26 credit hours from the upper-division courses of Asian Studies and approved departmental offerings. Twelve of the hours must be taken from courses listed within one of the four geographical-cultural areas (Islamic World; South Asia; China; Japan), and 6 of the remaining 12 hours must come from Subdivision A and B. Subdivision A includes Art, Literature, Music, Philosophy, and Religious Studies; Subdivision B includes Anthropology, Economics, Geography, History, Political Science, and Sociology.

Six of the 26 hours must be taken from courses listed for other geographical-cultural areas.

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. Twelve credit hours must be taken from courses within one of the four geographical-cultural areas. Six credit hours must come from Subdivision A and 6 from Subdivision B. Three hours must be taken from courses in another geographical-cultural area.

**CINEMA STUDIES**

**Chair:**
Dr. Charles Maland (English)

**The Cinema Studies minor consists of** fifteen hours, including English 281 Introduction to 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 275 Introduction to Broadcasting (3); Broadcasting 430 Producing for Television (3); English 281 Introduction to Film Studies (3); English 334 Film and American Culture (3); English 489 Special Topics in Film (3); French 420 French Cinema (3); German 323 German Film (3); Italian 321 Introduction to Italian Film (3); and Cinema (3); Political Science 312 Popular Culture and American Politics (3); Women's Studies 469 Sexuality and Cinema (3).

**COMPARATIVE LITERATURE**

**Chair:**
Dr. H.C. Rutledge (Classics)

**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. 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 or 402. 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, 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**

**Chair:**
Dr. Cynthia K. Duncan (Spanish)

**The major concentration consists of two optional tracks:** (1) General Studies or (2) Brazilian Studies. Each program requires 27 hours, of which 12 are in core courses, including Latin American 401 and 402, three hours of either History 360 or 361, and three hours of an approved Spanish or
Portuguese literature/culture course at either the 300 or 400 level. In addition to the core courses, the General Studies track will consist of fifteen hours selected from courses offered by three different participating departments. The Brazilian Studies track will consist of fifteen hours beyond the core courses including a minimum of six hours from a Summer Study Program in Fortaleza, Brazil (or other programs in Brazil approved by the Director of Latin American Studies) and up to nine hours of approved courses that focus on Brazil. Majors are strongly urged to take 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 literature/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 is a prerequisite for majors and minors. All students are strongly encouraged to earn credit hours through UT, Knoxville's Latin American Studies Abroad Program in 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 Handelsman (501 McClung Tower), Chairperson of the Latin American Studies Program.

LINGUISTICS

Chair: Dr. Chauncey J. Miller (German)

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 areas where linguistics 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 language-related disciplines. 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. Linguistics 200 is highly recommended. 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: (a) Students must complete a three-year sequence in a language study (literature) which satisfies the Foreign Studies option to fulfill the upper-level distribution requirement (required). (b) A two-semester sequence of a non-Indo-European language to be selected from the following: Arabic, Asian Studies 131-132, (5.5) (Arabic); Asian Studies 141-142, (4.4) (Chinese); Asian Studies 151-152, (5.5) (Japanese); Religious Studies 309-310, (3.3) (Hebrew); other non-Indo-European language courses 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 320, 465, 479, 493; Art 351, Curriculum and Instruction 457 (3); Special Education and Rehabilitation 522 (3); English 371, 372, 427, 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); Philosophy 479 (3); Psychology 450, 482, 543, (3 hours each); Spanish 421, 422, 531-532 (3,3,3,3); 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 or 372 (3); French, German, Russian or Spanish 425 (3) or 426 (3); and six hours from section (b) of the major.

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

Chair: Dr. Paul Barrette (French)

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 either form a related pattern (for example, courses in the literature and history of Medieval England or Italy), 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 focuses upon culture and society from the collapse of the Roman Empire to the 16th century. Such a concentration offers the opportunity to deepen one's self-awareness and broaden one's view of the range of human possibilities by studying a very different and remote culture: its conditions of life, social and political institutions, values and ideals, and modes of perception and expression.

Latin is the most appropriate language for students in the Medieval Studies concentration and is essential for those who plan to continue their studies in graduate school. In addition, students planning to go on to graduate school are strongly advised to supplement their Medieval Studies concentration with extensive work in one of the traditional disciplines.

A minor in Medieval Studies consists of Medieval Studies 201 or 403 and 12 additional hours distributed among the categories listed above for the major. Each student's program, major or minor, must be approved in advance by the Medieval Studies Coordinating Committee, chairperson Dr. Paul Barrette.

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 369 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 Petrarque and Boccaccio (5).

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

Chair: Dr. Donald Fiene (Germanic and Slavic Languages)

The major concentration consists of 30 hours from the following: Geography 375, six hours from History 340-341, Philosophy 385, 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

Chair: James A. Spencer (Graduate School of Planning)

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. 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;
**WOMEN'S STUDIES**

*Chair:*
Dr. Martha M. Osborne (Philosophy)

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 by adding new perspectives 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 an Interdisciplinary Program 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 (210), at least three hours of Independent Study (483), and at least one course from each of the three major areas: Women's Heritage (324, 380, 383, 432, 453, 468, 480), Contemporary Issues (375, 382, 410, 426, 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 upperdivision Women's Studies courses. Approved special topics courses related to Women's Studies may also be applied toward a major or a minor.

**ITALIAN**
See Romance Languages.

**JAPANESE**
See Interdisciplinary Programs (Asian Studies).

**LATIN**
See Classics.

**LATIN AMERICAN STUDIES**
See Interdisciplinary Programs.

**LINGUISTICS**
See Interdisciplinary Programs.

**MATHEMATICS**

Professors:
J.B. Conway (Head), Ph.D. Louisiana State; G.E. Albert (Emeritus), Ph.D. Wisconsin, N. Alkakos, Ph.D. Brown, V. Alexandrides, Ph.D. Deleware; D.F. Anderson, Ph.D. Chicago; G.A. Baker, Ph.D. Cornell; J.S. Bradley, Ph.D. Iowa; J.H. Carruth, Ph.D. Louisiana State; C.E. Clark, Ph.D. Louisiana State; R.J. Deaver, Ph.D. Wisconsin; D.J. Dessart, Ph.D. Maryland; D.E. Dobbs, Ph.D. Cornell; G. Dydek, Ph.D. Warsaw (Poland); E.D. Eaves (Emeritus), Ph.D. Texas; H. Frandsen, Ph.D. Illinois; 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; K. Johannson, Ph.D. Bielefeld, West Germany; 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. Raptu, Ph.D. Illinois; K.C. Reddy (Space Institute, Tullahoma), Ph.D. Indian Institute of Technology, P.W. Schaefer, Ph.D. Maryland; S.M. Serbin, Ph.D. Cornell; K. Soni, Ph.D. Oregon State; F.W. Stallmann (Emeritus), Ph.D. Giessen (Germany); K.R. Stephenson, Ph.D. Wisconsin, E. Wachspress, Ph.D. D. Resnski (Space Institute, Tullahoma), Ph.D. Ruth, Ph.D. California (Riverside); C.G. Wagner, Ph.D. Duke.

Associate Professors:
L.J. Gross, Ph.D. Cornell; O. Karakashian, Ph.D. Harvard; K.R. Kimble (Space Institute, Tullahoma), Ph.D. Ohio State; Y. Kuo, Ph.D. Pittsburgh; L. Lanham, Ph.D. Kentuck; S. Muly, Ph.D. Purdue; 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, Tullahoma), Ph.D. Texas; R. P. Soni, Ph.D. Oregon State; C. Sundberg, Ph.D. Wisconsin; M. Thistlethwaite, Ph.D. Univ. Manchester (England).

Assistant Professors:

**Instructor:**
C.G. Doss, M.A. Tennessee.

All entering freshman and all other students who have not completed a college level mathematics course, except students who have received an AP calculus credit, must take the UT, Knoxville mathematics placement exam before enrolling in a mathematics course. Placement in the appropriate course will be determined by the score on the exam. Ordinarily a student will not be allowed to enroll in a course at a level above that determined by his or her placement exam score. In exceptional circumstances, students will have the right to appeal their placement to the Mathematics Department. The exam will be administered during summer orientation and at designated times during the Fall, Spring, and Summer registraions.

**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: 221 Discrete Mathematics I (3); 231 Differential Equations 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 404, 499 and Mathematics courses numbered 421-472.

**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 499 and 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 Mathematics 499 and Mathematics 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 Interdisciplinary Programs.

**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:
Dwayne C. Savage (Head), Ph.D. California (Berkeley); R.W. Beck (Emeritus), Ph.D. Wisconsin; J.M. Becker, Ph.D. Cincinnati, D.A.
Brian, Ph.D. D.V.M., Michigan State; T.C. Montie, Ph.D. Montana State; W.S. Riggsby, Ph.D., Yale; B.T. Rouse; Ph.D. Guelph (Canada); B.V.Sc., Bristol (England); G.S. Sayer, Ph.D. Idaho; D.C. White (Distinguished Scientist); M.D. Tuffs, Ph.D. Rockefeller; J.M. Woodward (Emeritus), Ph.D. Kansas; C. Wust, Ph.D. Indiana.

Associate Professor: D. Bemis, Ph.D. Cornell; R.N. Moore, Ph.D. (Emeritus), Ph.D. Kansas; C.J. Wust, Ph.D. M.D. Tufts, Ph.D. Rockefeller; J.M. Woodward (Emeritus), M.D. Yale; B.T. Rouse; Ph.D. Guelph (Canada); B.V.Sc., Bristol (England); G.S. Sayer, Ph.D. Idaho; D.C. White (Distinguished Scientist).

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B.S. Major: Prerequisites are Biology 150 or 110-120, 210-220, Chemistry 120-130, and Mathematics 151-152 or 141-142, and Physics 221-222 or 231-232. The major consists of Chemistry 350-360-363, Biochemistry 410, Microbiology 310, 319, 320, 329, 12 additional hours of 400-level Microbiology courses.

Honors B.S. Major: An honors major is offered to selected students who have achieved junior standing and have completed the required 300-level Microbiology courses with a minimum grade point average of 3.5 for Microbiology courses and 3.2 for all courses.

In June of 1991, the merger of the Departments of Music and Music Education into a single unit within the College of Liberal Arts was approved by the Board of Trustees. All inquiries regarding degrees in music and music education should be directed to the Department of Music.

Bachelor of Music Degree: The Department of Music offers curricula leading to the Bachelor of Music degree with concentrations in music theory, composition, electronic music, music history and literature, and applied music (voice; piano; organ; sacred music-organ or piano; sacred music-voice; piano pedagogy and literature; strings; woodwind, brass, and percussion instruments; multiple keyboard instruments; multiple woodwind instruments; studio music and jazz; string pedagogy). This study prepares students for graduate music study or for positions in music for which a professional music degree is required.

The General Education (5 hours foreign language requirement) is in addition to the University admission requirement. Students may continue at the 200 level in a language begun in high school or elect to begin a new language at the 100 level. Students majoring in vocal performance must complete one year of each of two languages chosen from French, German and Italian. Students majoring in music history and literature must complete two years of either French or German.

Ensembles: Ensemble participation during each semester of residence is required of all students studying applied music. String, woodwind, brass, and percussion students must meet the following ensemble requirements: (1) string students must participate in orchestra each semester; (2) woodwind, brass, and percussion students must acquire a minimum of four credits in any of the following ensembles: marching band, concert band, campus band, symphony orchestra, jazz ensemble; (3) voice students must acquire a minimum of four credits in any of the following ensembles: Concert Choir, Chamber Singers, University Chorus, Women's Chorale.

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

APPLIED MUSIC

Applied study is classified as Principal or Secondary.

Students studying their principal (major) instrument register for credit appropriate to their program. 2-4 credit hours; students studying a secondary instrument register for 1 hour of credit. Study at the principal level receives one hour of private instruction per week or a one-hour class lesson plus a half-hour private lesson. Determination of the mode of instruction rests with the department. Study at the secondary level receives one-half hour private instruction per week or its equivalent in class instruction. Applied music courses do not permit non-credit registration nor may students elect non-conventional grading.

Non-music students will be accepted at the secondary level if they: (1) meet audition requirements established by area faculty (piano, voice, violin, etc.) and instruction time is available.

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

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

All students studying applied music at the principal level are required to register for Music General 200 Solo Class. The requirements for this course are to attend scheduled concerts, recitals, master, repertoire, and solo classes, and to perform at least once each semester as partial fulfillment of applied music credit requirements.

Applied Music Fees: $45 per semester for half-hour lesson (1 credit hour) $90 per semester for hour lesson (2-4 credit hours).

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

Applied music fees are not refundable after lesson has been scheduled.

Bachelor of Arts Degree: The Department of Music offers curricula leading to the Bachelor of Arts degree with a major and minor in Music, designed for those students who have a strong interest in music, but desire a comprehensive liberal studies program.

Bachelor of Arts Major In Music Degree Prerequisites to the major consists of: Music Theory 110, 120, 130, 140 and Applied Study at the 100 level. Courses applying to the major consists of: Music Theory 210, 220, Music History 200, 210, 220, Applied Study 200 or above, and Music Ensemble, and one course from: Music History 460, Music General 301, Music Theory 493 or Music General 511. 3-6 hours of Music electives, Solo class and prerequisites for a total of 39-44 hours.

Music Minor (a) Concentration in Applied Music - consists of 17 hours in courses numbered 200 and above, distributed as follows: Music History 200, 8 hours in applied music, and 6 hours in music electives. Prerequisites are Music General 100 or equivalent and two semesters of applied music study (Music Performance) at the 103-199.
levels. (b) Concentration in Music History and Literature - consists of 17 hours in courses numbered 200 and above, distributed as follows: Music History 200, 5 hours in Music History and Literature courses, and 5 hours in music electives. Prerequisites are Music General 100 or equivalent and two semesters of applied music study at the 103-190 levels.

### B.M. Curriculum in Composition

<table>
<thead>
<tr>
<th>Level</th>
<th>Course Description</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Humanities-Arts (Non-music), Literature, General Education</td>
<td>6</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Music Theory 210, 220</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Music History 200</td>
<td>3</td>
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<td></td>
<td>Music Keyboard 110, 120</td>
<td>2</td>
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<tr>
<td></td>
<td>Music Ensemble</td>
<td>2</td>
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<tr>
<td></td>
<td>Foreign Language</td>
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<td></td>
<td>Music General 200</td>
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<tr>
<td></td>
<td>Liberal Arts Elective (not in Music)</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total: 128 hours**

**1**Humanities-Arts (Non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.

### B.M. Curriculum in Multiple Keyboard Instruments (Piano, Organ, Harpsichord)

<table>
<thead>
<tr>
<th>Level</th>
<th>Course Description</th>
<th>Hours Credit</th>
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<tbody>
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<td>English Composition</td>
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<tr>
<td></td>
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<tr>
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**Total: 130 hours**

**2**Humanities-Arts (Non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.

### B.M. Curriculum in Electronic Music

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<tr>
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<tr>
<td></td>
<td>Music Theory 210, 220</td>
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<td></td>
<td>Music History 200</td>
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<tr>
<td></td>
<td>Music Keyboard 110, 120</td>
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<td>Music Ensemble</td>
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<tr>
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**Total: 128 hours**

**3**Humanities-Arts (Non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.

### B.M. Curriculum in Music History and Literature

<table>
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</tr>
</thead>
<tbody>
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**Total: 126 hours**

**4**Humanities-Arts (Non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.

### B.M. Curriculum in Multiple Woodwind Instruments

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**Total: 129 hours**

**5**Humanities-Arts (Non-music), Literature, Philosophical Perspectives or Interdisciplinary Studies.

**6**Must be two years in either French or German.
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<tr>
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<td>Music Theory 110, 120</td>
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<tr>
<td>Music History 210, 220</td>
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<td>Music Theory 230, 240</td>
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<tr>
<td>Music Theory 230, 240, 290</td>
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<tr>
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<td>Music General 200</td>
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<td><strong>Junior</strong></td>
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<tr>
<td>Music Theory 310, 320</td>
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<td>Music Theory 390, 430, 440</td>
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1. Humanities-Arts (non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.

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<tr>
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<tr>
<td>Music General 200</td>
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</tr>
<tr>
<td>Music Theory 310, 320</td>
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<td>Music Theory 390, 430, 440</td>
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<td>Mathematics, or Natural Science</td>
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1. Humanities-Arts (non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.

<table>
<thead>
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<td><strong>Junior</strong></td>
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<tr>
<td>Music Keyboard 230, 410</td>
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<td><strong>Senior</strong></td>
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<tr>
<td>Music Keyboard 230, 410</td>
<td>3</td>
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<td>Music Performance 480</td>
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1. Humanities-Arts (non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.

<table>
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<td>Music Theory 130, 140</td>
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<tr>
<td>Music Performance 180</td>
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<td>Foreign Language</td>
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<td>Music General 200</td>
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<td><strong>Sophomore</strong></td>
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<tr>
<td>Music Keyboard 230, 410</td>
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<td>Music Performance 480</td>
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<tr>
<td>Music General 200</td>
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<td><strong>Junior</strong></td>
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<td>Music Keyboard 230, 410</td>
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<tr>
<td><strong>Senior</strong></td>
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<tr>
<td>Music Keyboard 230, 410</td>
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<td>Music Performance 480</td>
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1. Humanities-Arts (non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.
4. Piano majors substitute: Electives 9 hours for Electives 10 hours.

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<th>B.M. Curriculum in Strings</th>
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<td>Music Performance 155</td>
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<td>Music History 210, 220</td>
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<tr>
<td>Music Theory 110, 120</td>
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<td>English Composition</td>
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<td>Music History 200</td>
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1. Humanities-Arts (non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.
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<tr>
<td>Applied Music Principal (200 level)</td>
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<td>Music Ensemble</td>
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<tr>
<td>Mathematics, Natural Science</td>
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Total: 127 hours

**B.M. Curriculum in Studio Music and Jazz**

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<td>Music Theory 130, 140</td>
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<td>Music History Elective</td>
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Total: 130 hours

**B.M. Curriculum in Voice**

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<td>Music Performance 355</td>
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<td>Applied Music Principal (300 level)</td>
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Total: 127 hours

**Organizational Psychology Program**

See Graduate School.

**Philosophy**

**Professors:**

G.G. Brenkert (Head), Ph.D. Michigan; R.E. Aquila, Ph.D. Northwestern; L.B. Cebik, Ph.D. Nebraska; R.B. Edwards, Ph.D. Emory; G.C. Graber, Ph.D. Michigan; B.C. Postow, Ph.D. Yale; D. Van de Vate, Ph.D. Yale.

**Associate Professors:**

J.O. Bennett, Ph.D. Tulane; S.M. Cohen, Ph.D. Northwestern; K.A. Bohestedt, Ph.D. Ohio State; M. Lavin, Ph.D. Stanford; J.E. Nott, Ph.D. Ohio State; M.L. Osborne, Ph.D. Tennessee.

**Assistant Professors:**

H.P. Hamlin, Ph.D. Georgia; M. Lanzi (Adjunct).

**Major Prerequisite:** Three hours of logic, normally 130 or 135. Requirements: 24 hours of courses numbered 200 or above, including three hours of ethics, normally 240 or 440, and six hours in the history of philosophy, three in ancient, normally 320, and three in modern, normally 324. Majors are required to discuss their programs with a member of the Philosophy faculty.

Minor: 18 hours in courses 200 or above. Minors should discuss their program with a member of the Philosophy faculty.

**Physics and Astronomy**

**Professors:**

W.M. Bugg (Head), Ph.D. Tennessee; C.R. Bingham, Ph.D. Tennessee; W.E. Blass, Ph.D. Michigan State; M.A. Breazeale (on leave); Ph.D. Michigan State; M.J. Breining, Ph.D. Oregon; W.M. Bugg, Ph.D. Tennessee; J. Burgdorfer, Ph.D. Freie Universität Berlin; T.A. Callcott, Ph.D. Purdue; R.W. Childers, Ph.D. Vanderbilt; L.G. Christophorou, Ph.D. Manchester (England); E.W. Colglazier, Ph.D. California Tech; G.T. Condo, Ph.D. Illinois; W.E. Deeds (Emeritus), Ph.D. Ohio State; K.E. Duckett, Ph.D. Tennessee; K. Fox, Ph.D. Michigan; N.M. Gallant (Emeritus), Ph.D. Ohio State; S. Georgiou, Ph.D. Manchester (England); M.W. Guidry, Ph.D. Tennessee; E.G. Harris (Distinguished Professor), Ph.D. Tennessee; E.L. Hart, Ph.D. Cornell; H.C. Jacobson, Ph.D. Yale; D.T. King (Emeritus), Ph.D. Bristol (England); J.W.L. Lewis (UTSI), Ph.D. Mississippi; J. Macek (Distinguished Scientist), Ph.D. Rensselaer Polytechnic Institute; G.D. Mahan (Distinguished Scientist), Ph.D. University of California (Berkeley); A.A. Mason (UTSI), Ph.D. Tennessee; W.K. McGregor (UTSI), 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. Peggs, Ph.D. New Hampshire; J.J. Quinn, Ph.D. Maryland; L.L. Riedinger, Ph.D. Vanderbilt; R.H. Ritchie, Ph.D. Tennessee; W.R. Rusk (Emeritus), M.S. Tennessee; W. Sandner, Ph.D. Freiburg; I.A.
SELLIN (Chancellors Research Scholar), Ph.D. Chicago; C.C. Shih, Ph.D. Cornell; P.H. Stelson, Ph.D. Massachusetts Institute of Technology; M.R. Strayer, Ph.D. Massachusetts Institute of Technology; J.R. Thompson, Ph.D. Duke; J.O. Thomson, Ph.D. Illinois; J.W. White (Emeritus), Ph.D. North Carolina.

Instructors: Yuan-Cai Du, Ph.D. Beijing; D.L. McCorkle, G. Canright, Ph.D. Tennessee; S.J. Daunt, Assistant Professors: Copenhagen (Denmark). Ph.D. University of Massachusetts; T. Ferrell, Associate Professors: Carolina. Massachusetts Institute of Technology; J.R. Stelson, Ph.D. Massachusetts Institute of Sellin (Chancellor's Research Scholar), Ph.D. 122

311 (students intending to pursue graduate or 237-238; Mathematics 231 and 241; Physics interests through research projects and/or interests are encouraged to pursue those later point in their career. Students with special R. DeSerio, Ph.D. Chicago.


Research Assistant Professors: D.J. Houston, Ph.D. Tennessee; D.J. Houston.

Assistant Professors: G. Canright, Ph.D. Tennessee; S.J. Daunt, Assistant Professors: Copenhagen (Denmark). Ph.D. University of Massachusetts; T. Ferrell, Associate Professors: Carolina. Massachusetts Institute of Technology; J.R. Stelson, Ph.D. Massachusetts Institute of Sellin (Chancellor's Research Scholar), Ph.D. 122

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Assistant Professors: G. Canright, Ph.D. Tennessee; S.J. Daunt, Assistant Professors: Copenhagen (Denmark). Ph.D. University of Massachusetts; T. Ferrell, Associate Professors: Carolina. Massachusetts Institute of Technology; J.R. Stelson, Ph.D. Massachusetts Institute of Sellin (Chancellor's Research Scholar), Ph.D. 122

311 (students intending to pursue graduate or 237-238; Mathematics 231 and 241; Physics interests through research projects and/or interests are encouraged to pursue those later point in their career. Students with special R. DeSerio, Ph.D. Chicago.

489; and (8) One elective course at the 300 and 400 level.

Major and Non-major Lower and Upper-Division Course Prerequisites: Psychology 110 or equivalent, and 210 or 220 are the minimum prerequisites for upper-division courses for both majors and non-majors unless otherwise specified or open to students who obtain instructor consent.

At least 6 credit hours in 300 level courses are ordinarily prerequisite for 400 level courses. Consult the catalog description of each course for specific prerequisites or exceptions.

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 Calculus; one course in Computer Science; Philosophy 110-111; two or three additional Psychology courses chosen from 400, 410, 420, 440, 445, 450, 461, 470, 480, 498.

Minors: Consists of 110 or equivalent; 210 or 220; and 12 additional upper-division hours.

RELIGIOUS STUDIES

Professors:
C.H. Reynolds (Head), Ph.D. Harvard; F.S. Lustby, M.Div. Colgate (Rotterdam); D.L. Dungan, Th.D. Harvard; W.L. Humphreys, Ph.D. Union; D.E. Linge, Ph.D. Vanderbilt; R.V. Tower, or from any member of the religious studies faculty.

Associate Professors:

Adjunct:
L.M. Tober, Ph.D. Vanderbilt.

Major: The basic concentration is designed to assure that students attain skills to analyze and interpret religious phenomena in different cultures and 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 at the 300 level or above, including 300; one course from each of five of the six categories listed below, and two courses from category seven: (1) critical thinking about religion, 301, 305, 342, or 371; (2) religion and culture in South Asia, 374 or 376; (3) religion and culture in East Asia, 379 or 383; (4) the roots of western religion, 311, 323 or 325; (5) religions of traditional societies, 302 or 373; (6) religion and culture in the United States, 351 or 352; (7) 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, such as those who intend to enter a graduate or professional school (ministry, 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, including 300 and 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 must discuss this option 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 minoring in religious studies discuss their program with a member of the department faculty.

ROMANCE LANGUAGES

Professors:
John B. Romeiser (Head), Ph.D. Vanderbilt; P.E. Barrette, Ph.D. California (Berkeley); P. Brady, Ph.D. Universite de Paris (Sorbonne); C.W. Cobb, Ph.D. Tulane; J.C. Elliott (Emeritus), M.A. Illinois; M.H. Handelsman, Ph.D. Universite de Paris (Sorbonne); F.D. Maurino (Emeritus), Ph.D. Columbia; C.R.M. Pinky (Emeritus), Ph.D. California (Berkeley); M. Petrovska (Emeritus), Ph.D. Kentucky; Oscar Rivera-Rodas, Ph.D. California; A.M. Vazquez-Bigi (Emeritus), Ph.D. Minnesota; A.H. Wallace (Emeritus), Ph.D. North Carolina; Y.M. Washburn, Ph.D. North Carolina.

Associate Professors:
E.J. Campion, Ph.D. Yale; R.M.E. DePrycke, Ph.D. Illinois; S. DiMaria, Ph.D. Wisconsin; D.M. DiPuccio, Ph.D. Kansas; C.K. Duncan, Ph.D. Illinois; K.D. Levy, Ph.D. Kentucky.

Assistant Professors:
F. Brizoe, Ph.D. Washington; O. Cazenave, Ph.D. Penn State; C. Cox (Emeritus), M.A. Tennessee; B. Creel, Ph.D. California; Jose DaCruz, Ph.D. University of California; L. Ehrlich, Ph.D. Hawaii; C. Holmlund, Ph.D. Wisconsin; E. Johnson, Ph.D. California; L. Lacure, Ph.D. Indiana; M. Milleret, Ph.D. Texas (Austin); H. Sachs, Ph.D. Cornell University; Wilson (Emeritus), M.A. Tufts; D. Young, Ph.D. Texas.

Instructors:
A. McKeeby, M.A. Tulane; M.T. Rabot, Cart. de Lic. Poitiers.

French Major: Consists of 31 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.

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; 3 hours of language oriented or civilization courses at the 300 or 400 levels.

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, 342, 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 30 hours in courses numbered 311 or above. The following are required: 311; 312; 421; 422, 459-460.

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, 433, 435, 436, 450, 472, 473, 474, 479. Majors are encouraged to take as many hours as possible, especially the surveys, 435-436 and 472-474. 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 from 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 Romance Languages/literature in English translation, however, may not be counted toward either a major or minor.

Major in French or Spanish with a Concentration in Language and World Business: Students who wish to prepare for careers in international business may complete (a) a special major in either French or Spanish, (b) a professional emphasis in either International Business or International Logistics and Transportation, and (c) some form of practical experience related to the concentration. Admission is by permission of the program director.

(a) Language Major: (French) major consists of 32 hours. The following are required: French 199, 311-12, 313, 341, 345, 400, 422, 432, 440, and 3 hours of 491 or 483.

(b) Professional Emphasis: (1) Internationale Business students will take 28 hours.
The following are required: Accounting 201, Economics 201 or 207, Business Administration 311 and 495, Management 471, Logistics and Transportation 441, and an elective from a related business area chosen in consultation with an advisor. (2) International Logistics and Transportation students will take 25 hours. The following are required: Accounting 201, Economics 201 or 207, Business Administration 311 and 495, Management 471, Logistics and Transportation 301, 302, and 441.

(c) Practical experience: Through French 491 or 493, or Spanish 491, each L&WB student must undertake study abroad, an internship, or a relevant research project for a minimum of 3 hours (included in major requirements). Additionally, L&WB students must consult an advisor in the Department of Romance Languages for help in selecting relevant courses under the Basic Skills and Distribution requirements of the College.

Students interested in the Language and World Business program should contact the Director for advising as early as possible in their college career. Students must have attempted 45 hours in order to be considered for progression to the L&WB major. The academic record presented will be assessed by the Director of Language and World Business. Minimum requirements: Progression to the concentration are a 2.75 cumulative average in the courses specifically required by the College of Liberal Arts in Basic Skills and Distribution and in the Language and World Business plan of studies, and 3.0 average in language courses. Progression is based on availability of space in the program. Progression standards are adjusted periodically, and current requirements are available from the Director of L&WB.

For further information, inquire in 601 McClung Tower.

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, Italian, or Spanish 211. 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 though 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.

Study Abroad: Four summer study abroad opportunities are available to students through the Department of Romance Languages. The department sponsors programs in Brazil (Fortaleza), France (Lille), Italy (Urbino), and Spain (Madrid). Students can earn up to six credit hours by participating in these programs. In most cases the foreign study requirements for the Language and World Business degree. A faculty member accompanies students on the program. In addition to formal classes held at a major university in the city, group excursions to cultural and historical sites are an integral part of the programs. For more information concerning prerequisites, lodging arrangements, costs, and dates of an individual program, contact the Department of Romance Languages, 601 McClung Tower.

RUSSIAN

See Germanic and Slavic Languages.

RUSSIAN AND EAST EUROPEAN STUDIES

See Interdisciplinary Programs.

SOCIOLGY

Professors: D.M. Betz, Ph.D. Michigan State; J.A. Black, Ph.D. Iowa; D.J. Champion, Ph.D. Purdue; D. Clelland, Ph.D. Michigan State; D.W. Hastings, Ph.D. Massachusetts; T.C. Hood, Ph.D. Duke; D.R. Ploch, Ph.D. North Carolina; N.E. Shover, Ph.D. Illinois (Urbana); S.E. Wallace, Ph.D. Minnesota.

Associate Professors: M.L. Benson (Head) Ph.D. Illinois; J.P. Gaventa, Ph.D. Oxford (England); S. Kurth, Ph.D. Illinois (Chicago); R.G. Perrin, Ph.D. British Columbia.

Assistant Professors: S. Cable, Ph.D. Pennsylvania State; A. Jalata, Ph.D. SUNY-Binghamton.

Instructor: D.K. Ham, 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.

Minor: The minor consists of 12 upper-division hours in sociology and must include 321 and 331. Prerequisites to the minor are six lower-division hours in sociology which must include 200.

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 hours of upper-division sociology as follows: 350, 351, 451, 459, 492 (3), and one course selected in consultation with advisor.

Concentration in Environment and Society: All prerequisites required for the major are required for this concentration. An additional prerequisite is Biology 230 (or a science background package approved by the Sociology Department). The Concentration in Environment and Society consists of 321 (Sociological Theory) and 331 (Sociological Research) and eighteen hours of upper-division sociology courses as follows: 336, 345, 360, 442, 445 and either 344 or 446.

Minor with Concentration in Environment and Society: Prerequisites to the minor are six lower division hours in sociology which must include 200. The minor consists of 321, 331, 360 and a choice from 347, 345, 442, 446 and 464.

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


Associate Professors: M.L. Ambrester, Ph.D. Ohio; J.E. Buckley, Ph.D. Northwestern; N.C. Cook, M.A. Alabama; R.W. Glenn, Ph.D. Northwestern.

Assistant Professors: R.S. Ambler, Ph.D. Ohio State; J.W. Haas, Ph.D. Kentucky.

Major: Speech Communication 100 and one course in quantitative analysis (e.g., Speech Communication 295, Math 115, Statistics 201, or the equivalent) are prerequisites to a minor which consists of 310, 350, 390, 499, and one course from each of the following two categories: (1) 210, 270, or 280; (2) 300, 320, or 330. An additional 12 hours in Speech Communication courses are required, six of which must be at the 400 level, and not more than three at the 200 level. No more than three hours from Speech Communication 445, 491, 492, 493 may be counted toward the major. 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 of Speech Communication courses at least 12 of which must be at the 300 level and above. No more than 3 hours from Speech Communication 445, 491, 492, 493 may be counted toward the minor.

STATISTICS

See faculty list in the College of Business Administration.

Liberal Arts students may major or minor in statistics under the supervision of the faculty of the Statistics Department in the College of Business Administration. The major is designed to prepare students for graduate studies in statistics or for professional work in various applications of statistical methods.
Minor: Theatre 100 and 220 are prerequisites to a minor which consists of 430 and 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.

WOMEN'S STUDIES
See Interdisciplinary Programs.

ZOLOGY

Professors:
A.C. Echternacht (Head), Ph.D. Kansas; R.M. Bagby, Ph.D. Illinois; D.L. Bunting, II, Ph.D. Oklahoma State; J.G. Carlson (Emeritus), Ph.D. Pennsylvania; D.A. Ehrl, Ph.D. Minnesota; M.A. Handel, Ph.D. Kansas State; B. Hochman (Emeritus), Ph.D. California (Berkeley); K.W. Jeon, Ph.D. London (England); D.C. Joy (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Oxford (England); J.R. Kennedy, Ph.D. Iowa; J.N. Liles, Ph.D. Ohio State; J.A. MacCabe, Ph.D. California (Davis); G.F. McCracken, Ph.D. Cornell, S.L. Pimm, Ph.D. New Mexico State; S.E. Riechert, Ph.D. Wisconsin; I.E. Roth, Ph.D. Chicago; C.A. Shivers, Ph.D. Michigan State; G.L. Vaughan, Ph.D. Duke; H.G. Welch (Emeritus), Ph.D. Florida; G.L. Whiston, Ph.D. Iowa.

Associate Professors:
K.D. Burnham (Emeritus), Ph.D. Iowa; T.T. Chen, Ph.D. Florida; D.J. Fox, Ph.D. Johns Hopkins; N.B. Greenberg, Ph.D. Rutgers; B.D. McKee, Ph.D. Michigan State; M.L. Pan, Ph.D. Pennsylvania.

Assistant Professors:
C.Boake, Ph.D. Cornell, J. Drake, Ph.D. Purdue; J.L. Gittleman, Ph.D. Sussex (Brighton, England); J.C. Hall, Ph.D. Illinois; R. Ganguly, Ph.D. Nebraska.

Research Associate Professors
T. Ashley, Ph.D. Florida State; R. Tindall, Ph.D. Pennsylvania State.

Prerequisites to upper division courses:
Biology 110-120 or Biology 150 or Zoology 117-118 are prerequisites for all upper division courses (with the exception of 480). Additional prerequisites are included with course descriptions.

Major: Prerequisites to the major are Biology 110-120 or 150 or Zoology 117-118 and Chemistry 120-130. Corequisites are Mathematics 121-122 or 151-152 or 141-142 and a year sequence in physics (except 141-142). Physics 221-222 are recommended and are required for admission to some professional schools.

The major consists of Biology 210-220-230, 18 hours of upper division Zoology courses and two semesters of chemistry or biochemistry at the 200 level or above. (Acceptable second year chemistry sequences include: Chemistry 350-360-369; Chemistry 350 and 310-319; Chemistry 350 and Nutrition 200; Chemistry 350, 431 and Biochemistry 310; Chemistry 310-319 and Biochemistry 310). All Zoology majors are required to take at least 4 hours at the 400 level, including at least one laboratory or field course. The upper division Zoology courses must include at least one course from three of the following four areas:
(1) Cellular and Developmental Biology (330, 420); (2) Physiology (440, 445); (3) Animal Diversity (350, 360); and (4) Evolution and Behavior (450, 460).

Minor: Prerequisites to the minor are Biology 110-120 or 150 or Zoology 117-118 and Chemistry 120-130 or 100-110. The minor consists of Biology 210-220-230 and 9 hours of upper division Zoology.

Honors in Zoology: An Honors major in Zoology must fulfill all of the requirements for the B.S. degree in Zoology, and take 302 and 409 during the junior year, four hours of 400 during the junior and senior years, and a senior thesis (Zoology 401) the last semester of the senior year. All prospective juniors who are declared Zoology majors with a minimum overall GPA of 3.2 in the major and prerequisite course and corequisite courses are invited to apply. To remain in the program, the student must maintain a GPA of 3.2 in the major. Students interested in the Honors degree should consult with the department's Honors Coordinator.

Note: Certain Zoology courses require organic chemistry or other prerequisites; consult the catalog description for each course.

Many courses in this department are offered only in specific semesters. Students should plan in advance the proper sequence. Information on the semesters a course is to be offered is available in the departmental office.
The College of Nursing combines the unique resources of the UT, collegiate level. The undergraduate program established need for nurses prepared at the Tennessee, Knoxville, was established in July 1971 in response to a long-recognized and well established need for nurses prepared at the collegiate level. The undergraduate program combines the unique resources of the UT, Knoxville 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 UT, Knoxville 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-two semester hours are required for graduation. The program is designed to accommodate high school graduates, transfer students from within or external to UT, Knoxville, 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 UT, Knoxville'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 for 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 12 semester hours of meeting these requirements. Nursing 301 and 305 must be successfully completed before RN's may challenge or take Nursing 312. Nursing 304 and 312 are pre- or co-requisite to Nursing 315. All junior level courses are pre-requisite to the senior year.

GRADING AND CONTINUATION POLICIES

(1) The minimum acceptable grade for all courses in the curriculum 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.

(6) Requirements for competence or certification in cardio-pulmonary resuscitation are included in the Undergraduate Student Handbook.

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 or 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

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td>Freshman</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>
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<tr>
<td>Humanities</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>Sophomore</td>
<td>Sophomore</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 300</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>Multicultural or Integrative Studies</td>
<td>3</td>
</tr>
<tr>
<td>Junior</td>
<td>Junior</td>
</tr>
<tr>
<td>Nursing 301, 302, 304, 311, 313</td>
<td>29</td>
</tr>
<tr>
<td>Senior</td>
<td>Senior</td>
</tr>
<tr>
<td>Multicultural or Integrative Studies</td>
<td>3</td>
</tr>
<tr>
<td>Nursing 401, 403, 405, 411</td>
<td>28</td>
</tr>
</tbody>
</table>

Total: 122 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>
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</thead>
<tbody>
<tr>
<td>301 Pharmacology</td>
</tr>
<tr>
<td>304 Nursing Assessment and Health Promotion</td>
</tr>
<tr>
<td>305 Transition to Professional Nursing</td>
</tr>
<tr>
<td>*312 Acute Care Nursing Theory</td>
</tr>
<tr>
<td>313 Nursing Research</td>
</tr>
<tr>
<td>315 Clinical Nursing Practicum</td>
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<tr>
<td>*402 Family Health Nursing Theory</td>
</tr>
<tr>
<td>403 Community Health Nursing</td>
</tr>
<tr>
<td>405 Professional Nursing Seminar</td>
</tr>
<tr>
<td>409 Nursing Management and Strategies</td>
</tr>
<tr>
<td>*412 Psychosocial Long Term Nursing Theory</td>
</tr>
<tr>
<td>Validation Examinations or Nursing Electives</td>
</tr>
</tbody>
</table>

Total: 55 hours

Registered nurses may earn up to eleven semester hours of upper-division nursing credits by means of validation examinations that are designed to measure prior learning. More information about the examinations may be obtained from the Student Affairs Office or from the faculty advisor for registered nurses. The following courses are open to all university students: 202, 214, 301, 317.

GRADUATE

General requirements for the Master of Science in Nursing degree are given in the Graduate Catalog.
College of Social Work

Eunice O. Shatz, Dean and Professor of Social Work, Ph.D. Brandeis University, The Florence Heller School for Advanced Studies in Social Welfare

Professors:
- Catherine Feyer, Ph.D. University of Michigan;
- Gideon W. Fryer (Emeritus), Ed.D. Columbia University;
- Charles A. Glisson, Ph.D. Washington University;
- Ben P. Granger, Ph.D. Brandeis University;
- Jane Kronick, Ph.D. Yale University;
- Roger M. Noce, DSW Tulane University;
- James D. Orten, DSW University of Alabama; Ann R. Wachter (Emerita), MSSW Tennessee.

Associate Professors:
- Reginald Avery, Ph.D. Brandeis University;
- Thomas Cruthirds, DSW Tulane University;
- Jennette Janings, Ph.D. University of Michigan;
- Ellie Moses, Ph.D. University of California (Berkeley);
- William Nugent, Ph.D. Florida State University;
- Frank J. Spicuzza, MSSW University of Tennessee.

Assistant Professors:
- Paul M. Campbell, DSW University of Alabama;
- Judith I. Fienne, Ph.D. University of Tennessee;
- David A. Patterson, Ph.D. University of Utah.

Field Coordinator:
- Phyllis Betz, MSSW, University of Tennessee.

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 schools, youth programs, family service 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 600 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.

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. Masters Degree Programs are offered on the campus in Knoxville and in Nashville and Memphis. The Ph.D. Program is offered in Knoxville.

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 factors identify progression criteria for all social work students:

INITIAL PROGRESSION

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.
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 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</th>
<th>Credit</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Foreign Language (Intermediate Level)</td>
<td>6</td>
</tr>
<tr>
<td>Mathematics 110</td>
<td>3</td>
</tr>
<tr>
<td>History 151-152 or 161-162</td>
<td>6</td>
</tr>
<tr>
<td>Physiology or Biology Sequence with lab</td>
<td>8</td>
</tr>
<tr>
<td>Women's Studies 220</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Zoology 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Anthropology 130</td>
<td>3</td>
</tr>
<tr>
<td>Humanities (Literature Package)</td>
<td>6</td>
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<tr>
<td>Philosophy 220</td>
<td>3</td>
</tr>
<tr>
<td>Social Work 200, 250</td>
<td>6</td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td></td>
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<tr>
<td>Social Work 312, 313, 314</td>
<td>9</td>
</tr>
<tr>
<td>United States Studies</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Studies</td>
<td>3</td>
</tr>
<tr>
<td>Political Science 101</td>
<td>3</td>
</tr>
<tr>
<td>Sociology 336 or Math 115</td>
<td>3</td>
</tr>
<tr>
<td>Social Work 310, 380</td>
<td>6</td>
</tr>
<tr>
<td>Child and Family Studies 220</td>
<td>3</td>
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<tr>
<td><strong>Senior</strong></td>
<td></td>
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<tr>
<td>Social Work 412, 416</td>
<td>6</td>
</tr>
<tr>
<td>Social Work 480, 481</td>
<td>12</td>
</tr>
<tr>
<td>Social Work 460</td>
<td>2</td>
</tr>
<tr>
<td>Anthropology 312</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td>124 hours</td>
</tr>
</tbody>
</table>

Courses 423 - Communication Processes for the Hearing Impaired (3), and 525 - Manual Communication (3) will fulfill the foreign language requirement.

The following sequences may be selected:
- Astronomy 161-162; Botany 110-120; Chemistry 120-130; Geography 131-132; Geology 101-102; Physics 121-122.
- 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 291-292; Spanish 291-292.
  - One course selected from Classics 221; Classics 222; Philosophy 220; Philosophy 111; Philosophy 120; Philosophy 121; Philosophy 240; Philosophy 344; Philosophy 360; Philosophy 382.
  - One course selected from: Anthropology 310; Anthropology 315; Geography 363; History 379; History 380; History 440; Philosophy 390; Political Science 311; Political Science 374; Religious Studies 352; Sociology 343; Sociology 340; Speech 466.
  - One course selected from: Anthropology 314; Classics 381; Classics 382; English 322; Geography 372; Geography 373; Geography 375; Geography 376; Germanic and Slavic Languages 353; History 320; History 374; Philosophy 326; Political Science 350; Political Science 361; Political Science 469; Religious Studies 332; French 432; Spanish 431; Spanish 471; Sociology 448.
University Honors

Bruce Wheeler, Director
Dorothy Hendricks, Associate Director

University Honors programs have been carefully designed to give academically outstanding students a special undergraduate honors experience comprising special courses, seminars, mentoring programs, senior research projects and other features. Students are invited to become University Honors students prior to enrolling at the University, and transfer students and already-enrolled students are ineligible. Prospective University Honors students are selected on the bases of previous academic performance, demonstration of an eagerness to be active learners and leaders, and extracurricular activities. The University Honors Office administers three separate programs: the Tennessee Scholars Program, the Whittle Scholars Program, and the Chancellor's Scholars Program.

The Tennessee Scholars and Chancellor's Scholars programs are administered by the University Honors Committee which includes faculty representatives from each of the ten baccalaureate colleges and schools and students elected by the Tennessee Scholars and Chancellor's Scholars. The Whittle Scholars Program is administered by the Whittle Scholars Committee which includes faculty appointed by the Chancellor, representatives of the University Administration, alumni, and representatives of Whittle Communications.

INCLUSIONS

University Honors programs have been carefully designed to give academically outstanding students a special undergraduate honors experience comprising special courses, seminars, mentoring programs, senior research projects and other features. Students are invited to become University Honors students prior to enrolling at the University, and transfer students and already-enrolled students are ineligible. Prospective University Honors students are selected on the bases of previous academic performance, demonstration of an eagerness to be active learners and leaders, and extracurricular activities. The University Honors Office administers three separate programs: the Tennessee Scholars Program, the Whittle Scholars Program, and the Chancellor's Scholars Program.

The Tennessee Scholars and Chancellor's Scholars programs are administered by the University Honors Committee which includes faculty representatives from each of the ten baccalaureate colleges and schools and students elected by the Tennessee Scholars and Chancellor's Scholars. The Whittle Scholars Program is administered by the Whittle Scholars Committee which includes faculty appointed by the Chancellor, representatives of the University Administration, alumni, and representatives of Whittle Communications.

TENNESSEE SCHOLARS PROGRAM
Each year, twenty-five outstanding high school students will be selected by the University Honors Committee for a four-year program of honors work. These students may have any major in any college offering the Bachelor's degree. In addition to required work in their respective colleges, Tennessee Scholars are required to complete a minimum of four lower division honors courses; complete a one credit hour seminar each term in residence; attend monthly meetings of the Whittle Scholars; and complete a senior research project of merit and originality. Failure to meet the above requirements can result in removal from the program and loss of scholarship assistance.

Students are invited to become University Honors students prior to enrolling at the University, and transfer students and already-enrolled students are ineligible. Prospective University Honors students are selected on the bases of previous academic performance, demonstration of an eagerness to be active learners and leaders, and extracurricular activities. The University Honors Office administers three separate programs: the Tennessee Scholars Program, the Whittle Scholars Program, and the Chancellor's Scholars Program.

Each year, twenty outstanding high school students will be selected by the University Honors Committee for a four-year program of honors work. These students may have any major in any college offering the Bachelor's degree. In addition to required work in their respective colleges, Tennessee Scholars are required to complete a minimum of four lower division honors courses; complete a one credit hour seminar each term in residence; develop a positive relationship with a faculty mentor; have an extensive conference with a member of the University Honors staff each term in residence; and complete a senior honors research project of merit and originality. Failure to meet the above requirements can result in removal from the program and loss of scholarship assistance.

WHITTLE SCHOLARS PROGRAM
The Whittle Scholars Program is made possible by a substantial endowment given the University by Chris Whittle, Chairman of Whittle Communications and a 1969 UT, Knoxville alumnus.

Each year, twenty outstanding high school students will be invited to become Whittle Scholars. These students may have any major in any college offering the Bachelor's degree. In addition to required work in their respective colleges, Whittle Scholars are required to complete a one credit hour seminar each term of their first year (one on contemporary issues and one on aspects of leadership); complete at least one University Honors course during their second year; complete a one-year seminar preparatory to international travel/study/work; complete a one-year international experience; develop positive relationships with a faculty mentor and a non-faculty career mentor; have an extensive conference with a member of the University Honors staff each term in residence; attend monthly meetings of the Whittle Scholars; and complete a senior research project of merit and originality. Failure to meet the above requirements can result in removal from the program and loss of scholarship assistance. Students are selected on the bases of leadership experience and skills, academic performance and potential, and extracurricular activities (including community service). Students selected to become Whittle Scholars receive full five-year scholarships. Whittle Scholars may have to supplement the scholarship during their year abroad.

CHANCELLOR'S SCHOLARS PROGRAM
Each year the University awards Roddy, Bonham, Neyland, Holt, and Reeder-Siler scholarships to outstanding high school students. Roddy, Bonham, Neyland, and Reeder-Siler Scholars are selected by the Chancellor's Scholars Program. In addition to required work in their respective colleges, Chancellor's Scholars are required to complete a minimum of four lower division honors courses; complete a one credit hour seminar each term in residence; develop a positive relationship with a faculty mentor; have an extensive conference with a member of the University Honors staff each term in residence; and complete a senior honors research project of merit and originality. Failure to meet the above requirements can result in removal from the program.

Retention in Tennessee Scholars Program, Chancellor's Scholars Program, and Whittle Scholars Program
Tennessee Scholars are selected on the bases of past academic performance and their potential for academic excellence. As Tennessee Scholars, they are expected to adhere to the written policies and requirements of the Tennessee Scholars Program and are encouraged to enroll in courses that will stimulate and challenge them as well as broaden their horizons. As a result, the University Honors Committee will not be concerned if grades in occasional courses fall below superior range. However, all Tennessee Scholars are expected to maintain a cumulative grade point average of 3.25. Whittle Scholars are selected on the bases of leadership experience and skills, academic performance and promise, and extracurricular activities. As Whittle Scholars, they are expected to adhere to the written policies and requirements of the Whittle Scholars Program.
and are encouraged to enroll in courses that will stimulate and challenge them as well as broaden their horizons. All Whittle Scholars are reviewed annually by the Whittle Scholars Committee as to their academic performance and progress, the planning and execution of their international experiences and their senior projects. Whittle Scholars are expected to maintain a cumulative grade point average of 3.25.

A student in the Tennessee Scholars Program or Whittle Scholars Program whose cumulative GPA falls below 3.25 will be allowed to continue in the Program and receive its benefits so long as he or she earns a 3.25 GPA or better every semester, thus eventually raising the cumulative GPA to the required 3.25. If, while the cumulative GPA is less 3.25, a student fails to earn a 3.25 or better in any semester, he or she will be removed from the program and lose all its benefits, unless the student can demonstrate extenuating circumstances to the University Honors Committee or the Whittle Scholars Committee.

Senior Project Deadlines in Tennessee Scholars Program, Chancellor’s Scholars Program, and Whittle Scholars Program

The following is a list of mandatory deadlines for the senior research project in all University Honors programs:

1. No later than the end of the second year in residence, a student must have chosen a UT, Knoxville faculty member to serve as mentor for the senior research project, and that faculty member must have agreed in writing to serve as the student’s mentor.

2. No later than the end of the third year in residence, a student, together with the faculty mentor, will choose two other faculty members who, together with the faculty mentor, will serve as the student’s research project committee. The purpose of the committee is to aid students in formulating, designing and executing their projects and to evaluate the projects when completed. Similarly, by the end of the third year in residence, a student must submit a written abstract or proposal for the senior research project to his/her faculty committee for suggestions and approval.

3. No later than the end of the first semester of a student’s senior year, a first draft of the senior research project must be submitted to the faculty mentor, and the faculty mentor must report that fact to the University Honors Director.

4. Within four weeks of the end of a student’s final semester, he or she will be expected to present the completed project to the student’s committee, the student’s peers, and invited guests. Upon the conclusion of the presentation, the student’s faculty mentor will submit a letter to the Director of the University Honors Program certifying that the research project has been completed and has been accepted by the committee. One copy of the research project must be filed in the University Honors Office and additional copies should be given to the student’s committee.

Failure to meet these guidelines will result in the delay of a student’s graduation.

UNIVERSITY HONORS COURSES

Seminars and colloquia focused on various topics, issues, and problems, and limited in size to 25 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, UT, Knoxville GPA of 3.25 or better, or by strong professorial recommendation.

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1 April 10 for students graduating in the Spring semester, and November 15 for students graduating in the fall semester. Students graduating in August (at the end of summer school) are urged to complete their projects by the April 10 deadline, although, in special cases and with the written consent of the faculty mentor, exceptions to this rule may be made.

2 There may be types of projects that do not lend themselves to a formal (public) defense. Hence the decision whether or not to have a public defense should be decided by the research committee and the Director of the University Honors Program.
University Libraries

Paula T. Kaufman, Dean
Aubrey H. Mitchell, Associate Dean for Public Services
Diane E. Perushé, Associate Dean for Collection Development and Management

Instructor:
Lahman, JoAnn, M.S.L.S., Tennessee.

The University of Tennessee, Knoxville Libraries own approximately 1.7 million volumes, more than 3.5 million manuscripts, 1.8 million microforms, 29,000 audio and video recordings, plus United States and United Nations documents. The UT, Knoxville Libraries currently subscribe to more than 14,000 periodicals and other serial titles. The Libraries' membership in the Association of Research Libraries reflects the University's emphasis on graduate instruction and research and the support of large, comprehensive collections of library materials on a permanent basis.

The UT, Knoxville Libraries consists of the main library (the John C. Hodges Library), five branches on the Knoxville campus (the Agriculture-Veterinary Medicine Library, the Map Library, the Music Library, Special Collections, and the University Archives), and the Social Work Library in Nashville.

The John C. Hodges Main Library (1015 Volunteer Blvd.) is a 350,000 square-foot facility housing collections in all subject areas. The Hodges Library has comfortable study space for 3,500 people, 308 graduate student carrels, and 196 faculty studies.

The Hodges Library’s research holdings are augmented by Reference & Information Services and by Interlibrary Loan. Reference & Information Services provides research assistance and access to commercially available databases. In the reference room, users may also search a number of CD-ROM databases at no charge. Interlibrary Loan borrows monographs and obtains copies of other materials from libraries around the world. Library holdings are accessible via a sophisticated online catalog which can be searched in the Hodges Library, the branch libraries, and from home and office computers.

The services and facilities of the University Libraries are accessible to persons with disabilities. Adaptive equipment such as a Kurzweil Personal Reader and TDD are available at the Hodges Library.

The Agriculture-Veterinary Medicine Library (Room A-113, Veterinary Teaching Hospital) has a strong collection in agriculture; veterinary, comparative and human medicine; and related biological sciences. It has a wide-ranging audiovisual collection and an extensive reference collection.

The Map Library (Room 15, basement of the Hoskins Library, Cumberland Avenue & 15th Street) contains a worldwide collection of over 300,000 maps covering all subjects. Maps are received from the U.S. Geological Survey, Defense Mapping Agency, and the National Ocean Survey. Maps, atlases, globes, and books relating to cartography may be borrowed for reference, research, and teaching.

The Music Library (301 Music Building) has a comprehensive collection of music and music literature, including books, scores, audio and video recordings, current periodicals, and microfilm. All materials in the Library of Congress “M” classification are located here.

The Special Collections Library (2nd floor, west wing, of the Hoskins Library) is a repository of regional and local materials, Tennesseana, and other specialities, including legislative papers and mementoes of many Tennessee political figures. Special Collections materials are of particular interest to scholars in the fields of history, political science, social sciences, biological sciences, and the arts.

The University Archives (Room 2, Hoskins Library) contains official records of the University; items published officially and unofficially by its units, departments, and agencies; and other materials that document University of Tennessee life.

The Social Work Library (1720 West End Avenue, Nashville) serves College of Social Work students in field practice across the state. The library has a working collection of materials in social work and related disciplines. The Law Library on the Knoxville campus and the libraries located on the campuses in Chattanooga, Martin, Memphis, and Tullahoma are individually administered. Each library at The University of Tennessee is accessible to all students and faculty in the system.
University Studies

Alvin G. Burstein, Chair

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 learning; and (3) to nurture the personal and intellectual development of faculty and students.

In pursuit of these objectives, University Studies sponsors two main types of activities: FACULTY COLLOQUIES, which are on-going, structured, interdisciplinary conversations on a topic or nexus of topics; 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); Interdisciplinary Rhetoric Group; Psychoanalysis and the Humanities; Critical Theory Group; Forum on International Development; and Appalachian Studies.

For further information, contact:
Dr. Alvin G. Burstein, Chair
312C Austin Peay
PHONE: 974-3348.
Reserve Officers Training

DEPARTMENT OF MILITARY SCIENCE

ARMY ROTC

LTC Earl Harrison, 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 ensures 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 Services, 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, 220 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 55 semester hours.
   d. Be under 30 years old at time of commissioning (waiverable).
   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 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 completed prior to commissioning.

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 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).
e. One course in Math Reasoning.
f. One course in Computer Literacy.

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 Office. 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, $600 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 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. Three-year scholarship applicants should contact the Professor of Military Science for further information. Certain 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 and allows the student to receive pay from both programs. ROTC cadets serve as "officer-trainees" in direct leadership/management positions. SMP cadets participation with the reserve forces is one weekend per month and two weeks each summer.

Branch Selection The curriculum of the Army ROTC Program is designed to qualify the cadet for appointment as an officer. Selection for assignment to the various branches of the Army is based upon: the personal interests of the cadet; the major course of study; academic accomplishments; leadership potential; and the needs of the Service. Under this system a cadet may be commissioned in any branch for which he or she is qualified and in which a need for officers exists. After graduation and commissioning, the officer will attend a service school for further 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, Scabbard and Blade, 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.
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 levels, 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 several 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. Three and one-half, 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.

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 ten years active duty after completion of pilot training. Those graduates going into navigator assignments will be required to serve six years active duty after completion of navigator training.
Advanced Studies

THE COLLEGE OF LAW

Marilyn Yarbrough, Dean
Mary Jo Hoover, Associate Dean
Julia P. Hardin, Associate Dean
Richard S. Wirtz, Associate 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. Two dual degree programs are available in conjunction with the College of Law: the J.D.-M.B.A program with the College of Business Administration and J.D.-M.P.A. program with the Department of Political Science.

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 37996-0200. Completed application should be received before February 1 of the year of expected admission.

THE GRADUATE SCHOOL

C.W. Minkel, Associate Vice Chancellor and Dean of The Graduate School
Wayne T. Davis, Associate Dean of The Graduate School
Linda R. Painter, Associate 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
Irene Kaplon, Assistant Director, Graduate Admissions and Records

The University of Tennessee is the official land-grant institution for the State of Tennessee with its main campus in Knoxville. It is a comprehensive research-oriented institution offering a wide range of graduate programs leading to the Master's and doctoral degrees.

Applications must be received by January 15 of the year of expected admission. All prerequisite requirements must be completed by the end of the spring term of the year in which the student plans to enroll in the college.

GrADUATE SCHOOL OF BIOMEDICAL SCIENCES

Raymond A. Popp, Director

FULL-TIME FACULTY

Professor:
D.E. Olins, Ph.D. Rockefeller.

Research Professor:

Research Associate Professor:
E.C. Uberbacher, Ph.D. Pennsylvania.

Research Assistant Professors:
Robert S. Foote, Ph.D. Duke; Lan-Yang Ch’ang, Ph.D. Vanderbilt.

The Graduate School of Biomedical Sciences offers programs leading to the Master of Science and Doctor of Philosophy degrees. The School publishes supplementary informa-
tion in addition to the regular Graduate Catalog. All inquiries concerning admission should be addressed to: Director, The University of Tennessee-Oak Ridge Graduate School of Biomedical Sciences, Biology Division, ORNL, P.O. Box Y, Oak Ridge, Tennessee 37831. Consult the Graduate Catalog for listing of graduate level courses.

COMPARATIVE AND EXPERIMENTAL MEDICINE JOINT GRADUATE PROGRAM

L.N.D. Potgieter, Director

Coordinating Committee:
J.E. Fuhr; J.E. Lawler; C. Lozzio; L.N.D. Potgieter; M. H. Sims.

The Comparative and Experimental Medicine degree program (M.S. and Ph.D.) is jointly administered by the College of Veterinary Medicine, the College of Medicine/ Knoxville Unit, and the University of Tennessee-Knoxville Graduate School. The graduate program is intended to prepare students for teaching and/or research careers in the health sciences, emphasizing the comparative approach to the study of pathology, immunopathology, hematology, infectious diseases; aberrant metabolism, oncology, and genetic disorders. For complete information, refer to the Graduate Catalog.

THE UNDERGRADUATE PROGRAM

The undergraduate 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: 330, 340, 475, 510, 530, 551, 564, and 574.

THE GRADUATE PROGRAM

The goal of this 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.I. Adler (Chair); Physiology: G. Vaughan; Biotechnology: D.K. Dougall; Cellular, Molecular and Development Biology: J.M. Becker; Environmental Toxicology: W.R. Rasas; Ethology: G.B. Burghardt; Plant Pathology and Genetics: B.V. Conger; Veterinary Medicine: J.M. Bright.

The programs leading to the M.S. and Ph.D. degrees in Life Sciences are interdepartmental 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.

SPACE INSTITUTE

Wesley L. Harris, Vice President
K.C. Reddy, Dean for Academic Affairs

The Space Institute is a graduate education and research institute established in 1964 on a 365 acre lakeshore campus in Middle Tennessee. UTSI 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 45 faculty members of the Institute carry out these accredited academic programs through classroom teaching, informal seminars, active research, and directing the research of their students in an environment of creative work and advanced study. 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, Avionics Systems, Chemical Engineering, Computer Science, Electrical Engineering, and 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, advanced space propulsion, knowledge engineering, energy conversion processes, thermal sciences, coal combustion, magnetohydrodynamics, plasma physics, 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 nonlinear 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 UTSI are admitted to The Graduate School, The University of Tennessee, Knoxville. Graduate Research Assistantships are available to qualified students. Further information may be obtained from the Dean, The University of Tennessee-Space Institute, Tullahoma, Tennessee 37388.
TRANSPORTATION CENTER

Stephen H. Richards, Director

The Transportation Center was created in 1970 to foster and facilitate interdisciplinary research and public service in the field of transportation at The University of Tennessee. It began operating full-time in 1972 and since then has contributed greatly to the overall research program of The University.

The Center, 357 South Stadium Hall, is a University-level organization administratively positioned within the Office of The Associate Vice Chancellor for Research at UT, Knoxville. The Center's staff is presently organized into eight research divisions: Energy and Environment; Systems Analysis and Data Management; Policy and Services; Rail and Water; Safety and Operations; Structures and Construction; Highway Engineering; and Training and Technology Transfer.

The Center has three goals. The first is to conduct a program of research in transportation that is recognized for its excellence, comprehensiveness, innovation, productivity, and national leadership. The second is to develop and sustain the technical expertise for high quality transportation research by the faculty and students within the various departments and colleges of UT. The third goal is to serve the transportation research, service, and training needs of state and local government, business, and industry in Tennessee, the southeast region, and the nation.

WATER RESOURCES RESEARCH CENTER

Bruce A. Tschantz, Acting Director

The Water Resources Research Center, 422 South Stadium Hall, 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.
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DEGREE

| College of Agriculture                              | M.S., M.S. |
| College of Business Administration                   | M.S., M.S. |
| College of Education                                 | M.S., M.S. |
| College of Human Ecology                             | M.S., M.S. |
| College of Liberal Arts                              | M.S., M.S. |
| College of Nursing                                   | M.S., M.S. |
| College of Social Work                               | M.S., M.S. |
| School of Biomedical Sciences                        | M.S., M.S. |
| School of Library and Information Sciences            | M.S., M.S. |
Continuing Education and Public Service

DEPARTMENT OF CONFERENCES

Program Managers:
R. Gibbs, B.S., Tennessee
E. Keener, B.A., Temple University
L. Law, B.S., Tennessee
G. Mosby, M.Ed., Texas South. University
G. Tranham, B.S., Tennessee

Conference Services Supervisor:
M. Purdy

UT Conferences is a department of the Division of Continuing Education, University of Tennessee, Knoxville. Housed in the UT Conference Center, the staff provides management services to any individual or group who desires to hold a high quality convention, conference or meeting anywhere in the state of Tennessee.

Utilizing the new Conference Center and state-wide University system facilities, major hotels and convention centers across Tennessee, UT Conferences provides a unique contribution to continuing education and public service. Programs are custom designed to meet the needs of the participants in order to achieve maximum learning benefits. Affordable services are tailored within the budget guidelines. The overall plan is administered with the participants' personal and professional enhancement as the objective. Programs which meet appropriate criteria qualify for Continuing Education Units.

The Division of Continuing Education maintains a record of CEU's earned and provides records upon written request.

Conferences' staff provides professional guidance and management for small group meetings as well as for major conventions of several thousand delegates. Consulting services begin with the initial planning and budgeting. They continue as UT Conferences acts in the sponsor's behalf in negotiating and contracting all arrangements for lodging, food services, speakers, promotional material, travel, meeting rooms and the myriad of details that must be monitored in order to assure a successful event. The site management team is the first on the scene prior to the event and is prepared to register the early arrivals. Room sets, audio visual equipment, sound systems, refreshment breaks, tours, banquets- every detail is executed as planned and problem solving is made easy through experienced management. A final evaluation after the event reflects a positive performance, a balanced budget and a growth experience for the organization. This turn-key support allows the sponsors to concentrate on quality of program content and to serve as host to attendees.

UT Conferences has joined hands with UT-Conference Center or to transmit (uplink) to earth stations around the world. Two-way voice, video and data interactive communications capability also supports teaching and administrative conferencing needs worldwide.

Additional information may be obtained from UT Conferences, P.O. Box 2648, Knoxville, TN 37901, or by calling (615) 974-0250. FAX (615) 974-0264.

ENGLISH LANGUAGE INSTITUTE

Director:
Dale A. Myers, Ph.D., Florida

Assistant Director:
Jan G. Hitt, M.S., Tennessee

Instructors:
Anwar F. Accawi M.Ed., Tennessee
Mostafa Rahbar, M.Ed., Tennessee

The English Language Institute (ELI) is a non-credit language study program of the University of Tennessee, Knoxville. It is designed to assist students in their pursuit of career goals or educational objectives in the United States.

The ELI offers intensive courses for the improvement of student skills in the English language. International students, visitors, and professionals have successfully learned English through study in the ELI.

The courses emphasize the development of communicative ability in listening, speaking, reading, and writing. Faculty members are trained in teaching English to speakers of other languages with differing national backgrounds and varying proficiency in English.

The curriculum consists of eight proficiency levels: 101-108, Introductory through Pre-Academic.

Each level meets 4-5 periods each day with classes from the following:
- English Structure (Grammar)
- Listening Comprehension
- Writing/Composition (Rhetoric)
- Conversation Practice for Communicative Purposes
- Reading and Vocabulary
In addition, classes also assist students in improving pronunciation, test-taking strategies, U.S. culture orientation, and university study skills. Additional information may be obtained at 907 Mountcastle Street; telephone (615) 974-3404.

NON-CREDIT PROGRAMS

Coordinators:
N. Dahlin-Brown, M.S., Tennessee
D. Lovin, M.S., Tennessee

The Department of Non-Credit Programs provides a comprehensive array of courses and seminars designed to serve the needs of individuals in Knoxville and surrounding communities, as well as those of business and industry throughout Tennessee. Courses are offered on a seasonal term (Fall, Winter, Spring, Summer) basis, in the evenings on the University campus and at selected off-campus locations. The quality of these programs is maintained by utilizing University faculty where possible and citizens of the community who have gained a reputation for certain competencies or technical skills. Business seminars are offered to the public in major cities throughout Tennessee. These can also be delivered “on-site” for business or industrial clients, and instructional services are tailored to the needs of each individual group.

The types of courses offered by the department range from developing personal skills, such as communications, computer literacy, and management development, to human interest courses, such as plants and gardening, health, exercise and fitness. There are also courses that offer certain requirements of the state or other agencies for certification in given fields, such as real estate, aviation, CEBS (Certified Employee Benefit Specialist) and CCA (Certified Credit Administrator). The business seminars range from “hands-on” computer training to topics pertinent to management development for business and industry. "In-house" courses delivered to business and industry help provide for professional development for the area workforce. The department co-sponsors an ongoing program, the Smoky Mountain Field School, with Smoky Mountains National Park. The School consists of intensive weekend and five-day field courses emphasizing outdoor exploration of the Smoky Mountains.

Continuing Education Units (CEUs) are awarded to students satisfactorily completing courses and seminars offered by the department. A CEU is defined by the Southern Association of Colleges and Schools as “ten contact hours of participation in an organized, continuing education experience under the direction of qualified faculty.” A permanent record of CEUs is maintained by the department. A transcript of all CEUs earned at The University of Tennessee, Knoxville, may be obtained upon written request.

Statewide legislation gives Tennessee citizens who are 60 years of age or older, or those who are totally disabled, the opportunity to audit courses at UT, Knoxville free of charge on a space available basis. Legal verification of either of these conditions is required for enrollment. Additional information may be obtained at The Hess Building, 609 Henley Street, Suite 105, Telephone (615) 974-0150.

UNIVERSITY EVENING SCHOOL

Director:
S.C. Bills, Ed.D., Tennessee

Associate Directors:
J.C. Sekule, Ph.D., Tennessee
M.K. Warden, Ed.D., Tennessee

Assistant Directors:
L.U. Jurand, M.S., Tennessee
D.J. VonWeisenstein, M.S., Tennessee

Assistant Professor:
C.B. Mamantov, Ed.D., Tennessee

Director, Oak Ridge Resident Graduate Program:
S.C. Bills, Ed.D., Tennessee

Assistant Director, Oak Ridge Resident Graduate Program:
J. Howell, M.S., Tennessee

The University Evening School, in conjunction with academic colleges and departments, administers credit programs for those students attending classes on and off campus in a variety of nontraditional formats. Support services are provided to assist students in their educational pursuits.

On-Campus Evening Program. Classes are offered during late afternoon and evening hours for those students who work or have other commitments during the day. The following undergraduate degrees are available:
- College of Business Administration — Bachelor of Science in Business with majors in Accounting, Economics, Finance, Public Administration, or Management.
- College of Liberal Arts — Bachelor of Arts with majors in Art, Economics, Mathematics, Political Science, Psychology, or Sociology.
- College of Education — Bachelor of Science with majors in Human Services or Industrial Education with a concentration in Industrial Training.

Some departments within the Colleges of Business Administration, Education, and Engineering offer all courses required for an advanced degree during the evening. The College of Education offers an M.S. in Technological Education with concentrations in: Adult Education, Business and Marketing Education, Industrial Education, Industrial Training, and Vocational-Technical Education. The College of Business Administration offers all courses required for the MBA degree with a concentration in Management and Venture Analysis. For other majors, consult the appropriate academic department.

Mini-Term. The University Evening School offers a Mini-Term during May, those students enrolling in one concentration credit course during the Mini-Term period.

Courses and instructors listed for the Mini-Term are carefully selected to reflect a broad academic base of individualized offerings suited to an intensive program of study. Courses cover traditional material and information included in regular semester offerings; however, these courses may be supplemented with films, team teaching, field trips, independent research projects and specialized areas of study, affording students an opportunity to immerse themselves in the discipline selected.

Off-Campus Programs. The Evening School conducts undergraduate and graduate courses in many locations away from the Knoxville campus. The courses are scheduled in response to requests and identifiable needs of adult part-time students who live some distance from the UT, Knoxville location. All course offerings and instructors are approved by the appropriate academic departments, and the credit awarded is resident credit.

The College of Education (Off-Campus) offers a Bachelor of Science in Education with a major in Industrial Education (Industrial Training) and the following graduate degree programs are available: Doctor of Education with a major in Educational Administration and Supervision (Chattanooga); Master of Science in Education with a major in Technological and Adult Education (Statewide); Master of Science in Library and Information Science (Memphis).

The Evening School administers an off-campus center at Oak Ridge where courses leading to advanced degrees in science and engineering are offered. At Oak Ridge, Graduate Study Programs lead to a Master’s in Chemical, Electrical and Industrial Engineering with a concentration in Engineering Management. Courses are offered in Nuclear Engineering with a concentration in radiation protection. Environmental Engineering with a concentration in hazardous waste management, Computer Science, Mathematics, Physics, Chemistry, Public Health and Mechanical Engineering.

Workshops. Credit workshops are coordinated through various academic departments of the University and provide students the opportunity to participate in short periods of intensive study. As a result, students may earn college credit within a shorter time frame than the traditional semester system.

Workshops offer flexibility of timing, location, and content. Summer workshops are particularly popular with teachers and school administrators. Although most workshops are held on the UT, Knoxville campus, geography is not a limiting factor.

Student Services. A comprehensive program of services is provided by the University Evening School for both on and off campus students.

Registration. Registration by mail is offered as a convenience to former Evening School students. Secondary registration at both on and off campus locations is also available.

Advising. An advising counseling program is available for the benefit of all evening students who need assistance with academic or related matters. The program can accommodate students during regular hours (8:00-5:00) and in the evenings by appointment, as well as at various centralized off-campus locations. The College of Liberal Arts, Business, Education, and Engineering also cooperate with the Evening School by providing extended hours several times a week to advise students. A veterans’ advisor assists in academic planning for Evening School students who receive educational benefits under the G.I. Bill.

Financial Aid. Evening School students who encounter difficulty in pursuing academic goals because of financial restrictions may be eligible for assistance through the Evening School Scholarship Program. Interested students may also obtain applications for the Pell Grant in the Evening School Office.
ELDERLY AND DISABLED PERSONS

Legislation gives Tennessee citizens who are 60 years of age or older, or those who are totally disabled, the opportunity to attend courses at the University at no charge on an audit, space available basis. Legal verification of either of these conditions is required for enrollment. Students who are 65 or over, or who are totally disabled, and who desire to receive UT credit for their courses, may pay a reduced charge of $7 per credit hour up to a maximum of $75 for a full-time load. Registration for day and evening classes is handled by the Evening School.

The University Evening School office is located at 451 Communications and University Extension Building on the UT, Knoxville campus and may be reached by calling (615) 974-5361 or 1-800-334-1724. All inquiries concerning these programs are welcome.

DEPARTMENT OF INDEPENDENT STUDY

Director:
David F. Holden, Ph.D. Kansas

Assistant Director:
Samuel A. Cain, M.S. State University of New York (Stony Brook)

The UT, Knoxville Department of Independent Study administers the program of independent study by correspondence for all campuses of the University. The program includes college credit courses, high school courses (for credit or for college entrance requirements), and non-credit courses. College credit correspondence courses are based on regular UT campus courses, and the credit is recorded on the student's UT transcript. High school courses are based on the curriculum frameworks of the Tennessee Department of Education. Non-credit courses can be taken to meet personal or professional education goals. The courses utilize videotapes and audiotapes as well as traditional print materials. Through this program, The University of Tennessee is able to overcome geographic limitations in performing its services as Tennessee's land-grant institution of higher education. The program is open to UT students and to anyone who has the educational preparation required for a particular course. UT students must have the approval of their college advising center before they enroll in college credit courses. With the cooperation of a UT instructor, independent study through directed readings may also be arranged through this department for courses not listed in the Independent Study catalog.

The Department of Independent Study also serves as the Tennessee state office for Elderhostel, an education and travel program for people over 60. One-week, non-credit Elderhostel programs are available throughout Tennessee, the U.S., and many countries overseas.

For information and enrollment forms for correspondence courses or Elderhostel, contact: Department of Independent Study, 420 Communications Bldg., The University of Tennessee, Knoxville, TN 37996. Telephone: (615) 974-5134.

The following correspondence courses are offered through the Department of Independent Study. For full course descriptions refer to the listings in this Undergraduate Catalog. For more information and enrollment forms, contact the Department of Independent Study.

Agricultural Economics 470 Natural Resource Economics;
Anthropology 110 Human Origins; 130 Cultural Anthropology;
Child and Family Studies 110 Introduction to Early Childhood Education; 240 Human Sexuality;
Electrical and Computer Engineering 201K Circuits I;
English 101 English Composition I; 102 English Composition II; 201 British Literature I; Beowulf through Johnson; 202 British Literature II: Wordsworth to the Present; 231 American Literature I: Colonial Era to the Civil War; 232 American Literature II: Civil War to Present; 306 Introduction to Shakespeare;
Forestry, Wildlife and Fisheries 211K Introduction to Forestry, Wildlife and Fisheries;
French 111 Elementary French, First Semester; 112 Elementary French, Second Semester; 211 Intermediate French, First Semester; 212 Intermediate French, Second Semester; 301 Elements of French for Upper Division and Graduate Students, First Semester; 302 Elements of French for Upper Division and Graduate Students, Second Semester;
Geography 101 World Geography, First Semester;
History 101 Elementary German, First Semester; 102 Elementary German, Second Semester;
Health 110 Personal Health and Wellness; 400 Consumer Health; 406 Death, Dying, and Bereavement;
History 151 Development of Western Civilization; 152 Development of Western Civilization; History 251 History of the United States; 252 History of the United States; 449 History of Tennessee;
Mathematics 115 Statistical Reasoning; 119 Precalculus A; 121 Calculus A; 122 Calculus B; 130 Precalculus I; 141K Calculus I; 142K Calculus II; 201 Structure of the Number System; 202 Probability, Statistics and Euclidean Geometry; 241 Calculus III;
Philosophy 345 Medical Ethics;
Political Science 101 United States Government and Politics;
Psychology 110 General Psychology; 210 Biological Basis of Behavior; 220 Behavior and Experience: Humanistic Psychology; 300 Child Psychology; 310 Learning and Thinking; 330 Abnormal Psychology; 360 Social Psychology; 365 Statistics in Psychology; 395 Research Methods in Psychology;
Religious Studies 326 Images of Jesus; 345 Medical Ethics;
Safety 452 General Safety;
Sociology 100 General Sociology; 110 Social Problems and Social Change; 350 Criminology; 351 Juvenile Delinquency; 363 The City; 415 Sociology of Aging; 451 Criminal Justice;
Spanish 111 Elementary Spanish, First Semester; 112 Elementary Spanish, Second Semester; 211 Intermediate Spanish, First Semester; 212 Intermediate Spanish, Second Semester.
ACCOUNTING (009)

201 Principles of Financial Accounting (3) Introduction to financial accounting theory and practice with emphasis on preparation and reporting of financial information. Prerequisites to all other courses in accounting. Prereq: Mathematics 110 or 121. 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 or Coreq: Management 303. E

341 Accounting Information Systems (3) Development and use of accounting information systems for collection, organization, and distribution of economic information about organizations for internal and external decision making. Prereq: 321, Management 303, junior standing. Major exam may be given during the last class meetings. F, Sp

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. E

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 with a C or better. 341. F, Sp

414 Advanced Accounting (3) Issues and alternatives in advanced theory and problem areas including financial accounting theory, partnership accounting, business combinations, consolidated financial statements, and not-for-profit accounting. Major writing requirement. Prereq: 312 with a C or better. F, Sp

431 Federal Income Taxation (3) Fundamentals of gross income, deductions, credits, and tax determination. Introduction to taxation of corporations and partnerships. Prereq: 311 with a C or better, or consent of instructor. E

ADVERTISING (012)

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: 300 with a grade of C or better.

340 Advertising Research Methods (3) Secondary data and primary research techniques for advertising decisions. Prereq: 250 with a grade of C or better.

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.

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.

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.

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.

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.

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.

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.

493 Independent Study (1-3) Individual study in a specialized area under the supervision of a faculty member. Prereq: Consent of instructor.

AFRICAN AND AFRICAN-AMERICAN STUDIES (022)

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, the beginnings of Afro-American protest tradition, and the Civil War and Reconstruction.

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 Afro-American intellectual and protest movements.

310 Introduction to Afro-American Studies (3) (Same as Music History 310.)

314 Peoples and Cultures of Africa (3) (Same as Anthropology 314.)

315 Afro-American Anthropology (3) (Same as Anthropology 315.)

319 Caribbean Cultures and Societies (3) (Same as Anthropology 319 and Latin American Studies 319.)

322 Minority Group Politics in the United States (3) (Same as Political Science 322.)

343 Race and Ethnicity (3) (Same as Sociology 343.)

350 History of Jazz (3) (Same as Music History 350.)

352 Afro-American Religion in the United States (3) (Same as Religious Studies 352.)

353 Topics in Afro-American Religion (3) (Same as Religious Studies 353.)

364 Contemporary Issues in Afro-American Education (3) 1954 to the present. Examines 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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as Curriculum and Instruction 364.)

371-372 African History (3,3) (Same as History 371-372.)

373 African Religions (3) (Same as Religious Studies 373 and Anthropology 373.)

379 Geography of Africa (3) (Same as Geography 379.)

420 Families: Race, Class and Culture (3) (Same as Child and Family Studies 420.)
Agricultural Engineering/Courses of Instruction

421 Comparative Studies in African and Afro-American Societies (3) Comparative studies of African and Afro-American societies in such areas as education, religion, and government. Exposure to the views of Afro-Americans and Africans has of each other and the concept of Pan-Africanism. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as History 421.)

429 History and Philosophy of Afro-American Education (3) Focuses on attempts by Afro-Americans to secure an education for themselves and their children from the era of slavery to the Supreme Court decision in 1954. Examines black perceptions of the importance of education and special obstacles confronting blacks who seek education on the primary, secondary, and college levels. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

431 Research Seminar in Afro-American Studies (3) Teachers basic research methodology and development of research skills. Students design and implement a research project of their choice in the field of Afro-American Studies. Prereq: 201-202 and senior standing. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

442 Comparative Poverty and Development (3) (Same as Anthropology 442.)

445 The Afro-American Experience From the Colonial Period to the Present (3) (Same as History 445.)

450 Issues and Topics in Afro-American Studies (3) Topics vary, but include a variety of problems, issues, and individuals from the field of Afro-American Studies. May be repeated. Maximum 6 hours.

452 Black African Politics (3) (Same as Political Science 452.)

461 African Prehistory (3) (Same as Anthropology 461.)

473 Black Male in American Society (3) Examines historical images, myths and stereotypes which have developed concerning Black males in American society. Includes the impact of such critical factors as Black feminism, violence, co-opts to the research process and development of research skills. Students design and implement a research project of their choice in the field of Afro-American Studies. Prereq: 201-202 and senior standing. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

480 Black Women (3) Examines historical images, myths and stereotypes which have developed concerning Black females in American society. Includes the impact of such critical factors as Black feminism, violence, and social factors utilized by Blacks in developing their stereotypes and images. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

482 Black Women in American Society (3) Focuses on historical and contemporary socio-political factors in American society as they relate to the Black woman. (Same as Women’s Studies 482.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

491 Foreign Language Study (1-15) Prereq: 201-202 and consent of instructor.

492 Off-Campus Study (1-15) Prereq: 201-202 and consent of instructor.

493 Independent Study (1-15) Prereq: 201-202 and consent of instructor.

496 Biology of Human Variability (3) (Same as Anthropology 496.)

AGRICULTURAL AND EXTENSION EDUCATION (042)

201 Field Experience in Agricultural Education (1) Field experience in public school programs in agricultural and education. Satisfactory/No Credit grading only. Prereq: Consent of instructor. May be repeated. F, Sp

345 Agricultural Experience, Leadership and Adult Programs (3) Developing supervised agricultural experience programs, conducting leadership development activities through the Future Farmers of America. Role and methods for adult education in agriculture.

346 Strategies for Teaching and Program Planning in Agriculture (3) Methods and techniques for teaching agriculture, preparing teaching plans and courses of study, and developing programs of activities for agriculture. F

411 Fundamentals of Agricultural Extension (3) History, philosophy, organizational structure; clientele served; major areas of program emphasis-teaching methods, and relationships with other educational agencies. Sp

420 Methods of Teaching Agricultural Mechanics (2) Methods for vocational agriculture students. Special competencies for planning, conducting and evaluating agricultural mechanics programs. Prereq: Agricultural Engineering Technology 201 on consent of instructor.

435-36 Student Teaching in Agricultural Education (6,6) Full time teaching practical in an approved high school. Applied practices needed by vocational agriculture teachers. Satisfactory/No Credit grading only. Prereq: Admission to Teacher Education and 345 and 346. Coreq: 435 for 436; 436 for 435. 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. Sp, Su

493 Independent Study (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 (047)

110 Orientation to Agricultural Economics and Business (1) Primarily for Agricultural Economics and Business majors in their first year. Introduction to current issues, subject matter areas, and career opportunities in the field of agricultural economics. Satisfactory/No Credit grading only. F

210 Introduction to Agricultural Economics (3) Application of economic principles of demand, supply, price determination, and market structure to agriculture, natural resources, rural community development, and international trade and development. Economic aspects of current issues and problems associated with production, marketing, consumption, resource use, and government intervention in the agricultural, rural, and international sectors. Prereq: Economics 201. F, Sp

342 Farm Business Management I (3) (Principles and procedures for determining most profitable farm organization and system of operation: nature of managerial processes; farm record keeping and use; budgeting; economic aspects of acquisition and management of capital, land, labor and machinery resources. Prereq: Economics 201 and Junior standing. F, Sp

350 Marketing of Agricultural Products (3) Survey of U.S. food and fiber marketing system; marketing functions; industry structure; market channels; marketing options of farmers; analysis of marketing problems. Prereq: 210 or consent of instructor.

352 Commodity and Financial Futures Markets (3) Futures and options in agriculture and financial markets. History, function, and organizational characteristics common to most futures markets. Special topics on risk management, forwards, and futures trading. Operating processes: market and market capacity, information use and dissemination. Course is intended for advanced undergraduate students. Prereq: Economics 201. Sp

410 Seminar in Agricultural Economics and Business (3) Primarily for Agricultural Economics and Business majors in their senior year. Analysis of contemporary problems in the field. Discussion of career opportunities, expectations, and placement processes. Assignments for written and oral presentation. F

412 Agricultural Finance (3) Macro-finance, financial objectives, acquisition of debt and equity funds, capital investments, capital allocation, debt repayment, credit analysis, borrowing capacity, financial allocation and investment insurance strategies, computer applications, kinds and sources of agricultural credit, and financial intermediation. Prereq: Economics 201; Junior standing or consent of instructor.

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


442 Farm Business Management II (3) Advanced technical methods for farm business analysis using micro and macro economic modeling and regression applications in farm planning; spreadsheet analysis of whole farm business, systems analysis and management, planning for risk, and off-farm tax management; farm growth and intergenerational transfer. Prereq: 342. Sp

450 Agricultural Price Analysis (3) Demand and supply mechanisms in agriculture, price determination, spatial equilibrium, temporal price patterns, pricing institutions, Prereq: 350, Economics 311 and Statistics 302. 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 and Statistics 302. Sp

460 Rural Economic and Community Development (3) Historical and theoretical perspective on problems facing rural communities; changes between farm and nonfarm sectors; models and tools for analyzing rural development. Prereq: 210 or consent of instructor. F

470 Rural Economic and Community Development (3) Nature of natural resources; 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

492 Off-Campus Internship (1-3) Supervised experience at department-approved internship site. May be repeated up to a maximum of 3 hours. Prereq: Junior standing. S/N C. E

493 Independent Study (1-3) Directed individual or team research and report writing. Off-campus internship experience and reporting. Special courses in specific topics. Student must arrange with instructor before registering. May be repeated. Maximum 6 hours. Prereq: Junior standing. E

AGRICULTURAL ENGINEERING (066)

105 Fundamentals of Engineering in Bio-Rosource Systems (2) Application of basic engineering principles as related to bio-resources; problem solving and reporting techniques; engineering tools; measurement techniques. Not available for credit if credit has previously been received for Basic Engineering 131. 1 hour and 1 lab. F

200 Career Opportunities (1) Activities and opportunities in the fields of specialization; required training for each area; projected career activities. 1 hour. F

303 Transport Processes in Biological Systems (3) Analysis of biothermal systems with emphasis on thermal energy and mass transfer. Thermodynamics, conduction and convection heat transfer, and mass transfer. Prereq: Mechanical Engineering 331. Sp

311 Processing Food and Biological Materials (3) Application of basic engineering sciences to processing and handling of biological materials: physical properties, thermal processing, drying, concentration, refrigeration and freezing, membrane processes and extraction. Prereq: Engineering Science and Mechanics 341. Agricultural Engineering 303. 2 hours and 1 lab. F

320 Structures and Environment (2) Environmental control systems; structures and foundations; material balance; heat loads and insulation; functional requirements of agricultural buildings; material selection and cost. Prereq: Junior standing. 1 hour and 1 lab. Sp

331 Power Units and Machinery (3) Internal combustion engines and off-road vehicle power transmission
146 Courses of Instruction/Agricultural Engineering Technology

systems. Ergonomics and operator environment. Function and structural analysis and performance characteristics of machinery. Prereq: Mechanical Engineering 331 and Engineering Science and Mechanics 231. 2 hours and 1 lab. F


400 Professional Development (3) Engineering ethics, professional responsibility, and opportunities for professional development and continuing education. 1 hour. F

403 Engineering Design Fundamentals (3) Nature of design, functional analysis, creativity, analyses and synthesis; geometric and kinematic requirements; plane mechanism, force, stress, deflection, time analyses applied to design project. Prereq: Senior standing. Design content: 3 hours, 1 hour and 2 labs. F

413 Component Design and Machine Synthesis (3) Synthesis of design; structural, kinematic, power, control-sys tem of machine elements, elements in series, design drawings, specifications, model of device; written and oral report on project. Design content 3 hours. Prereq: 403. 1 hour and 2 labs. 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, AO

433 Food and Bioprocessing System Design (3) System design for processing, handling, and storage of food and bioprocessing systems. Mass and energy balances, product characteristics, equipment specifications, economic analysis, safety, and human factors considerations. Design content: 3 hours. Prereq: 311. 1 hour and 2 labs. Sp

451 Electronic Systems (4) Basic electronics with biological applications. Analog and digital electronics; sensing and controlling physical and environmental parameters; signal generation and interfacing, signal conditioning; process control. Includes laboratory experiments and design projects. Design content, 1 hour. Prereq: Electrical and Computer Engineering 301. 3 hours and 1 lab. Sp

460 Design of Agricultural Structures (2) Design fundamentals for wood, steel and concrete components, composition and tension members; beam and column design; pole structure design; fasteners and joint design. Prereq: 320, 1 hour and 1 lab. Sp, AO

470 Special Problems in Agricultural Engineering (1-3) Special project or 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 (067)

202 Materials and Fabrication (3) Properties of materials including steel, metal, concrete, plastics and lubricants; drafting and planning reading, fabrication techniques and processes involving hand tools, power equipment, and arc and gas welding. 1 hour and 2 labs. Sp

212 Surveying (3) Measurement of distances, angles, and areas, chainage, and profile leveling; topographic surveying and mapping; area computation. Prereq: Math 119 or consent of instructor. 1 hour and 1 lab. F

222 Food and Process Engineering Technology (3) Application of basic engineering principles to agricultural and food processes. Fluid handling, drying, evaporation, thermal processing, heating and cooling, refrigeration systems, and materials handling. Prereq: Physics 121. Mathematics 212. 2 hours and 1 lab. F

432 Agricultural Machinery and Tractors (3) Agricultural machinery and power units; adaptation to agricultural practices; management considerations; field efficiency; capabilities; adjustment and servicing. Prereq: Mathematics 121. 2 hours and 1 lab. F

442 Agricultural Waste Management and Pollution Control (3) Waste renovation fundamentals; characteristics of animal manure, techniques for collection, transporting, storing, and utilizing livestock waste. Prereq: Mathematics 121. 2 hours and 1 lab. F

452 Small Internal Combustion Engines (3) Theory, concepts and mechanics of small internal combustion engines; theoretical and practical aspects of selection, operation, adjustment, troubleshooting and repair of single-cylinder engines. Prereq: Physics 121 or consent of instructor. 2 hours and 1 lab. Sp

462 Agricultural Chemical Application Technology (3) Equipment for application of liquid, solid, and gaseous agricultural chemicals; system components; operational characteristics; calibration; selection and management; safety considerations; materials handling and disposal methods. Prereq: Physics 121 or consent of instructor. 2 hours and 1 lab. Sp

AGRICULTURE (088)

101 Perspectives in Agriculture and Associated Natural Resources (3) Historical development, current national and international issues, and trends for the future. 3 hours.

200 Microcomputers in Agriculture and Natural Resources (1) Microcomputer technology as related to agricultural applications. Topics include: microcomputer terminology, architecture, computer peripherals, operating systems, and an overview of application software. 3 hours.

301 Microcomputer Applications in Agriculture and Natural Resources (2) Advanced topics in microcomputer applications for agriculture including system organization and selection, communications, data base management, electronic spreadsheets, project management, and other application software. Prereq: Agriculture 300. 1 hour and 1 lab.

302 Special Topics in Computer Applications for Agriculture and Natural Resources (1) Content varies. May be repeated for a maximum of 3 hours. Request approval for variable title on transcript.

317 Agriculture and Natural Resources Honors Seminar (1) Discussion of selected topics, issues and problems. Upper-division and graduate courses in agriculture and natural resources systems. Primarily for College Scholars students. May be repeated. Maximum of 8 hours. Satisfactory/No Credit. F, S.

480 Agricultural Management Systems Analysis (3) Interdisciplinary management oriented course for application of systems analysis concepts to planning and operation of farm businesses. Team work; application of technical knowledge to a practical farm situation and evaluation of interrelationships among various subsystems. Open to juniors and seniors by invitation only.

AIR FORCE AEROSPACE STUDIES (094)


103-104 Leadership Laboratory (1,1) Initial leadership experience and orientation to active duty. Instruction is drill and ceremonies, Air Force standards, customs, and courtesies; the Air Force as a profession; and the environment in which the Air Force operates. Coreq: 101-102. Satisfactory/No Credit only.

201-202 Air Force Aerospace Studies (1,1) Introduction to study of air power from a historical perspective starting before the Wright Brothers and continuing into the 1950's.

203-204 Leadership Laboratory (1,1) Intermediate leadership experience and orientation to active duty. Instruction in: teaching/perfecting drill and ceremonies; Air Force standards, customs, and courtesies; the Air Force as a profession; the environment in which the Air Force operates; and preparation for field training. Coreq: 201-202. Satisfactory/No Credit only.

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, various component forces of U.S. military, and 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 participants.

301-302 Air Force Aerospace Studies (3,3) Air Force leadership at junior officer level, including theoretical, professional, and legal aspects, with attention to communication skills, military organization functions, principles, and techniques. Prereq: Air Force ROTC approval and completion of either 205 or 101-104, 201-204. Corso: 303-304.

401-402 Air Force Aerospace Studies (3,3) Role and function of professional officer in a democratic society; socialization process, public attitudes, and value orientations associated with professional military service; requisites for maintaining national security forces; decision-making processes of Department of Defense; political, economic, and social constraints affecting formulation of officer's role; and communication skills. Prereq: Air Force ROTC approval and completion of 301-304. Coreq: 403-404.

AMERICAN STUDIES (099)

310 Introduction to American Studies (3) Explores dynamics and nature of the culture(s) of the United States through interdisciplinary study and interpretation. Considers both "mainstream" and "minority" cultures. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

312 Popular Culture and American Politics (3) (Same as Political Science 312.)

334 Film and American Culture (3) (Same as Cinema Studies 334 and English 334.)

343 Race and Ethnicity (3) (Same as Sociology 343.)

345 Collective Behavior and Social Movements (3) (Same as Sociology 345.)

355 Religion and Culture in the United States (3) (Same as Religious Studies 355.)

380 American Issues: War and the Peaceful Ideal (3) (Same as History 380.)

381 Introduction to Folklore (3) (Same as English 381.)

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

420 Political Attitudes and Opinions (3) (Same as Political Science 420.)

440 America: Mind, Mood, and Society (3) (Same as History 440.)

442 American Humor (3) (Same as English 442.)

455 Local and Regional History (3) (Same as History 455.)

456 History of Sports in the United States (3) (Same as History 456.)

469 Freedom of Speech (3) (Same as Speech Communication 469.)

483 Independent Study (1-15)

ANIMAL SCIENCE (113)

101 Orientation to Animal Science (1) For Animal Science majors and Prereq students in their first year. Discussion of student services, activities, and careers; student participation in planning the college experience. Satisfactory/No Credit. F, Sp

220 Anatomy and Physiology of Farm Animals (3) Skeleton and joints; muscles; blood and microcircula-
tion; the nervous, endocrine, cardiovascular, respira-
tory, and digestive systems; demonstrations of physical-
chemical phenomena. Prereq: Biology 120. 2 hours and 1
lab. F

260 The Animal Industry and Market Evaluation (3) Structure and production principles of food animal and
horse industries and management practices into cattle,
horse, poultry, sheep, and swine enterprises. Application
of animal behavior knowledge, handling animals,
including facilities and restraint. Analysis of breed,
determination, pre-and post-natal care, identification,
dehorning, castrating, docking, implanting, dabling,
toed care, fitting and grooming, record-keeping, reprod-
cutive and milking management. 2-3 hrs labs. F, Sp

280 Farm Animal Management Practices (3) Integration
of husbandry and management practices into cattle,
horse, poultry, sheep, and swine enterprises. Application
of animal behavior knowledge, handling animals,
including facilities and restraint. Analysis of breed,
determination, pre-and post-natal care, identification,
dehorning, castrating, docking, implanting, dabling,
toed care, fitting and grooming, record-keeping, reprod-
cutive and milking management. 2-3 hrs labs. F, Sp

320 The Physiology of Reproduction and Lactation (3) Biology of sex and sexual differentiation, functional
anatomy of male and female, reproduction and lactation,
gonadogenesis, neuroendocrinology and endocrinol-
y of sex steroids, sex chemistry. Fetal development, fetal
lactogenesis, ovulation, spermatogenesis, fertilization, em-
byonic development, implantation, pregnancy, partur-
tion, oral reasons, breed classification programs, economic
and marketing principles and programs. Prereq: 320. 1
hour and 2 labs. F

340 Principles of Animal Breeding (3) Genetic and
environmental bases of animal variation. Selection and
breeding systems as mechanisms of genetic change.
Planning breeding programs, orthodox and non-orthodox
importantly domestic species. 2 hours and 1 lab. F

361 Meat Animal Evaluation (2) Visual and objective
appraisal and evaluation of beef cattle, swine and sheep
for functional efficiency. Prereq: 260. 2 labs. F

362 Dairy Cattle Evaluation (2) Comparative judging,
oral reasons, breed classification programs, economic
evantages and programs. Prereq: 260. 2 labs. F

363 Judging Poultry and Poultry Products (2) Grading
of poultry and poultry products according to USDA
standards; factors influencing quality. Prereq: 260 or
consent of instructor. 2 labs. Sp

364 Horse Evaluation (2) Evaluation of horses for
soundness and functional efficiency. 2 hours and 1 lab. F

380 Animal Health Management (3) Characteristics,
symptoms, prevention, and treatment of major diseases
and parasites. Immunization, health regulations and
herd health programs for all farm livestock species and
poultry. 2 hours and 1 lab. Sp

381 Animal Production Systems (3) Fundamentals of
production and management systems in beef, dairy,
and poultry programs. Application of principles of
nutrition, breeding, genetics, disease control into en-
terprise systems. Decision making management prac-
tices and information resources, enterprise evaluation
and comparison of production systems. 2 hours and 1
lab. No credit for freshmen. F

402 Advanced Reproduction (3) Collection, evalu-
ation, and preservation of ova, spermatozoa and
embryos; application of methods of natural breeding
and techniques of artificial insemination and embryo trans-
fer; herd sire and dam evaluation; pregnancy determina-
tion; gestation and parturition; infertility; recent advances
in theriogenology. Prereq: 320. 1 hour and 2 labs. F

403 Advanced Ration Formulation (3) Advanced ra-
ton formulation for beef and dairy cattle, swine, horses,
poultry, laboratory, zoo, and companion animals.
Mathematical and computer solutions and applications
to formulating complex rations with constraints. Prereq:
330 and introductory computer science course. 2 labs. F

440 Advanced Animal Breeding (2) Computer simu-
lization of genetic parameters; selection and evaluation
of beef, swine, dairy cattle, beef cattle, dairy cattle, evaluation of alternative breeding strategies; industrial programs in swine, poultry, sheep, beef, and dairy cattle; breed development, improve-
ment, and utilization. Prereq: 364 and 1-2 hour and 1 lab. A-E

451 Advanced Beef Cattle, Dairy Cattle, Horse, Poul-
try, Sheep and Swine Judging (1) Specialization in judg-
ing cattle, dairy cattle, horse, poultry, sheep, and swine.
Prereq: Consent of instructor. 2 labs. Satisfactory/No credit. F, Sp

461 Beef Cattle Production and Management (3) Integrat-
ton of principles of nutrition, breeding, physiology,
and marketing into complete production and man-
gement programs. Prereq: 340. 1-2 hours and 1 lab. F

462 Dairy Cattle Production and Management (3) Integrat-
ton of principles of nutrition, breeding, physiology,
and marketing into complete production and man-
gement programs. Prereq: 340. 1-2 hours and 1 lab. F

482 Pork Production and Management (3) Integration of
principles of nutrition, breeding, physiology, and mar-
teting into complete production and management pro-
grams. Structure of industry, enterprise establishment,
systems of production, production practices, imp-
ovement programs. Management evaluated in terms of
production responses and economic returns. Prereq: Completion of Animal Science sopho-
more junior core courses or consent of instruc-
tor. 2 hours and 1 lab. F

483 Poultry Production and Management (3) Integrat-
ton of principles of nutrition, breeding, physiology, and
marketing into complete production and management pro-
grams. Structure of industry, enterprise establish-
sment, systems of production, production practices, and
improvement programs. Management evaluated in terms of
production responses and economic returns. Prereq: Completion of Animal Science sopho-
more junior core courses. 2 hours and 1 lab. F

485 Horse Production and Management (3) Integrat-
ton of principles of nutrition, breeding, physiology, and
marketing into complete production and management pro-
grams. Structure of industry, enterprise establish-
sment, systems of production, production practices, and
improvement programs. Management evaluated in terms of
production responses and economic returns. Prereq: Completion of Animal Science sopho-
more junior core courses. 2 hours and 1 lab. F

493 Independent Study in Animal Science (1-3) Ap-
proved supervised study in areas not formally presented
in a course offered in the department. Written proposal
of study is approved by the Department of Animal
Science Undergraduate Committee. After completion of
the study, a written report is required and this report is
maintained on file in the reference room of the depart-
ment. May be repeated for a maximum of 6 credits.
Prereq: Senior standing and consent of instructor and
department head. E

494 Animal Science Teaching Assistant (1-2) Assist the
primary instructor in laboratory instruction and demon-
stration. Prereq: Senior standing. One or 2 hour lab. F, Sp

496 Veterinary Medical Technology (1) For Animal
Science majors. Introduction to veterinary medical tech-
ology and related subjects. Prereq: Completion of Animal
Science Majors only. Consent of the instructor and comple-
tion of at least 60 credit hours. Students will observe and
assist clinicians in the College of Veterinary Medicine as
they carry out day to day activities in the large and/or
small animal clinics. One lab. Sp

ANTHROPOLOGY (122)

110 Human Origins (3) Survey of humanity's back-
ground, fossil primates, fossil human remains, and living
races of humankind. F

120 Prehistoric Archaeology (3) Introduction to meth-
ods and techniques used in the study of prehistoric and
archaeological cultures, reconstruct past lifeways and desc-
cive evolution. Overview of the prehistory of Africa, Latin
America, and Australia from earliest dated human cultures to rise of complex civiliza-
ations. Prereq: 110. F

130 Cultural Anthropology (3) Major concepts and
methods in the study of culture; survey of cross-cultural
material from different social, economic, and religious
institutions; language, ideology and arts. Contributions of
anthropology to resolving contemporary human prob-
lems. F

210 Principles of Biological Anthropology (3) Mecha-
nisms of biological evolution and adaptation in living
and prehistoric humans. Prereq: 110. F

220 Prehistory of Tennessee (3) History of archaeo-
logical research in Tennessee and survey of prehistoric
Indian cultures from initial occupation of the state to
European contact. F

302 Anthropology of Religion (3) (Same as Religious
Studies 302.) F

306 Genetics and Society (3) (Same as Botany 306.)
F

310 North American Indians (3) Comparative over-
view of Indian cultures of North America. Topical cover-
ages range from prehistoric and aboriginal peoples to the
impact of contact and acculturation. Writing-emphasis course: at least one in-class exami-
nation and 3000 words of writing outside the classroom. F

311 Southeastern Indians (3) Survey of Southeastern
American Indian cultures at the time of European con-
tact. Emphasis on Cherokee culture and on the social,
economic, and religious organization of aboriginal groups.
Prereq: 130 or consent of instructor. F

312 Appalachian Culture (3) Traditional Southern Ap-
al'achian subsistence patterns and economy, social organ-
zation, beliefs and values, folklore and customs; socio-cultural impacts of industrialization and moderni-
ization. Prereq: 130 or consent of instructor. Writing-
emphasis course: at least one in-class essay exami-
nation and 3000 words of writing outside the classroom. F

313 Peoples and Cultures of Mesoamerica (3) Pre-
Columbian and Hispanic cultures of Mexico, Guate-
malta, Belize, El Salvador and Honduras. Patterns of cul-
tural diversity, human ecology, and cultural change through Mesoamerica's history. Prereq: 130 or consent of
instructor. (Same as Latin American Studies 313.) Writ-
ing-emphasis course: at least one in-class essay exami-
nation and 3000 words of writing outside the classroom. F

314 Peoples and Cultures of Africa (3) Ethnographic
survey of peoples of sub-Saharan Africa, focusing on
cultural diversity, human ecology, and contemporary issues. (Same as African and Afro-American Studies 314.) Writing-emphasis course.
459 Selected Topics in Anthropology (3) Theoretical issues in anthropology for undergraduate students. Topics may include practical experience or laboratory study of anthropological materials. May be repeated. Maximum 6 hours. Prereq: Either 110, 120, 130 or consent of instructor.

460 Current Trends in Anthropology (3) Theoretical issues in anthropology for undergraduate students. Topics may include practical experience or laboratory study of anthropological materials. May be repeated. Maximum 6 hours. Prereq: Either 110, 120, 130 or consent of instructor.

462 Early European Prehistory (3) Origins and evolution of human culture in Europe through the beginnings of settled life. Prereq: Anthropology 130 or Anthropology 131. (Same as Afro-American Studies 461.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

463 Rise of Complex Civilizations (3) Development of complex societies in Old World from origins of agricultural economic to rise of states. Prereq: Anthropology 202, Anthropology 203. (Same as Afro-American Studies 462.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 molluscan and vertebrate remains, with introduction to laboratory methods for comparative collections. Prereq: 120 or consent of instructor. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

493 Independent Study (1-15) For individual and collective involvement. May be repeated. Maximum 6 hours. Prereq: Either 110, 120, 130 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. Prereq: 110.

496 Biology of Human Variability (3) Introduction to human populations; human adaptation, biological features of major racial groupings and relationships of major groups to one another. Prereq: 110. (Same as Afro-American Studies 496.)

499 Human Response to Environmental Stress (3) Explores the physiological perspective of stress from the physical environment and the physiological, anatomical and behavioral responses to this stress.

ARCHITECTURE (133)

101 Introduction to Architecture (3) Scope and definition of architecture in relation to contemporary society, building industry, and allied design professions. Architectural thought and ideas of building and community form. Orientation to courses and programs of the school. F.

112 Architecture and the Built Environment (3) An introduction to architecture and the built environment for non-architecture majors. Significance of our surrounding contexts, the consumer culture, and effects of design. Study of worlds from local to global. Strategies for individual and collective involvement

117 Design Fundamentals I (3) Definition, ideas, and processes of design. Sketch design studies and free-hand drawing. Introduction to drafting techniques. Graphical and visual skill development. Coreq: 101. F.


203 Second Degree Program: Seminar I (2) Theory and practice in architecture. Selected readings in history, theory, and design methodology with emphasis on contextual issues and architectural ordering principles. Coreq: 281. F.


211 History of Architecture I (3) Architectural thought and ideas of building and community form. Ancient through High Renaissance in Italy, France and Spain. Prereq: History 151, 152. F.


221 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 demonstration. F, Sp.

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. F, Sp.


281 Second Degree Program: Design I (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 spatial alleviation. Coreq: 203. F.

282 Second Degree Program: Design II (6) Principles of architectural design emphasizing building structure and form. Design of simple buildings which explore
formal possibilities of site, form and use. Coreq: 204, Prereq: 281. 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 applications to roof materials and methods play in the design process. Prereq: 232. Sp

323 Advanced Computer Applications (3) Computer applications in architecture with special emphasis on environmental control systems and/or structural calcula-
tions. Prereq: Computer Science 102.

324 Architectural Computer Graphics (3) CAD appli-
cations in architecture, focusing on the Auto Cad envi-
ronment. Prereq: Computer Science 102.

331 Architectural Structures I (4) Structural properties of building materials under loading and stress. Mechanics of foundations, properties of cross-sections of struc-
tural members and analysis of statically determinate beams, columns and simple assemblies. Prereq: 231 and 232. F

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 assemblages and structures. Structural and con-
structional aspects of building, including structures in steel, concrete, masonry, and timber to satisfy loading and building code requirements. Prereq: 332 or equiv-

334 Advanced Architectural Structures (3) Philoso-
phy of structural design in relation to materials and form. Advanced mathematical and experimental analysis of structures, with emphasis on use of computer programs. Prereq: 332 or equivalent.

335 Advanced Design of Steel Buildings (3) Con-
struction and maintenance of steel buildings. Large span and special structures. Composite construction. Fireproofing; building codes. Prereq: 231 or equivalent.

336 Advanced Design of Concrete Buildings (3) Precast and on-site concrete construction and mainte-
nance, foundations, floor and wall systems. Domes and shell roofs. Prereq: 333 or equivalent.

341 Environmental Control Systems I (4) Heating, ventilating, and air-conditioning systems, including passive and active solar energy systems. Plumbing and fire protec-
tion systems. Prereq: 231 and 232. F


371 Architectural Design III (6) Design synthesis. Integration of design determinants, structure, environ-
mental controls, materials and construction. Prereq: 371 F Sp

372 Architectural Design IV (6) Design synthesis. Integration of design determinants, structure, environ-
mental controls, materials and construction. Prereq: 371 F Sp

400 Service Practicum (0) Experience in architectural or equivalent office for 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-
vervation: 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 em-
phasis 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.

408 Cultural Comparison of Housing Patterns (3) Patterns of occupation and decoration design and style of groupings as sources of form. Cultural, social, economic, climatic, and technical forces as sources of form.

410 History and Theory of Urban Form (3) Patterns of community development. Selected historical and con-
temporary examples. Basic urban design issues and examples. Design approaches examined through lec-
tures, readings, and field 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 the Nandi Cresent; the Indus Valley; 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, dis-
cussion, and field trips. Historical research using pri-

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 Renais-
sance. (Same as Medieval Studies 415.)

416 Forms of Utopia (3) Ideas and architectural ex-
pressions of Utopian movements. Virtuality and fantas-
ic architecture. Concepts of the future.

417 The International Style (3) A survey of architec-
ture of the early modern movement, primarily in Europe and America, covering the years 1900 to 1940.


420 American Architecture, 1840 - 1940 (3) Stylis-
 tic periods from the Gothic Revival through the Twentieth Century.

421 History of Landscape Architecture (3) Intellec-
tual, societal, and geographical influences which pro-
vide the theoretical basis for design throughout history. Selected examples of landscape architecture analyzed in terms of design.

422 Modern East European Architecture (3) Twenti-
eth century architecture in Russia, Czechoslovakia, Poland, Hungary, East Germany, Rumania, Bulgaria, and Yugoslavia.

425 Special Topics in Architecture (1-4) Individual projects under faculty direction. Credit adjusted to proj-
et complexity and level of effort. May be repeated. Maximum credit 6 hours. E

426 Special Topics in History, Theory and Criticism (1-4) Special topics in historically oriented subjects. May be repeated. Maximum credit 6 hours.

431 Structural and Mechanical Applications (4) Analy-
sis and selection of structural and mechanical systems for a specific case study to integrate technical informa-
tion into a unified design solution. Prereq: 342, 345. Coreq: 471. F

433 Earthquake-Resistant Structures (3) Analysis and design of structures to resist earthquake effects. Earthquake phenomena; soil and ground effects; degree structural systems, resonance and damping. Introduction to dynamic analysis of structures, instrumentation and structural response, frame and shear wall behavior, ground structure interaction. Prereq: Consent of instruc-
tor. (Same as Civil Engineering 433.)

434 Elementary Structural Matrix Methods (3) Intro-
duction to generalized matrix methods of analysis of structures. Review of matrix algebra and vectors; devel-

development, member stiffness and flexibility matrices; assembly of structure stiffness and flexibility matrices. Prereq: Consent of instructor. (Same as Civil Engineer-
ing 434.)

435 Planning and Design of Tall Buildings (3) Archi-
tectural, economic and urban design considerations in design of tall buildings. Environmental and service sys-
tems; wind, fire and earthquake resistance; structural and construction systems; building standards; steel, concrete, and masonry structures; foundations. Prereq: Consent of instructor.

443 Building Energy Analysis (3) Balancing heat flow through the external skin of residential and commercial buildings; local climate evaluation; site plan-
ing, building size and orientation, window area, wall treatment, infiltration control. Energy use quantification methods and economic analysis of energy efficient design features. Architectural program analysis of exter-

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 innova-
tive concepts in design of lighting. Prereq: 342.

462 Professional Practice (4) Management and orga-
nizational theories and practices for delivering profes-
sional design services. Included are assessment of the building industry and its influence on practice; analysis of the basic management functions within professional firms; and legal and ethical concerns facing practitioners today. Special regulations and privileges of the design profession. Sp

463 Architectural Development (3) Principles and prac-
tice of the architect as a developer. Impact of economics, finance and urban policy on the design and development of real estate. Open to all students.

465 Project and Construction Management (3) Prin-
ciples, methods, and applications of construction man-
agement in the building process. Project manager's and construction manager's function, responsi-

466 Marketing Services (3) Theories of marketing for architectural practice. Case studies. Public relations procedures.

469 Codes, Zoning, and Fire Protection (3) Theory and analysis of codes and codes of practice. Relation to production techniques and procedures. Potential contractual problems relating to architect, owner, construction contractor, and sub-
contractor. Theory, analysis, and methods of specifica-
tion writing. Development and research of project speci-
fications.

471 Architecture Design V (6) Design project from con-
ceptual through design development phase. Specifi-
cation of component building systems including struc-
tural, mechanical, lighting and construction details. Prereq: 372. F

472 Architecture Design VI (6) Order and form in com-
plex buildings developed to address programmatic, structural, and 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 se-
pARATION and preparation for course 482. Formation and documentation of hypotheses. Presentation of back-
ground and program information. Goals and concepts set forth. To be taken semester immediately preceding 482.

481 Advanced Architectural Design Topics (3) Special areas which affect architectural design, such as alternative approaches to design, energy, urban design, construction, climate change, local climate, preservation, and special building types. Work from this pro-
gram may relate to the student's Comprehensive Design Project. Prereq: 472. Certain architectural electives may be designated as prerequisites 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.) Consulted project will address all issues of environ-

Architecture/Courses of Instruction
ART (140)

101 Studio Fundamentals: Drawing and Design (2) Introduction to basic drawing media, concepts and techniques and to the elements and principles of pictorial organization.

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 metalsmithing and jewelry fabrication techniques including annealing, forming, forging, chasing, embossing, dapping, drawing, rolling, sinking, soldering, fusing, polishing, and patination with individual studio problems to develop a personal style of expression.

151 History of Graphic Design/Illustration (2) Major movements and pivotal artists/designers/illustrators/art directors, 1850 to the present, and their impact on current graphic design trends. (Does not apply to art history curriculum.

161 Basic Printmaking (3) An introductory survey of printmaking with studio experience in xerography, monotype, cliches, silks screen, relief and collograph.


172 Western Art I (3) Major monuments in Western Art with emphasis on Europe through the Middle Ages. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

173 Western Art II (3) Major monuments in Western Art with emphasis on Europe from the Renaissance through Abstract Expressionism, Pop Art, Post-Painterly Abstraction, Op Art, Kinetic Art, Happenings, Environments, Conceptual Art, Minimal Art, and Super Realism.

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 prehistoric through common Buddhist forms and into modern media. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

191 Introduction to Studio Art: Various Media (3) Individual sections for various artisitic disciplines. For non-majors only. Course may be repeated; medium may not be repeated. Maximum 12 hours. Writing-emphasis course.
299 Special Topics (3) Student or instructor-initiated courses offered by 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 Fabric: 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: 105, 202, 204 or consent of instructor. May be repeated. Maximum 6 hours.

306 Silversmithing (4) Intensive metalsmithing techniques with emphasis on casting a minimum of one piece. Prereq: 242 and 340 or consent of instructor. May be repeated. Maximum 6 hours.

311 Drawing III (4) Development of personal drawing techniques and concepts through class projects. Prereq: 212 and 312 or consent of instructor. May be repeated. Maximum 8 hours.

312 Drawing Portfolio Review (0) Review of prior work in drawing. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

313 Painting III (4) Individual expression with varied media on canvas, board, or panel. 214 and 314 or consent of instructor. May be repeated. Maximum 8 hours.

314 Painting Portfolio Review (0) 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.

318 Watercolor III (4) Individual expression with varied water-based media on paper. 216 and 316 or consent of instructor. May be repeated. Maximum 8 hours.

319 Watercolor Portfolio Review (0) Review of prior work in watercolor. 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 work 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: 241 and 340 or consent of instructor. 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.

343 Metal Casting II (3) Further exploration of casting methodologies with emphasis on metal and aluminum. Prereq: 243 and 340 or consent of instructor.

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 8 hours.

345 Steel Sculpture II (3) Further exploration of construction in steel and other metals. Prereq: 245 and 340 or consent of instructor. May be repeated. Maximum 8 hours.

346 Mixed Media Sculpture II (3) Further problems in the sculptural use of two or more distinctive materials. Prereq: 246 and 340 or consent of instructor.

350 Graphic Design/Illustration Portfolio Review (0) Review of prior work in graphic design illustration. Successful completion required prior to registration for junior and senior courses. Prereq: 252 or consent of instructor. Satisfactory/No credit only.


352 Corporate Design (3) Concepts of corporate graphics. Problems include all areas of graphic design and illustration. Prereq: 351.

353 Black and White Illustration (3) Black and white media and techniques as applied to product and editorial illustration. Prereq: 350.

354 Color Illustration (3) Flat and process color media and techniques as applied to product and editorial illustration. Prereq: 353.


356 Introduction to Computer Enhanced Design (1) The computer as a graphic design tool. Prereq or Coreq: 351.

357 Printmaking Portfolio Review (0) Review of prior work in printmaking. Successful completion required prior to registration for junior and senior courses. Prereq: Consent of department. Satisfactory/No credit only.

358 Intaglio II (4) Color intaglio printing from a single metal plate, including a la poupee, chine colle', and relief rolls. Prereq: 262 and 360. May be repeated. Maximum 8 hours.

359 Lithography II (4) Color lithography from stone and plates using mylar registration. Extra techniques; including xerox and monotype transfers, acid tinting, reverse sable, chine colle' and photo-lithography. May be repeated. Maximum 8 hours.

364 Screen Printing II (4) Advanced work with basic screen printing techniques including photo-screening. Emphasis upon personal direction and development of individual studio problems to develop a personal style of expression. Prereq: 6 hours of metal-smithing or consent of instructor. May be repeated. Maximum 12 hours.

370 Early Christian and Byzantine Art, to 1350 (3) Art in Italy and the Eastern Empire from the beginnings of Christianity to c. 1350. 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.

371 Early Christian and Byzantine Art, to 1350 (3) Art in Italy and the Eastern Empire from the beginnings of Christianity to c. 1350. 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.

372 Northern European Painting, 1350-1600 (3) From courtly art of late Middle Ages to Northern Renaissance. Jan van Eyck, Roger van der Weyden, and Durer; early Mannerism. Prereq: 371. May be repeated. Maximum 12 hours.

373 Modern Sculpture in Europe and America (3) From 1800 to 1900: Neoclassicism to Rodin. From 1900 to present: emphasis on Cubism, Constructivism, Expressionism, Assemblage, Pop, Primary Forms, Environment, and Earthworks. Prereq: 372. May be repeated. Maximum 12 hours.

374 Art of Northern Europe, 1600-1750 (3) Concentrated study of Bruegel, Bernini, and Italian Baroque developments in all media. Spanish Baroque painting and sculpture with special attention to Velazquez.

375 Chinese Art (3) Survey from pre-Shang Dynasty to contemporary movements in China, Taiwan, and Hong Kong. New discoveries are stressed. Writing-emphasis course. At least one in-class essay examination and 3000 words of writing outside the classroom.

376 Japanese Art (3) Survey from ancient Jomon art to the Nihonga painting style of today. Variety of media emphasized. Writing-emphasis course. At least one in-class essay examination and 3000 words of writing outside the classroom.

392 Advanced Film Design (3-6) Theory and practice of film making. Prereq: 292. (Same as Cinema Studies 392.)

396 Beginning Airbrush (3) Techniques of airbrush drawing; skills and creative applications emphasized. For art majors only.

401 Fiber: Advanced Projects (3-6) Prereq: 302 or consent of instructor. May be repeated. Maximum 12 hours.

402 Fabric: Advanced Projects (3-6) Prereq: 301 or consent of instructor. May be repeated. Maximum 12 hours.

404 Computer Enhanced Design (3) Prereq: 304 or consent of instructor. May be repeated. Maximum 6 hours.

406 Goldsmithing (3-6) Advanced metalsmithing techniques with emphasis on granulation, electroforming, electroplating, electropolishing, anodization, and photo processing. Individual studio problems to develop a personal style of expression. Prereq: 6 hours of metal-smithing or consent of instructor. May be repeated. Maximum 12 hours.

409 Special Topics in Fiber/Fabric (3) Students or instructor-initiated course to be offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

411 Drawing IV (6) Individualized pursuit of personal drawing techniques and concepts, supplemented by individual and group critiques and weekly life drawing sessions. Prereq: 311. May be repeated. Maximum 12 hours.

413 Painting IV (6) Advanced painting stressing individual concepts and personal expression with varied media. Prereq: 412. May be repeated. Maximum 12 hours.


419 Special Topics in Drawing and Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

421 Ceramics: Individual Projects (3-6) Special topic each semester, e.g., low fire ceramics; alternative firing methods, specialized clay techniques. Individual direction stressed. Prereq: 321 and 322. May be repeated. Maximum 12 hours.

422 Ceramics: Advanced Projects (3-6) Each student is responsible for developing a thematic investigation of a specific concept using appropriate media, materials and presentation. Prereq: 421. May be repeated. Maximum 12 hours.


424 Ceramics: Clay and Glazes (3) Clay chemistry, clay bodies, glaze theory, glaze calculation, intensive formulating, mixing and testing of clay bodies and glaze formulas. Prereq: 321 and 322.
425 History of Ceramics Seminar (3) Survey of the history of ceramics from ancient to contemporary. Emphasis on ceramics sculpture, and the vessel aesthetic. Slide lectures and individual presentations. (Does not apply toward art history requirement.) Prereq: 321 and 322.

426 Kilns: Design, Construction and Operation (3) Designing kilns, traditional and modern refractories, construction methods, and operation of wood, gas and electric kilns. Prereq: 321 and 322.

429 Special Topics in Ceramics (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

431 Photography III (3-6) Individual development of photographic problems and techniques. Prereq: 322 and 331. May be repeated. Maximum 12 hours.

439 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.

441 Advanced Sculpture (3-6) Individual development of sculptural problems and techniques. Prereq: 6 hours of 300 level sculpture. May be repeated. Maximum 12 hours.

449 Special Topics in Sculpture (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.


453 Advertising Illustration (3) Concepts of advertising illustration media and techniques as applied to project illustration. Prereq: 354.


455 Senior Portfolio Seminar (3) Assembly, organization and editing the professional portfolio: Resumes, personal statements, personal statements and instructors for the designer. Prereq: or Coreq: 462 or 454.

456 Graphic Design/Illustration Practicum (1-12) Practical work experience in the design or illustration field. Only by prearrangement with the department. Prereq: Senior standing and consent of instructor. May be repeated. Maximum 12 hours.

458 Special Topics in 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.

462 Intaglio III (3-6) Exploration of individual projects through advanced color etching methods from stones and aluminum plates. Prereq: 363. May be repeated. Maximum 12 hours.

463 Lithography III (3-6) Exploration of individual projects through advanced color etching methods from stones and aluminum plates. Prereq: 363. May be repeated. Maximum 12 hours.

464 Screen Printing III (3-6) Individual development of screen printing problems and techniques. Emphasis upon greater development of image and personal concept. Prereq: 364. May be repeated. Maximum 12 hours.

469 Special Topics in Printmaking (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

471 History of North American Art (3) Survey of landmarks in painting, architecture, sculpture, and design from prehistory to 1900.

472 History of 20th Century American Art (3) Development in architecture, painting, and design from 1900.

473 19th Century American Painting (3) From West and Copley to emergence of "The Eight".

474 History of Modern Architecture in Europe and America (3) Survey of 20th-century styles, Sullivan and skyscraper; 20th-century: Viennese leaders, the Bauhaus, Gropius, Van der Rohe, Le Corbusier, and Wright, Azullo, Kahn, Tange and Metabolism, Archigram, Soleri, and Venturi.


476 History of 20th-Century Painting in Europe and America (3) Foujins, Dauwe, 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.

479 Special Topics in Art History (3) Student or instructor-initiated course offered at convenience of department. Prereq: Determined by department for individual topic. May be repeated. Maximum 12 hours.

481 Museology I: Museums, Purpose and Function (3) Purposes, functions and development of museums of art, history, and applied science. (Same as Anthropology 481.)

482 Museology II: Exhibition Planning and Installation (3) Exhibition concept development and implementation. Exhibition design and installation techniques. Publicity, production, and frame, shipping, and storage. Prereq: 481 or consent of instructor. (Same as Anthropology 482.)

484 Museology III: Field Projects (1-12) Special field projects including restoration, preservation, registration, and other related research on or off campus. Prereq: 481 and 482. May be repeated. Maximum 12 hours. (Same as Anthropology 484.)


486 Art of Indian Asia (3) History of Indian art with consideration of the art of Central Asia and Southeast Asia. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

489 Studies In Art History (3) Concentration in individually selected area. Prereq: 12 hours of art history and consent of instructor. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

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. (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: 490.

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.

ART ARROWMONT PI BETA PHI SCHOOL OF ARTS AND CRAFTS

200 Special Topics (2-4) Student or instructor-initiated course offered at convenience of department. May be repeated.

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 (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 (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 (141)

300 Art for the Elementary Classroom Teacher (2) Methods of teaching art in elementary classrooms including developmental theory, philosophical concerns and selected media experiences.

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. Prereq: 301 and admission to Teacher Education Program. F

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 Printmaking, Graphic Design and Lettering (3) Processes in teaching printmaking, graphic design and lettering including pertinent literature and research. Prereq: 301 and admission to Teacher Education Program. Sp

350 Field Experience (1) Tasks related to teaching and to teacher roles may be repeated. Maximum 2 hours. Prereq: Admission to Teacher Education Program. Satisfactory/No credit only. 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. F

410 Pre-Internship Seminar (1) Orientation describes the 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

481 Internship I: Grades K-12 (3-6) 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.
261-262 Intermediate Persian (4,4) Taped language program. Prereq: 161-162 or equivalent or consent of instructor. Must be taken in sequence.

315 The Literature of India in English Translation (3) Major genres and masterpieces of Indian literature—epic poetry, drama, court poetry, modern novel. Concentration on ancient, classical periods and Indian literary history. 319 Islamic Literature in English Translation (3) Selections from the Koran, classical Arabic and Persian poetry, selected passages from Khams, Tafseer, Turkic prose, including history, philosophy, mysticism, and belles-lettres.

321 Spoken Lebanese-Palestinian Arabic (4) Informal Arabic for use in daily life. Emphasis on appropriate response and understanding of spoken Arabic. 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 grammatical concepts of the language. Prerequisite: Modern Arabic 222 or consent of instructor.

421 Readings in Islamic Literature (3) Prereq: Mastery of intermediate-level of Arabic 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)

493 Independent Study (1-15)

ASTRONOMY (150)

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 major component 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 planetary 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 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 the changing conceptions of the universe; structure of the solar system and astronomical objects; evolution and properties of stars, galactic structure and models of the universe; observational technique and interpretation of underlying physical laws in accompanying lab. 3 hours lecture, 2 hours lab. Coreqs: Mathematics 141 or 150 or equivalent. Credit given for only one sequence of lower division astronomy. This sequence satisfies the liberal arts requirement for a natural science with laboratory.

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, 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.

AUDIOLINGUISTIC AND SPEECH PATHOLOGY (160)

126 Speech for Foreign Students (3) Sounds and intonation patterns of American English and relation of spelling to sound. Designed to improve students’ ability to speak and understand English. Satisfactory/No credit.

304 Introduction to Communication Disorders (3) Nature, etiology, and incidence of speech, hearing and language disorders.

305 Speech Science I: Phonetics and Acoustics of Speech (3) Basic phonetics including recognition and production of spoken English sounds with analysis of their formation; acoustic characteristics of speech and speech perception.

306 Speech Science II: Anatomy and Physiology (3) Anatomy, physiology and embryological development of the speech production mechanism.

320 Speech and Language Development (3) Speech and language development in the normal child.

331 Articulation Disorders (3) Etiology, diagnosis, and treatment of articulatory defects. Prereq: 304, 305, or consent of instructor. (Same as Special Education 331.)

371 Audiology I (3) Basic acoustics. Fundamental aspects of auditory anatomy and physiology. Introduction to disorders of hearing. Basic psychoacoustics. (Same as Special Education 371.)

431 Stuttering (3) Nature, appraisal and treatment. Prereq: 304 or consent of instructor.

433 Clinical Practice in Speech-Language Pathology (1-4) Prereq: 304, 306 or consent of instructor. Enrollment for fewer than 2 semester hours must have prior departmental approval. (Same as Special Education 433.)

434 Clinical Practice in Speech-Language Pathology (1-4) Prereq: 433 and consent of instructor. Enrollment for fewer than 2 semester hours must have prior departmental approval. May be repeated. Maximum 4 hours. (Same as Special Education 434.)

440 Voice Disorders (3) Etiology, diagnosis, and treatment of organic and functional voice disorders. Prereq: 304, 306, or consent of instructor. (Same as Special Education 440.)

445 Clinical Practice in Audiology (1-4) Prereq: 473 and 494.

455 Problems in Speech Pathology (1-3) Prereq: Consent of instructor.

461 Introduction to Language Pathology in Children (3) Natural history and treatment of language retardation in children: observations of language therapy required. Prereq: 320 or consent of instructor.

465 Speech and Language of the Culturally Different Child (3) Speech and language differences of children of various minority groups, of different ethnic and class membership and from different geographic regions.

473 Audiology II (3) Basic principles of clinical audiology: pure tone, speech, masking and overview of special auditory tests. Prereq: 371. (Same as Special Education 473.)

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

499 Senior Seminar in Communication Sciences and Disorders (3) Capstone Experience; A writing emphasis course exploring the forces shaping the professional roles of Communication Sciences and Disorders Practitioners. Prereq: 473 and 494.

499 Senior Seminar in Communication Sciences and Disorders (3) Capstone Experience: A writing emphasis course exploring the forces shaping the professional roles of Communication Sciences and Disorders Practitioners. Prereq: 473 and 494.
fession of communication disorders in the past, present and future. Prereq: Consent of instructor and senior standing.

**BIOCHEMISTRY (188)**

310 Introduction to Biochemistry (3) Biochemical principles underlying physiological events in animal tissues. Metabolism, lipid metabolism, and nucleic acids. Biochemistry of body fluids. Action of drugs and hormones. Prereq: Chemistry 120-30 or 100-10 and Biology 110-120. 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) Electrolyte behavior; chemistry and structure of proteins; enzyme behavior; and biological function; catabolism and energy capture; synthetic metabolism; nucleic acid function, protein synthesis, and biochemical genetics; regulation of biological processes. Prereq: Chemistry 350-60-69 and Biology 110-20. Three lectures and discussion. F, Sp


420 Advanced Topics in Biochemistry (3) Selected topics of current research interest, e.g., allosteric theory of protein function and protein function; allosteric regulation of biological processes. Prereq. Chemistry 350-60-69 and Biology 110-20. Three lectures and discussion. F, Sp

451 Plant Tissue Culture (3) Methods for the culture of plants. Examples. Geographic variation, allopatric speciation, mechanisms of quantum speciation, polyploidy, hybridization, microsatification. Prereq: 310-320. 310-420. 312; Microbiology 310 or 319; Ornamental Horticulture and Landscape Design 330; and Plant and Soil Science 331. [Same as Ornamental Horticulture 451.]

**BIOLOGY (190)**

110-120 General Biology (4,4) Biology 110 - Biology of animal cells; chemical basis of life; cell structure and function; energy metabolism; cell division; Mendelian and molecular genetics; kingdoms of monera, protozoa, and fungi. Biology 120 - Plant and animal anatomy (tissues, organs, and organ systems), physiology, growth, reproduction; ecology; population genetics; behavior; and evolution. Recommended. but not required to be taken in sequence. Students who receive credit for 110-120 may not also receive credit for Biology 150, Botany 110-120, Honors Botany 118-128, or Honors Zoology 117-118.

150 Biology for Majors (6) General biology emphasizing biological principles. Open to students who have a year of high school biology and a score of 26 or better on the natural science section of the ACT. Students who receive credit for 150 may not also receive credit for Biology 110-120. Botany 110-120, Honors Botany 118-128, or Honors Zoology 117-118.

210 Cell Biology (4) Organization and function of the cell. Prereq: 110 or 120, 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 120-120, 3 hours lecture, 1 hour discussion each week. May be taken in any sequence or combination with 210 and 230.

230 General Ecology (4) Relations between organisms and their environment, including human environmental problems. 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 120-120. 3 hours lecture, 1 hour discussion each week. May be taken in any sequence or combination with 210 and 220.

**BOTANY (198)**

110-120 General Botany (4,4) 110 - Introduction to taxonomy through identification: basic organization. 120 - Plant growth, anatomy, regulation; uptake and transport; origin and mechanism of evolution; ecology, importance to humans and environmental concerns. Students may not receive credit for both Botany 110-120 and Biology 110-120, Botany 118-128, or Biology 150. 110 - F, Sp; 120 - F, Sp

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 minimum grade of C in Biology 110-120 and 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. May be repeated for credit once. Students may receive credit for both Botany 118-128 and Biology 110-120, Botany 118-120, or Biology 150. 118 - F, 128 - F, Sp

305 Socio-Economic Impact of Plants (3) Significant role of plants in the development of human cultures, evolution of cultivated plants, and role of plants in present civilization. Occasional field trips. F, Sp, Su, Mini-Term

306 Genetics and Society (3) Introduction to genetics, applied statistics and evolution of human societies. (Same as Anthropology 308.)

309 Biology of Human Affairs (3) Basic biological principles involved in deterioration and preservation of an environment in which humans and their cultures may survive.

310-320 Plants: An Evolutionary Survey (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 and Plant Pathology 313.)

321 Introductory Plant Physiology (4) (Same as Entomology and Plant Physiology 321.)

330 Field Botany (4) Principles of taxonomy, basic ecological concepts and the identification, recognition, and collection and preservation of local, native and naturalized plants. Prereq: 8 hours in biological sciences.

346 Introduction to Oceanography (4) (Same as Geography 346.)

371 Undergraduate Seminar (1) At least one hour is required for a Botany major or minor. Junior or senior standing recommended. May be repeated. Maximum 2 hours.

400 Tutorial in Botany (1-2) Individual, independent study under guidance of select development. By appointment only. 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 may vary and may include: Bryology, Lichenology, Phytology, Agro-
mental functions, cost and income analysis, leadership, and limited to chemistry majors. Prereq or Coreq: 130 or 131 or 138; Coreq 130 or 131 or 138. F

490 Introductory Polymer Chemistry (3) Fundamentals of polymer chemistry, structure, synthesis, and properties of polymers. Prereq: 360, Prereq or Coreq: 431 or 433. F

491 Foreign Study (1-15) Prereq: Consent of instructor. See page 57.

492 Off-Campus Study (1-15) Satisfactory/No Credit grading only. Prereq: Consent of instructor. See page 57.

493 Independent Study (1-15) Prereq: Consent of instructor. See page 57.

495 Seminar in International Business Policy (3) Capstone course for students in the Language and World Business Program designed to integrate concepts covered in other business courses. For students with major concentrations in International Business only.

BUSINESS LAW (216)

301 The Legal Environment of Business (3) Introduction to the legal system including legal ethics (jurisprudence), sources of law, steps in lawsuits, constitutional law related to business, administrative regulation, securities law, antitrust law, employer-employee relations, product liability, consumer protection, business associations, environmental law, international law, contracts, and white collar crimes and torts. Prereq: Junior standing. E

401 Law of Business Organizations and Commercial Transactions (3) Introduction to legal implications of basic business transactions including contracts, property, negotiable instruments, secured transactions, bankruptcy, suretyship, insurance, and liability. Fundamentals of business law required for professional examination preparation (e.g., CPA exam). Major writing requirement. Prereq: 301. F, Sp

CHEMISTRY (235)

100 Principles of Chemistry (4) Bonding and molecular structure, gas laws, liquid and solid state, solutions, colloids, acids and bases, oxidation and reduction, kinetics and equilibria. 3 hours and 1 lab. E

110 Introduction to Organic and Biochemistry (4) Organic chemistry: alkanes, unsaturated and aromatic hydrocarbons, structures and reactions of various organic functional groups. Biochemistry: amino acids and proteins, carbohydrates, lipids, nucleic acids. 3 hours and 1 lab. Prereq: 120 or 130 or 131 or 138. E

120-130 General Chemistry (4,4) A general course in theoretical and descriptive chemistry. 120 - Modern atomic theory, chemical bonding, stoichiometry, quantitative aspects of solution chemistry, kinetics. 130 - Chemical equilibria, thermodynamics, descriptive chemistry of non-metallic and metallic elements, introduction to organic and biochemistry. Prereq for 120: 120, 3 hours and 1 lab. E

121-131 General Chemistry (4,4) For chemistry majors. Subject matter similar to Chemistry 120-130. Prereq for 121: 131, 3 hours and 1 lab. 121-F, 131-Sp.

125-136 Honors: General Chemistry (4,3) and 1 lab. 125-F, 136-Sp.

140 Chemical Programming (2) Use of the computer in solving problems encountered in chemistry. Required of and limited to chemistry majors. Prereq or Coreq: 130 or 131 or 138, 1 hour and 1 lab. Sp.

200 Introduction to Chemical Research (1) Participation in an active research project with faculty. Prerequisite: Consent of instructor. See page 57.

211 Development in Infancy and Early Childhood (3) Developmental stages of children from birth through middle childhood. 3 lecture hours and 2 lab hours. Prereq: 245. F

220 Marriage and Family Roles and Relationships (3) Emerging, declining roles, changing relationships among family members across life cycle from various theoretical perspectives. Prerequisites: 200, 211, and 215. F, Sp

240 Human Sexuality (3) Sexuality through cultural, social, familial, and psychological factors. Prereq: Coreq 130 or 131 or 138. E

300 Family Systems (3) Family systems as component of human ecology; factors impacting on the nature of individuals, families, and environments. Prereq: NTR 100, RDS 350, GSF 216, and 6 hours in major. F, Sp

405 Topics in the Development of Chemistry (3) Historical development of topics such as the atomic theory, molecular theory, thermodynamics, periodicity of elements, and the history of chemical reactions. Prereq: 360. F

473-483 Physical Chemistry (3,3) Students may not receive credit for both 471 and 473 nor for both 470 and 483. 473 - Properties of gases; first, second, and third laws of thermodynamics, chemical equilibria, simple phase equilibria, properties of solutions; introduction to statistical thermodynamics. 483 - Introduction to quantum mechanics and applications to electronic structure of atoms, molecular spectroscopy, Prereq: 130 or 131 or 138, Prereq or Coreq: 361 or 222. 471-Sp, 473-Aut.

479-489 Physical Chemistry Laboratory (2,2) Experiments on topics discussed in 471-481 or 473-483. Prereq or Coreq: Corresponding courses 471 or 473 for 479 and 481 or 483 for 489. 1 lab. E

484 Advanced Physical Chemistry (3) Topics from chemical dynamics, statistical thermodynamics, quantum mechanics of atomic and molecular systems, crystal structure and solid state. Prereq: 481 or 483. Sp

490 Introductory Polymer Chemistry (3) Fundamentals of polymer chemistry, structure, properties, and applications. Prereq: 360, Prereq or Coreq: 431 or 433. F

CHILD AND FAMILY STUDIES (245)

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: biopsychosocial development; formation of a self and identity; personality, ego development. 3 lecture hours and 3 lab hours. Prereq: 210 or 211. F, Sp

211 Development in Infancy and Early Childhood (3) Development from conception through early childhood; interrelationships among cognitive, emotional, social, physical aspects of ontogeny, normative, nonnormative development. Includes observation. F, Sp

220 Marriage and Family: Roles and Relationships (3) Emerging, declining roles, changing relationships among family members across life cycle from various theoretical approaches. Prerequisites: 211, and 215. F, Sp

240 Human Sexuality (3) Sexuality through cultural, social, familial, and psychological factors. F, Sp

300 Family Systems (3) Family systems as component of human ecology; factors impacting on the nature of individuals, families, and environments. Prereq: NTR 100, RDS 350, GSF 216, and 6 hours in major. F, Sp

430 Advanced Inorganic Chemistry (3) Atomic and molecular structure, bonding theories, descriptive chemistry of the elements, kinetics and mechanism of inorganic reactions, applications of modern techniques for characterization, and coordination and organometallic chemistry. Prereq: 230 or Coreq: 481 or 483. Sp

431 Radioactivity and Its Application (2) Radioactive materials and their uses in research and medicine. Active decay, detection apparatus and techniques, tracer procedures, safety precautions in agriculture, biology, medicine, nutrition, etc. Not for credit by physics or mathematics majors or minors. Prereq: Mathematics 122 or equivalent and two courses from the following: 100, 110, 120-130, 121-131, 126-136. Sp

450 Advanced Organic Chemistry (3) Modern organic reactions of mechanistic, synthetic, and theoretical interest. Content reflects current trends in the area. Prereq: 360. F

471-481 Biophysical Chemistry (3,3) (Same as Biochemistry 471-481.)

473-483 Physical Chemistry (3,3) Students may not receive credit for both 471 and 473 nor for both 470 and 483. 473 - Properties of gases; first, second, and third laws of thermodynamics, chemical equilibria, simple phase equilibria, properties of solutions; introduction to statistical thermodynamics. 483 - Introduction to quantum mechanics and applications to electronic structure of atoms, molecular spectroscopy, Prereq: 130 or 131 or 138, Prereq or Coreq: 361 or 222. 471-Sp, 473-Aut.

479-489 Physical Chemistry Laboratory (2,2) Experiments on topics discussed in 471-481 or 473-483. Prereq or Coreq: Corresponding courses 471 or 473 for 479 and 481 or 483 for 489. 1 lab. E

484 Advanced Physical Chemistry (3) Topics from chemical dynamics, statistical thermodynamics, quantum mechanics of atomic and molecular systems, crystal structure and solid state. Prereq: 481 or 483. Sp

490 Introductory Polymer Chemistry (3) Fundamentals of polymer chemistry, structure, properties, and applications. Prereq: 360, Prereq or Coreq: 431 or 433. F
312 Adulthood and Aging (3) Adult life in society from youth through elderly; adjustment to internal, environmental, and social changes; family life; community roles; cross-cultural and historical perspectives on aging. Prerequisite: 110 and 211 among various aspects of development: physical, cognitive, emotional, social. Includes observation. Sp

320 Parent Education (3) Factors in contemporary American families impacting on parent-child relations; review of programs for strengthening parenting skills. Prerequisite: 220 or consent of instructor. Sp

345 Family Resource Management (3) Theory and application of managerial functioning in family settings: analysis of goals, resource use, information systems, constraints within families. Observation and analysis of diverse family practices. Prerequisite: 220 or consent of instructor. F

351 Early Childhood Education II: Curricula and Program Development for Young Children (4) Planning effective early learning programs for young children relating knowledge of children's growth and development to appropriate experiences in art, music, number, logic, media, physical knowledge; planning, implementing, evaluating, curriculum activities. Laboratory participation included. Prerequisite: 350 and admission to the Applied Child Development concentration or consent of instructor. Sp

352 Family, School, and Community Relations (3) Techniques for influencing the family community relations, and advocating for children and families, including handicapped individuals. Includes observation and program participation. Pre or Coreq: 351 or HEED 220 or consent of instructor. F

353 Reading, Language, and Literacy (3) Theory and methods for creating learning environments for the development of language, emergent literacy, and reading and writing skills from infancy through eight years. Prerequisite: Admission to Education or consent of instructor. F

360 Family Stress (3) Family's response to stressful circumstances; skills for intervention into family systems; violence, abuse, divorce, illness, death. Prerequisite: 220 or consent of instructor. Sp

380 Family Finance (3) Alternatives for meeting family financial responsibilities across the life-cycle. Prerequisite: 220 for CFS majors. F

420 Families: Ethnicity, Race, Class and Culture (3) Cultural, socioeconomic, ethnic variations; emerging needs and programs. Prerequisite: 220, 320, Junior standing, or consent of Instructor. (Same as Afro-American Studies 420.) A, F

430 Family Interaction (3) Dynamics within family systems, marriage, and parent-child relationships; communication and conflict management within families. Prerequisite: 220. Sp

440 Teaching in Community-Based Programs (3) Prerequisite: HEED 320. (Same as Home Economics Education 440.) Sp

450 Assessment in Early Childhood Programs (3) Physical, cognitive, social, language development in handicapped and nonhandicapped children birth to 5 years; early childhood assessment. Includes supervised practicum in assessment. Prerequisite: 350. Corequisites: 351, F

451 Early Childhood Education III: Mainstreaming Exceptional Children (3) Individualized curriculum planning based on knowledge of normal, nonnormative development, assessment, effective teaching strategies for facilitating development. Includes participation. Prerequisite: 351, 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. Prerequisite: 9 hours in Child and Family Studies and consent of instructor. F, Sp, Su

470 Student Teaching (15) Responsibility for planning and guiding groups of infants, toddlers, or preschoolers under supervision of Master Teacher. Includes weekly seminar. Prerequisite: 350 and 351. Satisfactory/No Credit only. F, Sp, Su. F and Sp student teaching begins first day of registration and ends on last day of final examination period (student teaching follows the CDL calendar and does not include Spring break). Summer student teaching begins the day following Spring commencement and ends on the day before Summer commencement. No other classes may be taken during student teaching semester.

471 Advanced Practicum in Applied Child Development Specializations (3-4) Supervised experiences working with children and families in community settings related to selected student's child development specialization. Child life, early childhood education programs, early childhood administration, early childhood special education, and research. Prerequisite: 470 and consent of the instructor. May be repeated. Maximum 6 hours. Satisfactory/No Credit only.

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. Prerequisite: 351 or consent of instructor. Sp

479 Preparation Seminar (1) Orientation to practicum placement, experiences and requirements. Must be completed term prior to practicum enrollment in 480. Prerequisite: Must meet progress requirements. Satisfactory/No Credit only. F, Sp

480 Practicum in Family Life Education (3) Supervised experiences in community-based family life education programs. Prerequisite: Progression into the concentration and 479. Satisfactory/No Credit only. F, Sp

481 Research in Child and Family Studies (3-6) Supervised research experiences. Prerequisite: 9 hours in Child and Family Studies, cumulative GPA of 3.0 above, Junior standing, or consent of the instructor. May be repeated. Maximum 12 hours.

486 Special Topics in Child and Family Studies (1-9) Personal or professional interest in human development and family studies. Prerequisite: 351 in Child and Family Studies, major GPA of 3.25 or greater, Junior standing, or consent of instructor. May be repeated. Maximum 9 hours.

497 Honors: Child and Family Studies (3-6) Issues or topics affecting children and/or families, designed to meet particular interests of the student. Prerequisite: 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.

498 Special Topics in Film (3) Same as English 489.

CINEMA STUDIES

292 Film Design (3) (Same as Art 292.)

281 Introduction to Film Studies (3) (Same as English 281.)

312 Popular Culture and American Politics (3) (Same as Political Science 312.)

221 Early Greek Mythology (3) Archaic Greek religion and mythology. Readings include Hesiod and Aeschylus. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 Republic and early Empire. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

245 Greek and Roman Civilization (3) Greek and Roman civilization: political institutions, art and architecture, social relations, economic development, philosophy, science, literature, religion, and mythology. Prerequisite: 221 Early Greek Mythology or consent of instructor. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

254 Greek and Roman Literature in English Translation (3) Greek literature from the Archaic period to Roman Empire (ca. 800 B.C. - 400 A.D.). Includes topography and major works of ancient Greece from Homer to Menander, with emphasis on the sixth and fifth centuries B.C. 254 Latin Literature includes major literatures from Plautus to Tacitus. How the Romans borrowed from the Greeks and then achieved their own artistic identity by the time of Vergil's Aeneid. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

273 Medical and Scientific Terminology (3) Greek and Latin roots from which medical and scientific terminology is derived. Essential 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, Crete, and Cyprus ca. 3000-700 B.C. Rise and fall of the Minoan and Mycenaean civilizations. In-depth emphasis on the sixth and fifth centuries B.C. 254-Roman Literature of the Republic, Roman Imperial literature, major sources. Prerequisite: 221 Early Greek Mythology or consent of instructor. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 city life, religious rites and festivals including the Olympic games. Ancient sites include Mycenae, Athens, Priene, Alexandria, Pergamon, Olympia, Delphi. Students are required to have taken one of the following: 221, 381, ancient history (Ancient Near East or Ancient Greece), or consent of instructor. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

381 Classical Civilization (3) Major aspects of ancient Greek civilization: religion, fine arts, political life, pan-Mediterranean relations, the prominence of Athens; the role of modern archaeology in interpretation; emphasis on the sixth and fifth centuries B.C. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

382 Roman Civilization (3) Major aspects of ancient Roman civilization: political institutions, art and architecture, the rise of the Roman Empire, the Roman Republic and early Empire. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 393.)

401 Greek Poetry (3) Epic, lyric, drama. Authors vary. May be repeated for credit. Maximum 9 hours. Prereq: 261.

402 Greek Prose (3) History, philosophy, and oratory. Authors vary. May be repeated for credit. Maximum 9 hours. Prereq: 261.

422 Seminar in Classical Studies (3) Field of Classical studies today: recent achievements in the areas of both philology and archaeology; impact of the decipherment of Linear B; new understandings of the culture and politics of the "golden age" of Pericles and Augustus; Classical studies and the academic profession on both the high school and college levels. May be repeated. Maximum 8 hours. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 covering subject matter not taught in an existing course, or concentration on one area of the existing course. May be repeated. Maximum 9 hours. Prerequisites according to topic.

462 Roman Law (3) 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. Cases cover aspects of Roman property and contract law.

491 Foreign Study (1-15) See Director of Special Programs. Primarily for College Scholars students.

492 College Honors: Off-Campus Study (1-15) See Director of Special Programs. Primarily for College Scholars students.

493 College Honors: Independent Study (1-15) See Director of Special Programs. Primarily for College Scholars 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 (259)

100 Introduction to Mass Communications (3) Overview of systems of mass communications, with emphasis on advertising, journalism, and public relations. Course is required for all College Scholars each year. May be repeated. Maximum 8 hours. Satisfactory/No Credit grading only.

401 Computer Techniques for Literary Study (3) Computer knowledge, techniques, and sources necessary to compare literatures of various cultures, ages, and nations.

400 Mass Communications Law and Ethics (3) Emphasis on legal issues directly affecting the mass media: libel, slander, privacy, publication, judicial controls, government regulations. Also includes ethical standards and practices of the mass media in America. Prereq: 200 or consent of instructor. F, Sp

COMPARATIVE LITERATURE (260)

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 and values in different time periods and cultures. Variable content. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

401 Computer Techniques for Literary Study (3) Computer research in literary study including writing programs in BASIC which have literary research applications. Projects include indexing and bibliography, concordances, syntactic analysis, content analysis, authorship attribution, textual editing, and stylistic analysis. No previous computer knowledge or background is required or needed.

401-402 Special Topics in Comparative Literature (3, 3) Content varies. May be repeated. Maximum 9 hours.

COMPUTER SCIENCE (266)


111 Computer Organization (3) Number systems, internal representation of numbers in computers, hardware components, hardware organization, introduction to assembly language, microprogramming control units. Computing with register machines, introduction to digital circuits. Prereq: 102. 3 hour lab required.

112 Data Structures (3) Structured programming, data structures and applications. Data structures such as linked lists, queues, trees, tables, streams, algorithms, files. 3 hour lab required. Prereq: 102.

119 Electronic Printing and Graphics (1) Current hardware and software used in the electronic production of documents containing multiple fonts, mathematical equations, and graphs. Prereq: 111 and 112. Laboratory.

291 Lower-Division Special Topics (1-3) Topics vary. Programming languages, computer 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 102.

320 Problem Solving (3) General approaches to problem solving, with emphasis on formalizing intuitive heuristics. Structure of problems and goals, goal generation, and dealing with incomplete information. Prereq: 111 and 311. 3 hour lab required.

340 Introduction to Information Systems Design (3) Principles of analysis of information systems (e.g., data processing, management information and decision support systems). Advanced data structures, concepts and techniques. Format is 2 lecture hours and 3 lab hours. Prereq: 111 and 112.

350 Systems Programming (3) Linkers, loaders, multitasking, I/O facilities, interrupt handling, monitors, editors. Prereq: 111 and 112. 3 hour lab required.

371 Numerical Algorithms (3) (Same as Mathematics 222.)

380 Theory of Computation (3) Recursive functions, Turing machines, computability, halting problems, Godel's theorem. Prereq: 111 and 311.

401 Senior Thesis (I, II) Frontiers of computer science technology and research. Students begin writing a senior thesis. Prereq: Senior standing. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

412 Senior Thesis II (3) Continuation of 411. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

420 Advanced Topics in Machine Intelligence (3) Topics such as search, learning, neural networks, pattern recognition and natural language processing. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: Completion of core curriculum or consent of instructor.

430 Advanced Topics in Hardware Systems (3) Topics such as architecture, parallel processors, microprogramming, networks and communications, hardware modeling and simulation. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

450 Advanced Topics in Software Systems (3) Topics such as operating systems, compilers, parallel computation, software engineering, database systems and programming languages. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

470 Advanced Topics in Scientific Computation (3) Topics such as numerical methods, supercomputers and computer modeling and simulation of physical systems. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

493 Independent Study (1-15) Special project in area of student's primary interest. Directed by a 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 case a faculty member from the appropriate department will help oversee the project. May be repeated. Maximum of 9 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 (274)

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 (1-2) 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.

404 Tap: Level I (2) Instruction and practice in elementary tap dance techniques. May be repeated. Maximum 4 hours.

410 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.

420 Jazz: Level II (2) Instruction and practice in intermediate jazz dance styles and techniques. Available to 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. Prereq: 240 or consent of instructor.

340 Tag: Level II (2) Instruction and practice in intermediate tap dance techniques. Prereq: 240 or consent of instructor.

380 Special Topics (1-3) Selected disciplinary or professional areas of dance. May be repeated. Maximum 12 hours.

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 Teaching Creative Dance for Children (2) Theory, methods, and materials and practical experience in the presentation and creative dance in grades K-8. A mini-teaching experience is involved in this class.

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.

440 Composition I (2) Choreographic skills emphasizing form, composition, and music. Prereq: 4 credits in upper level modern dance technique (330 or 430) or approval of instructor.

445 Composition II (2) Choreographic skills emphasizing design, use of costumes and props. Prereq: 440 or approval of instructor.

450 Composition III (3) Application of choreographic and technical skills culminating in the presentation of two works. Prereq: 440 or 445 or approval of instructor.

460 Rhythmic Analysis (3) Basic nature and principles of music, rhythm and rhythm 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 graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

480 Dance History through the 19th Century (3) Survey of the dance of various societies and cultures from prehistory through the nineteenth century. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

481 History of Dance II (3) Survey of the development of dance in theater, recreation and education during the 20th century. Senior standing or graduate status required for graduate credit. Different level of performance is expected of those registered for graduate credit.

490 Dance in the 20th Century (3) Survey of history and philosophy of dance in the 20th century. 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 12 hours. Prereq: Consent of instructor.

495 Dance Pedagogy (3) Principles and methods of the teaching of dance with practical application in a mini-teaching experience. Prereq: Upperclass or graduate 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.

ECONOMICS (283)

100 Survey of Economic Ideas (3) Ideas of major economists in context of socioeconomic conditions of their times. Emphasis on non-technical treatment. May not be substituted for Economics 201.

201 Introductory Economics: A Survey course (4) Theory of consumption behavior, theory of firms, supply and demand, costs of production, market models, national income and implimentation theory, money and banking, monetary and fiscal policy, debt, and international 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, production and costs, and price behavior of firms in perfectly competitive, monopolistic and imperfectly competitive markets, input prices, income distribution, welfare and general equilibrium. Prereq: 201.


321 International Economics (3) Balance of payments, exchange rate determination, monetary and fiscal policies, monetary arrangements, comparative advantage, tariff and nontariff trade distortions, protection arguments, regional integration. Prereq: 201.

323 Economic Development (Third World) (3) Theories of economic development and strategies used to promote economic improvement in less developed countries. Prereq: 201. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

324 Comparative Economic Systems (3) Economic processes under alternative strategies and allocations mechanisms. Prereq: 201. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

325 Economic History of the North Atlantic Community (3) Origins of capitalism, mercantilism, Industrial Revolution, development of factory system, rise of organized business and labor, integration of the Atlantic economy. Prereq: 201. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.


341 Survey of Labor Economics (3) Extension of economic principles to labor markets, public policy questions, demand and supply models of unemployment, 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 Regional and Urban Economics (3) Overview of regional and urban economics. Includes agricultural, regional and urban location and human migration, economic basis for land use patterns, central places, and urban form, regional and urban structure, growth, and methods of analysis of urban problems. Prereq: 201.

360 Econometrics (3) Methods of specification, estimation, testing and forecasting of economic relationships. Includes specification of models, estimation methods, statistical inferences of empirical results, forecasting procedures and combination of econometric models, such as multi-collinearity, heteroscedasticity, and autocorrelation. Prereq: 201. Statistics 201, Mathematics 121-122 or 141-142.

400 Special Topics (3) Topics vary. Prerequisites determined by department each time course is offered. Numerical grade is given to law students. Prereq: 201.

413 Macroeconomic Fluctuations (3) Analysis of historical data, methods of analyzing macroeconomic fluctuations, theoretical explanations of cycles, and the role of monetary and fiscal policies in the aggregate economy. Prereq: 313 or consent of instructor. Writing-emphasis course.

415 History of Economics (3) Methods of study of doctrinal history. Origins and evolution of major doctrines. Prereq: 313 or consent of instructor. Writing-emphasis course.

424 Political Economy of World Development (3) Topics vary. Latin America, Asia, Soviet Union and Eastern Europe. Analysis of major economic strategies, policies, and problems. Major writing requirement. Prereq: 201. Writing-emphasis course. At least one in-class essay examination and 3000 words of writing outside the classroom.


462 Economics of Resources and Environmental Policy (3) Economic analysis of policy and allocation of resources. Benefits and costs of development of natural resources and impacts of growth on environment. Prereq: 201. Writing-emphasis course.

471 Public Finance: Optimal Government Functions and Aggregate Policy Analysis (3) Problems of collective consumption, external effects, public investment, social decision making. Prereq: 201. Writing-emphasis course.

472 Public Finance: Taxation and Intergovernmental Relations (3) Individual taxes and tax system, non-taxable income, local federalism. Prereq: 201. Writing-emphasis course.


491 Honors Seminar (3) Topics vary. Senior paper required. Prereq: Senior standing, 3.0 or higher GPA in economics and consent of instructor.

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 (289)

100 Special Topics (1-3) Study in selected disciplinary or professional areas represented in the College of Education. Topics to be determined as needs/issues are identified and as resources are available to support the course.

102 Teaching and Helping Professions in Education (3) Study in selected interdisciplinary/professional areas in the College of Education. The course is designed for students seeking teaching and counseling careers in the College of Education or who are entry level students in the College. The course provides an opportunity to pursue the many and varied programs of study in the College.

302 School and American Society (3) Same as Educational Curriculum and Instruction 302.

400 Professional Studies: Teachers, School, and Society (2) Focus on roles and responsibilities of teachers, on how schools are organized and the relationship between the schools and the broader society. Prereq: 302. In: Education and Counseling Psychology 210; Prereq: Admission to Teacher Education.

401 Professional Studies: The Learner (3) Understanding of students from diverse cultures; study of learning principles; special needs of learners; behavior management techniques; counseling and assessments. Prereq: or Coreq: Educational and Counseling Psychology 210 and Education 400; Prereq: Admission to Teacher Education.
403 Professional Studies: Teaching and Curriculum (2) Organizational patterns of curricula and classrooms development of curriculum goals to instructional objectives, selection of appropriate instructional strategies and resources. Prereq: or Correq: Educational and Counseling Psychology 210 and Education 400; Prereq: Admission to Teacher Education.

EDUCATIONAL AND COUNSELING PSYCHOLOGY (311)
410 Sex Role Development: Implications for Educational Psychology and Educational Counseling Psychology (1-3) 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. Maximum 9 semester hours. Satisfactory/No Credit or letter grade. E
404 Special Topics (1-3) Instructor initiated course offered at convenience of the department on various topics of current interest. Contact department for listing of topics to be covered. May be repeated. Maximum 15 hours. E
410 Sex Role Development: Implications for Educational Psychology and Educational Counseling Psychology (1-3) 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. Maximum 9 semester hours. Satisfactory/No Credit or letter grade. E
431 Personality and Mental Health (3) Perspectives of mental health applications to education and other social institutions. E
432 The Disadvantaged Student: Psychoeducational Perspectives (3) Theory and research regarding etiology, psychosocial behavior and appropriate interventions. Sp
450 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, education, or social work. 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 (301)
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. E, F
203 Field Study in Education (1-3) Problems of persons of particular interest in activities of schools. Specific 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. (Same as Education 302.) E, F
324 Applications of Instructional Technology in Elementary and Middle School Teaching (1-3) Applications of instructional technology in the elementary and middle schools with an emphasis on computers. Exposure to and experience with using educational software. May be repeated. Maximum 3 hours. Prereq: Admis-
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, multisensory activities and group approaches. For BS Education only. 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/ readiness and writing). Includes methods and materials. For BS Education students only. 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 units on phonics, evaluation and basal readers. For BS Education students only. 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. For BS Education students only. Prereq: Admission to Teacher Education Program. F, Sp
351 Laboratory and Field Studies in Elementary Education (1) Simulated and actual experiences in which students apply concepts and skills from professional methods courses in a variety of school settings and settings for school development. 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: Admission to Teacher Education Program. F, Sp
353 Field Experience in Teaching: Secondary II (1) Field experiences in tasks related to teaching and to teacher roles. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. E
365 Introduction to Secondary Schools (3) Aspects of teaching in grades 7-12, including program and roles and responsibilities of secondary school teachers and administrators. Prereq: Admission to Teacher Education Program. F, Sp
366 Elementary and Middle School Teaching Laboratory Experience (1) Simulation and micro-teaching experiences to develop planning skills and give feedback to students relative to their ability to apply learning to school settings. Prereq: Admission to Teacher Education Program. Coreq: 422.
367 Contemporary Issues in Afro-American Education (3) (Same as Afro-American Studies 364.)
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. E, F
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. F, Sp
421 Elementary and Middle School Science and Social Studies Instruction (3) Methods and materials for teaching science and social studies in elementary and middle schools. Prereq: Admission to Teacher Education Program. F, Sp
422 Elementary and Middle School Teaching Methods I (6) Methods and materials (knowledge base) for teaching in the elementary and middle school program. Emphasis will be given to unit planning, daily planning, evaluation, etc., as well as language and content specific methods. Prereq: Admission to Teacher Education Program.
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. May be repeated. Maximum 8 hours. E
429 Language Arts/Reading Instruction in Elementary and Middle Schools (3) Teaching language arts as applied to teaching of oracy (listening-speaking) and aspects of literacy (reading process/reading skills). Prereq: Admission to Teacher Education Program. F, Sp
430 Elementary and Middle School Developmental Reading Instruction (3) Word recognition (including phonemic comprehension, evaluation, and materials) not open to students who have had recent course in reading methods. Prereq: Admission to Teacher Education Program and a course in Reading Education. F, Sp
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
451 Education in Cultural Perspective (3) Contribution of anthropological concepts to understanding of educational processes. Prereq: Admission to Teacher Education Program.
455 Teaching of Foreign Language, Grades 7-12 (3) Instructional methods, lesson planning, peer-teaching, materials for teaching foreign language and culture; evaluation techniques. Required for certification in modern foreign languages and Latin. Prereq: Completion or near completion of foreign language hours for certification and admission to Teacher Education Program.
456 Teaching Speech and Drama Grades 7-12 (3) Purposes, techniques, materials and evaluation for teaching speech and drama in elementary school. Required for certification in speech. Prereq: Admission to Teacher Education Program. F, Sp
459 Teaching English in the Secondary School (3) Techniques of teaching composition, language, and literature. Prereq: Admission to Teacher Education Program. F
460 Teaching Reading and Literature in the Secondary School (3) Teaching basic reading skills and literature. F, Sp
461 Developing Reading Skills in Content Fields (3) Teaching reading and study skills in content areas of the school program. Extensive assessment of textbooks. Emphasis on middle school and high school. F, Sp
471 Internship I: Elementary (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
472 Internship II: Elementary (3-6) Demonstration of professional competence in planning, teaching, organizing, and classroom management. Internship is completed in local public schools. Prereq: 471 and admission to Teacher Education Program. Satisfactory/No Credit only. F
473 Student Teaching in the Elementary School (3-10) Student Teaching, Educational Curriculum and Instruction in Grades 401 or 4820. Intended for students in the four year program or equivalent. Not to be substituted for Educational Curriculum and Instruction I or 472. Internship II: Prereq: Admission to Teacher Education Program.
Courses of Instruction/Engineering Aerospace

Education Program, permission of Mentoring Team, and 203 (1). Satisfactory/No Credit only.

474 Student Teaching, Grades 7-12 (3-10) Semester equivalent to Educational Curriculum and Instruction 4710 or 4720. Intended for students in the four year program or equivalent. Not to be substituted for Educational Curriculum and Instruction 4710 or 482. Internship II. Prereq: Admission to Teacher Education Program, permission of Mentoring Team, and 203 (1). Satisfactory/No Credit only. F, Sp

475 Utilization of Instructional Media (3) Basic communication process, need for instructional media, instructional development, selection and utilization of basic media, and basic software production techniques. Same as Library and Information Science 475. F, Sp, Su

476 Instructional Media in Elementary Education (1) Basic operation of audiovisual hardware, selection and utilization of materials, and basic production skills needed for effective communication in the elementary classroom. Media Lab experience in production of AV software. F, Su

481 Internship I: Grades 7-12 (3-6) Methods and theories of teaching. Internship is completed in the local public schools. 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 7-12 (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

483 Teaching of Mathematics, Grades 7-12 (3) Preparation of teaching plans, evaluation, mateirals for teaching mathematics, teaching simulation and directed observation in schools. Prereq: Admission to Teacher Education Program. F

485 Introduction to Instructional Computing (3) Classroom uses of computers, applications for teachers, overview of computer operation and software for teachers of all grades. F, Sp

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 12 hours. E

496 Teaching Science Grades 7-12 (3) Methods, recent trends in science and environmental education programs for secondary schools. Prereq: Admission to Teacher Education Program. F

ENGINEERING AEROSPACE (18)

345 Aerospace Engineering Instrumentation and Measurement (3) Fundamentals of measurement systems; standard systems and equipment; dynamic characteristics of instruments; static data treatment; transducers; signal conditioning; strain, pressure, temperature and flow measurements. Prereq: 355, ME 341, ECE 301. F

351 Compressible Flow (3) One-dimensional internal flow with shock waves and non-steady conditions. Two-dimensional external flows. Prereq: Mech. E. 332 and 341. F

362 Dynamics/Vibrations (3) Central force motion, transfer orbits, free and forced vibrations of single and multiple degree vibrating system. 481: Int. ES M 521. F

363 Structural Analysis of Aerospace Vehicles (3) Fundamentals of structural analysis applied to configurations common to aerospace vehicles. Prereq: ES M 321. F


401 Thesis (3) Problem investigation and report. Prereq: Senior standing, F, Sp

422 Aerodynamics (3) Theory and design of aerodynamic bodies for optimal 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: 422 or ME 344 or consent of instructor. Sp

424 Astronautics (3) Propulsion, trajectories, guidance, control, and atmospheric reentry of space vehicle systems. Prereq: 362, Mech. E. 332. 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, 428. Sp

431 Mechanical Engineering/Aerospace Engineer- ing (1) Topics including machine 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, error analysis, forms of data and formation of conclusions. 3 hours lab per week. Prereq: 345, 351. F

494/495 Selected Topics in Aerospace Science (1-4, 2) Selected topics to be assigned. May be repeated. Maximum 12 hours. E

ENGINEERING BASIC (179)

100 Seminar (1) Overview of the College, 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 data graphically, solution of three dimensional space problems, primary and secondary auxiliary views. Application of computer-aided design and drafting (CAD). In solving engineering graphics problems. Two three-hour periods or three two-hour periods, including one three-hour lab per week. Prereq: 111. F

121 Statics (3) Vectors, forces, and moments; equivalent force systems; free body diagrams, equilibrium, trusses and friction. Coreq: Math 141.

131 Particle Dynamics (3) Kinematics, simple harmonic motion; Newton's laws, work-energy, impulse-momentum; impact. Prereq: 121; Coreq: Math 142.


449 Separation Process Technology (3) Multicomponent distillation, theory and computer simulations; humidification, specialized techniques, including membrane separation, crystallization, dialysis, adsorption, ion exchange, etc. Prereq: 340.

450 Chemical Reactor Fundamentals (3) Homogeneous and heterogeneous reaction kinetics; idealized homogeneous reactor models, both for closed and flow systems; corrections for non-ideal residence time distributions, identification of scaling parameters; catalyst effectiveness factors and conversion in fixed bed catalytic reactors. Prereq: 340. F


470 Engineering Internship in Process Control (4) Selected students work in small groups on industrial problems in process dynamics and control. Directed by faculty and engineers from host company. Prereq: 360 and consent of instructor.
489 Design Internship in Industrial Pollution Prevention; economic assessments. Prereq: 485.

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.

489 Design Internship in Industrial Pollution Prevention (3) Selected students work in small groups to address the prevention of industrial pollution through improved process design. Directed by faculty and engineers from the host company. May be substituted for 490 with departmental approval. Prereq: 480 and consent of instructor.


494 Special Problems in Chemical Engineering (3) Chemical engineering problems related to recent developments in industrial practice or engineering research. Prereq: Consent of instructor. May be repeated. Maximum credit 6 hours.

ENGINEERING CIVIL (254)

210 Engineering Surveys (3) Measurement through application of the principles of descriptive geometry; characteristics and 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 Structural Analysis I (3) Reactions, shear and moment diagrams; forces in trusses; uniaxial strain and stress; area moments of inertia. Prereq: Basic Engr. 121.

305 Seminar (2) Selected topics including historical and modern civil engineering achievements, professional and ethical responsibilities. Prereq: Senior standing. Directed study of completion of all junior level non-elective engineering courses.

310 Route Surveying (3) Basic principles and practical applications of horizontal and vertical alignment of transporation routes. Development of design and construction equipment; selection and productivity; concrete and steel construction; and construction contracts and economics. Prereq: 461.


330 Introduction to Soil Behavior (4) Physical and mechanical properties of soils, theory of compaction, seepage, and effective stress. Consolidation theory, time rate and settlement, strength of sands and clays. 3 hours. 1 lab. Prereq. 261.

352 Transportation Engineering II (3) Introduction to design, construction, maintenance, and operation of various transportation modes, their guidedways and terminals. Two lectures and 1 lab. Prereq: Junior standing and 210.

361 Structural Analysis II (3) Strain and stress in beams and columns; Mohr's circle; 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 (4) 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. 3 hours, 1 lab. Prereq: ESM 231, Basic Engr. 101.

395 Hydrology (3) Concept of hydrologic cycle; weather patterns; precipitation measurement and distribution, abstraction, and runoff; storm hydrograph and peak flow analyses, including design floods; reservoir and channel routing; nonlinear flow; and frequency analyses; groundwater flow. Prereq. 390. 1 lab.

400 Senior Design Project (3) Open-ended design projects including problem formulation, specifications, feasibility and various design components. Topics vary but include problems related to Project Civil Engineering consulting firms. Prereq: Completion of all technical courses through junior year.

406 Legal and Ethical Aspects of Engineering (2) Legal principles underlying engineering work; laws 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 internships. Prereq: Consent of instructor and department head. May be repeated.

410 Land Surveying (3) Procedures of locating properties; evaluating evidence; procedures to describe property, to create land descriptions, and to prepare plots; laws of land surveying. Prereq: 210.

421 Portland Cement and Asphaltic Concrete (3) Aggregate properties and tests, tests of portland cement concrete, mix design methods for concrete and asphalt, concrete mixtures, bituminous 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.

442 Construction Methods and Equipment (3) Fundamentals of construction and equipment selection and productivity; concrete and steel construction; and construction contracts and economics. Prereq: 330.

451 Highway Engineering (3) Design, construction, operation, and management of highway facilities; includes application of various engineering principles and techniques to process of planning, locating and design of highway facilities; covers both geometric and pavement design. Prereq: 210, 251, 322.

452 Traffic Engineering (3) Characteristics of driver, vehicle, roadway and their interrelationship; traffic studies; basic considerations of traffic circulation and control, lighting, capacity analysis, roadway safety analysis, and design. Prereq: 210, 251. 322.

453 Airport/Railroad Planning and Design (3) Airport master planning and railroad turnarounds, configuration, airfield capacity, geometrics and terminal layout and design. Railroad capacity, geometrics and system layout and design. Prereq: 210, 251, 322.

461 Analysis of Framed Structures (3) Maximum stresses due to moving loads; uses of influence lines; lateral forces due to earthquake and wind; analysis of portals, building frames, and space frames; matrix methods; use of computer in structural analysis. Prereq: 361.

471 Introduction to Structural Design (3) Selection of rolled and fabricated steel beams, design of structural steel members for axial tension and compression loads, reinforced concrete beams; use of standard specifications. Prereq: 361.

472 Steel Design (3) Design of plate girders and composite beam members; design subjected to combined stresses; design of a typical framed building including connections. Prereq: 461.

474 Reinforced Concrete Design (3) Reinforced concrete continuous beams and floor slabs; columns with conventional reinforcement 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 solids/waste collection systems. Prereq: 390.

485 Principles of Geohydrology (3) (Same as Geology 485.)

490 Water Resources Project Design (3) Development of multi-purpose reservoir and dam project, including data acquisition; spill-way and outlet works design; earth and gravity dam stability analyses; drains and filters; maintenance and operation principles; and dam safety concepts, including dam break analyses. Prereq: 390, 395.

494 Urban Drainage Engineering (3) Design and management of stormwater conveyance and control structures. Application of hydraulic and hydraulic principles to design of drainage systems for urban, strip mining, and highway development; design of inlet structures, ditches, culverts, and detention/retention basins; application of commonly-used computer runoff models; evaluation of land-use changes of streamflow 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 and management processes; multi-objective decision making, principles of engineering economics, benefit-cost analysis, and cost allocation methods; environmental impact assessment procedures; decisions regarding risk-based methods; case studies. Prereq: Senior standing.

ENGINEERING ELECTRICAL AND COMPUTER (320)


202 Circuits II (4) Average complex, imaginary and real power; effective values of voltage and currents. Three phase circuits: delta and wye connections. Complex frequency, sinusoidal forced and natural response. Resonance: general case, special cases in series and parallel circuits. Scaling: magnitude and frequency. Mutual inductance, transmission line elements; linear and ideal transformers; admittance, impedance and hybrid parameters; trigonometric and
courses of instruction/Engineering Electrical and Computer

205 Electrical and Computer Engineering Computations (3) Complex analysis and phasor calculus; linear algebra; algorithms for roots of equations; numerical integration; simulation and solution of ordinary differential equations; introduction to the use of the application language MATLAB. Coreq.: or Prereq.: 201.

201 Small Computer Systems (3) Structured assemblage language programming; data collection under the control of the personal computer using A/D converters; D/A conversion; design and analysis of control, including analysis using elementary filters; communications between computers; spreadsheet applications; word processing; circuit simulation; and laboratory experiments and projects. Design content: 2 hours. Prereq.: 201, 205. Coreq.: 202.

301 Circuits and Electro Mechanical Components (3) DC and AC Circuits, Transistors, Transformers, Motors, Generators. For non-majors only. Prereq: Math 231, Physics 231.


312 Linear System Analysis (3) Steady-state and transient analysis of continuous and discrete time systems, stability, block diagrams and signal flow graphs, introduction to feedback theory. Includes laboratory experiments and projects. Design content: 1 hour. Prereq.: 311.

321 Electric Energy System Components (3) Magnetic circuits, transformers, single-phase, three-phase, per unit notation. Induction motors; equivalent circuit, performance, asynchronous machines; parallel operation in power systems. DC machines; connections, performance, control. Includes laboratory experiments and projects. Prereq.: 320.

331 Electronic Devices (3) Fundamentals of energy bands, theory of p-n junctions; diodes, field effect transistors, and bipolar transistors; device applications, simple power supplies, and amplifiers. Includes laboratory experiments and projects. Design content: 1 hour. Prereq.: 320.

332 Electronic Circuits (3) Multistage transistor amplifier biasing; gain stages, and output stages; frequency and transient response of open loop linear amplifiers; fundamentals of feedback, operational amplifier circuits, and basic feedback configurations. Laboratory experiments and projects. Design content: 1 hour. Prereq.: 331.

341 Fields (3) Coulomb's law, Gauss's law, Ampere's law, Maxwell's equation for electrostatic and magnetostatic cases; Maxwell's equations for dynamic case, dynamic polarization, wave propagation, transmission lines. Prereq.: 301. 

342 Communication Systems I (3) Systems analysis of communication systems. Topics include signal and system classification, Fourier and Hilbert Transform techniques, modulation, demodulation, and sampling theory. Analog modulation techniques including linear, angle, and pulse modulation with applications. Introduction to random variables and stochastic processes. Includes laboratory experiments and projects. Prereq.: 311.


316 Introduction to Plasma Engineering (3) Particle motion in electric and magnetic fields; collective motions of charged paricles; plasma diagnostics and the Langmuir probe; plasma heating and loss mechanisms; radio waves in plasmas and the ionosphere; MHD generators and fusion energy, and plasma etching for microelectronics. Includes laboratory experiments and projects. Prereq: 302 for ECE majors; or Physics 230 or 232 for all others.

395 Seminar (1) Presentations and discussions related to professional development, and current topics in electrical engineering. Prereq.: 202. Satisfactory/No Credit.

405 Digital Signal Processing and Filter Design (3) Discrete-time signals and systems, sampling, discrete Fourier transforms, analog filter characteristics, non-recursive and recursive filter design; and CAD tools for filter design. Includes experiments and projects. Design content: 1 hour.


412 Linear Control System Design (3) Classical and modern techniques for design and compensation of linear feedback control systems. Design content: 2 hours. Prereq.: 312.

413 Passive and Active Network Synthesis (3) Network-analysis techniques, passive network driving point synthesis, transfer function synthesis, approximation theory, topics in active network synthesis. Design content: 3 hours. Prereq.: 312.


422 Machines (4) Dynamic behavior of rotating machines; transmission engineering; operation of d.c. machines; response to different waveforms in supply; describing equations for a.c. machines and their numerical solutions. Includes laboratory experiments and projects. Design content: 1 hour. Prereq.: 321.

423 Power Electronics (4) Principles and characteristics of power semiconductor devices, single-phase and three-phase power electronics; converters, control techniques. Includes laboratory experiments and projects. Design content: 1 hour. Prereq.: 321.


425 Direct Electrical Energy Conversion (3) Principles and practices of energy conversion devices and interfacing them to loads. Includes photovoltaics, MHD, and fuel cells. Design content: 2 hours. Prereq.: 321, 331.

431 Digital and Analog Integrated Electronics (4) Basic processing and fabrication of active and passive components for nonintegrated circuits; characteristics of bipolar, MOS and JFET transistors; standard digital logic circuits; standard digital logic circuits including TTL, ECL, Schottky, NMOS, CMOS, and GaAs gatess and arrays; design concepts for op-amps, comparators, references, regulators, and other linear functions. Includes laboratory experiments and design projects. Design content: 1 hour. Prereq.: 321.

443 Microwave Circuits and Electronics (3) Scattering of electromagnetic waves in a plasma; transition from multiple beams to a continuum; Vaslov and Landau theory; microwave generation in plasmas and traveling wave tubes; free electron devices; circular geometry; the gyrotrope and orbitron. Design of plasma devices. Design content: 1 hour. Prereq.: 341.


451 Microprocessors in Computer Engineering (4) Project oriented using a microcomputer kit having a monitor program and development system with cross-assembly and high level language programming. Interfacing and hardware/software trade-offs in interrupt driver applications. Grade is dependent upon number of programs written, homework projects, and understanding of the hardware. Includes laboratory experiments and design projects. Design content: 3 hours. Prereq.: 351.

452 Organization and Design of Digital Systems and Computers (4) Considerations for hardware organization of computer and digital computer systems. Includes U and CPU structures, control unit organization, storage systems, and the I/O channels. Microprogramming the control unit and interrupt structures. Includes laboratory experiments and design projects. Design content: 3 hours. Prereq.: 351.

453 Data Acquisition Systems (4) Digital-to-analog conversion techniques; 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; noise, linearity, resolution, drift, dynamic range, frequency response, gain, grounds and shielding, automated testing of A/D and D/A converters, microcomputer based systems; signature analysis. Includes laboratory experiments and design projects. Design content: 3 hours. Prereq.: 332, 351.

454 Open System Interconnection (OSI) Protocols (4) OSI reference model based networks. Manufacturing Automation Protocol (MAP) and Technical Network Protocol (TOP) includes material from International Standards Organization (ISO) Standards, Draft International Standards (DIS) and Working Papers. IEEE standards, MAP and TOP specification. Includes laboratory work on MAP 2.x and 3.0 network supporting programmable logic controllers and personal computers using Manufacturing Execution Service (MES) and Protocols. Project oriented using manufacturing equipment including use of @Factory, C language programming background required. Design content: 5 hours. Prereq.: 351 or consent of instructor.

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; MHD jet engines; fusion energy, industry, and astrophysics. Design content: 1 hour. Prereq.: 361.

462 Plasma Kinetic Theory Engineering (3) Introduction to kinetic theory, beam-plasma systems; driven waves in a plasma; transition from multiple beams to a continuum; Vlasov and Landau theory; microwave generation in plasmas and traveling wave tubes; free electron devices; circular geometry, the gyrotrope and orbitron. Design of plasma systems. Design content: 1 hour. Prereq.: 361, 461 or consent of instructor.

463 Introduction to Fusion Energy (3) High temperature plasma physics relevant to fusion plasmas, primes, etc.
495 Senior Seminar (1) Topics vary. May be repeated.
482 Electro-Optics II (4) Sensitivity, resolution, frequency response and noise limits for light detection devices. Optical communications, fiber communication, holography, light propagation in optical waveguides. Modulation and demodulation of electro-optic devices. Includes laboratory experiments and project. Design content: 1 hour. Prereq: senior standing or consent of instructor.
420 Production Facilities Design and Material Handling (3) Design of production facilities including layout and capacity planning for overall manufacturing systems. Includes office layout and service areas. Principles applicable to design of facilities for diverse groups such as hospitals, banks, and retail stores.
408 Special Problems in Electrical Engineering (1-3) Topics related to developments and current practice. May be repeated. Prereq: consent of instructor.
422 Total Quality Management (3) The philosophy of continuous improvement in individuals and organizations including management and implementation issues. May be repeated once.
405 Motion and Time Study (3) Design of work methods including analysis, improvement, and timing of work and determining standards. For non-industrial engineering students. Prereq: Junior standing.
404 Senior Seminar (1) Discussions, lectures and trips to unify students educational experience. Prereq: Senior standing in Industrial Engineering.
403 Planning and Scheduling (3) Forecasting techniques and network analysis, processing of project data using simulation languages. Computer program design and simulation of random process variables. Design of industrial processes using simulation software. Analysis of systems with waiting lines using simulation software.
211 Laboratory Procedures (1) Thermometry, sample preparation for microscopic examination, word processing and graphics usage, data analysis, report writing.
202 Diffusion and Phase Transformations (3) Introduction to materials science and engineering (3) Correlation of atomic structure, crystal structure and microstructure of solids with mechanical, physical and chemical properties of engineering significance. Prereq: Chemistry 130, E 301.
210 Introduction to Materials Science and Engineering (3) Correlation of atomic structure, crystal structure and microstructure of solids with mechanical, physical and chemical properties of engineering significance. Prereq: Mathematics 231 and 200.
310 Theory and Processing of Electronic Materials (3) Tensile testing of metals, ceramics and polymers; deformation mechanisms in the various materials, inc. crystalline and non-crystalline forms; rubber elasticity, viscoelastic behavior, viscoelastic properties, viscoelastic materials; fatigue. Prereq: 201, 303, or consent of instructor.
303 Thermodynamics of Solids (3) Applications to solids of free energy, activity, Raoult's and Henry's laws; glass behavior and properties; growth by solidification; phase transformations; phase rule; multicomponent systems. Prereq: Chem. Engr. 200, Sp.


340 Principles of Polymeric Materials (3) Synthesis and molecular structure of polymers; polymerization kinetics; mechanisms; crystallization; gelation; transformations; crystallization kinetics; mechanical properties; rheology and processing. Prereq: 201. F

360 Principles of Ceramic Materials (3) Characterization of ceramic materials as to their crystal structure, their mechanical, electrical, and optical properties. Ceramic fabrication processes from the initial green body fabrication through the firing state. Prereq: 201.

400 Materials Seminar (1) Professional and ethical considerations, safety, patents, product liability.

405 Structural Characterization of Materials (4) X-ray diffraction and fluorescence; scanning and transmission electron microscopy; microanalytical techniques.

421 Mechanical Behavior of Materials II (3) Description of stress and strain; linear elastic constitutive equations, isotropic and anisotropic moduli in various materials; yield criteria; plasticity; crazing; plastic strain constitutive equations, forming operations and limit criteria. Prereq: 302, ESM 321, sophomore mathematics.

422 Chemical Process Metallurgy (3) Application of chemical thermodynamics to metallurgical processing. Ferrous and nonferrous processing; leaching, slag-metal equilibria, solidification, gas-metal processing. Prereq: 303, F


426 Materials Joining (3) Processes for joining metals, polymers and ceramics; mechanical adhesive, fusion-soldering/crystallization; surface characteristics necessary for joining and chemical bonding; thermal effects on structure and properties of joints; design of joints. Prereq: 201.

441 Structure-Property Relationship in Polymers (3) Crystal structure and morphology, structure-property relationships with respect to crystallization kinetics; deformation modes and types; Electrical and mechanical properties of polymers. Prereq: 340 or consent of instructor. Sp

443 Polymer Processing (3) Rheological measurements; flow through tubes and slits, including end effects and extrude swell; selected applications, including screw extrusion, injection molding, synthetic fibers, including structure development, properties.

444 Plastics Fabrication and Design (3) Lectures, laboratories and field trips; unit operations of plastics fabrication; plastic classification; design and selection criteria; processing techniques; characterization laboratory. Sp

470 Environmental Degradation of Materials (3) Mechanisms, measurement techniques and control of environmental degradation processes in metals, polymers, ceramics and composites; materials selection and design considerations. Prereq: 201. Recommended for chemical engineering, mechanical engineering, civil engineering and environmental science and mechanics majors. F

472 Fundamental Principles of Composite Materials (3) Physical principles basic to the design, manufacture and application of fiber reinforced polymers, metals and ceramics. Prereq: 322 or equivalent. (Same as Engineering Science 302).

474 Biomaterials (3) Metals, polymers and ceramics utilized in orthopedic, cardiovascular, and dental surgical implant devices; corrosion and degradation problems; material properties of primary importance; tissue response to synthetic materials. Prereq: 201. Recommended for engineering science and mechanics majors.

475 Fracture-Safe Design (3) (Same as Engineering Science 423).

491 Materials Design I (3) Analysis of materials requirements and performance in engineering structure and components; design aspects of materials applications and processes; standards, legal issues, failure analysis. Prereq: Senior standing. F

492 Materials Design II (3) Design projects involving materials selection. Prereq: 491. Sp

494 Special Project Laboratory (1-3) Group or individual investigation of problems related to materials science and engineering. May be repeated to a maximum of 6 credits. Prereq: 201, 202, 203 and consent of instructor.

495 Thesis (3) Research problems in materials science and engineering with prior approval of a professor. May be repeated once. Prereq: Senior standing or consent of professor.

496 Special Topics in Materials Science and Engineering (1-3) Recent developments in materials research, developments and/or applications. Prereq: Senior standing or consent of instructor.

ENGINEERING MECHANICAL (650)

331 Thermodynamics I (3) Energy and laws governing energy transformations; thermodynamic properties; thermodynamic cycles; applications to engineering problems. Prereq: Chemistry 130, and Mathematics 351, 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 321, Mathematics 331, F, Sp, Su

344 Heat Transfer (3) Heat transfer by conduction, thermal radiation, free and forced convection. Prereq: 331, 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 measurements. Coreq: 365; Prereq: 341, ECE 301, F, Sp, Su


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


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 - measurements and control of noise in industrial and community environments. Prereq: Senior standing or engineering consent of instructor.

431 Seminar (1) Topics related to engineering including ethics. Formal oral presentation by students on engineering topics. Prereq: Senior standing.

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.

449 Mechanical Engineering Laboratory (3) Designing, conducting and reporting results of experimental exercises. Test standards and specifications. Analysis of data and formulation of conclusions. 3 hours per week. Prereq: 332, 344, 345, Coreq: 475. Sp

451 Systems and Controls (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 and control of linear systems; sampled data systems. Digital filters. Prereq: 341, 363. ECE 301-302, F, Sp

455 Introduction to Machine Design (2) Engineering economy, optimization, design for automation, reliability, patents and product liability; design of mechanical engineering solid systems mechanisms. Participation in team design effort; requires design report. Prereq: 365. F, Sp

456 Introduction to Thermal Design (2) Engineering economy, optimization, design for automation, reliability, patents and product liability; design of mechanical engineering thermal-fluid systems. Participation in team design effort; requires design report. Prereq: 332, 344. F, Sp


462 Tool Design (3) Principles underlying tool and die design; design for high volume production; work holding fixtures; combination of materials for tool; selection of tool material; plastics production. Prereq: Mech. Engr. 366 or Industrial Engnr. 404. ESM 321.


466 Elements of Machine Design II (3) Application of strength and properties of materials, design factors, theories of failure to design of machine elements. Mini design experiences. Prereq: Materials Science 201, ESM 321, F, Sp

459 Machine Design (4) Design of complete machine; documentation including complete specifications, design calculations, working drawings, and cost analysis. Written and oral report. Prereq: 366, 455, 466. Sp

471 Refrigeration and Air Conditioning (3) Vapor compression and absorption heat pump systems; psychrometric processes; air washers; cooling towers; solar radiation; building heat transmission. Prereq: 352, 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 methods of storage, selected applications. Prereq: 332, 344, or consent of instructor. Sp

475 Thermal Engineering (3) Thermal systems with emphasis on turbo-machinery, heat exchangers, combustion and system analysis and design including second law and economic analysis. Prereq: 332, 344. F, Sp

479 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) Thermomechanical analysis in combustion engines. Prereq: General Physics, Combustion, detonation; equilibrium; dissociation. Analysis of internal combustion engines using ideal and real fluids. Prereq: 332, 344.

484-485 Selected Topics in Mechanical Engineering (1) Topics, or groups of topics, related to developments and practices in mechanical engineering. Prereq: Consent of instructor. F, Sp, Su
ENGINEERING NUCLEAR (716)

201-202 Seminar (1,1) Topics related to nuclear engineering. Satisfactory/No credit.

253 Thermodynamics (3) First law of analysis of open and closed systems, properties of ideal gases and real fluids. Introduction to second law and concept of entropy. Rankine cycle. Prereq: Mathematics 142.

254 Thermodynamics (I) (3) Second law, development of entropy concept and availability. Various power plants computer systems. Prereq: 253.

301 Introduction to Nuclear Engineering (3) Nuclear systems, radioactive decay, cross sections, flux, health physics, reactor theory. Prereq: Physics 232, Mathematics 231.

304 Nuclear Engineering Laboratory (3) Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes, gamma spectrometry, heat transfer experiments. Prereq: 305. Coreq: 470.

305 Energy Transport (3) Development of differential and integral energy conservation; conduction and convection heat transfer including numerical methods; application to nuclear reactor fuel elements, reactor cores, and heat exchangers. Prereq: 204.

306 Designing for Energy Transport (3) Radiation heat transport; hydromechanics and heat transport in boiling and condensing systems; applications of energy in heat transfer; design and heat exchanger thermal design; steam generator design. Prereq: 305.

342 Thermal Science (3) Fluid statics; conservation equations of mass, momentum, and energy; applications to fluid flow. Mechanical equivalence of work and energy in conduction, thermal radiation, free and forced convection. For non-departmental majors only.

303 Nuclear Engineering Laboratory (3) Cross-section measurement, diffusion properties of neutrons, critical loading experiment, application of the neutron removal method and heat exchanger thermal design; steam generator design. Prereq: 305.


306 Radiation Shielding (3) Types of radiation sources, fundamentals of gamma ray and neutron attenuation, protective animals of shield design, discrete ordinates, and Monte Carlo. Prereq: Physics 232.

421 Introduction to Nuclear Criticality Safety (3) Fundamentals of nuclear criticality, accident accidents; safety standards; overview of experiments, computational methods, and applications. Prereq: 301.

463 Introduction to Fusion Energy I (3) (Same as Electrical and Computer Engineering 463.)

464 Introduction to Fusion Energy II (3) (Same as Electrical and Computer Engineering 464.)

470 Nuclear Reactor Theory I (3) Fundamentals of reactor physics relative to cross sections, kinematics of elastic scattering, neutron kinetics, reactor systems and nuclear data. Analytical and numerical methods applicable to general criticality problems, eigenvalue searches, perturbation theory, and the multigroup diffusion equations. Prereq: 301.

471 Nuclear Reactor Theory II (3) Thermal spectrum computational methods: heterogeneous effects in fast and thermal spectra; considerations in reactor core design; energy feedbacks, thermal and neutronic variables; power distribution calculations and readiness control methods. Prereq: 470.

472 Nuclear System Design (4) First order design and analysis of a nuclear system, interface with non-nuclear aspects of system design, logic, system reliability and safety assessment. Prereq: 471.

494 Special Topics in Nuclear Engineering (3) Problems related to recent developments and practice. Prereq: Senior standing, consent of instructor. May be repeated.

ENGINEERING SCIENCE AND MECHANICS (335)

231 Dynamics (3) Kinematics of rigid bodies; center of mass, kinetics of systems of particles, mass moments of inertia. Analysis of rotational laws, work and energy, impulse-momentum. Prereq: Basic Eng 131, Mathematics 142.

271 Introduction to Biomedical Engineering (3) Overview of biomedical engineering: anatomy, physiology, biochemistry, biophysics, bioengineering, and biomechanics. 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 ES&M.


322 Mechanics of Materials II (3) Analysis and design of beams, singularities functions, energy methods, thick-walled pressure vessels, inelastic bending and torsion, theories of failure and fatigue. Prereq: 321.

323 Mechanical Behavior of Materials (3) (Same as Materials Science 303.)

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/analysis. Demontstration lab. Prereq: 231, Mathematics 241.

351 Computational Mechanics I (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 Mathematics 231.

352 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.

353 Fracture-Safe Design (3) Critical view of controlling fracture toughness: part and flaw geometry, stress intensity factors, strain energy release rates, COD integral, COD data, transition temperature tests; use of fracture toughness data in design, 3 hours or 2 hours and laboratory. Prereq: 321 and Materials Science 201. (Same as Materials Science 475.)

355 Principles of Nondestructive Testing (3) Principles and theory of nondestructive testing methods; liquid penetrant, magnetic particle, eddy current, ultrasonic, acoustic emission, and radiographic methods. Laboratory Prereq: 321, Materials Science 201. (Same as Physics 425.)

426 Fundamental Principles of Composite Materials (3) (Same as Materials Science 472.)

431 Fundamentals of Vibrations (3) Free and forced vibrations of damped and undamped lumped parameter systems; energy methods; free vibration of continuous bodies. Prereq: 231, Mathematics 231.

433 Dynamic Systems (3) Three dimensional dynamics of particles and rigid bodies; gyroscopes; variable mass systems; central force motion; Lagrangian equations; stability; transfer functions. Prereq: 231.

435 Engineering Acoustics (3) Concepts of acoustics, measurement of sound and their units, noise generation and transmission, noise control principles and application, 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 viscous flows, boundary layers, elementary turbulent closure models. Prereq: 341, Mathematics 231.

452 Computational Mechanics (3) Integration of fundamental physical laws, mathematical methods and computational techniques necessary to develop engineering analysis and design capabilities. Prereq: 321, BE 201. Coreq: 341.

453 Projects in Design (3) Conceptualization, analysis, design, and presentation of engineering projects. Prereq: Senior standing in ESM; 301, BE 201; a minimum of C average in 231, 321, and 341. Coreq: ME 344.

454 Computational Mechanics in Design (3) Computational techniques applied to engineering design problems. Prereq: 431, 452, 453.

461 Experimental Stress Analysis (3) Theory, techniques, and instrumentation of resistance strain gauges; theory and techniques of brittle coating method; introduction to other strain measuring devices. 2 hours and laboratory. Prereq: 321, ECE 301.

470 Photoelasticity (3) Photoelasticity, photoelastic coating method, Mohr'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 events; 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; design and programming; data readout and storage devices, evaluation of commercially available systems, selection and procurement methods, custom-designed systems, equipment maintenance and control programs for hospitals. Ethical issues and professionalism in clinical engineering. Prereq: 271, ECE 301.

473 Biomechanics (3) Mechanical properties of living tissues, biomechanics of injury; mechanics of prostheses; 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; federal regulation and ethical considerations. Prereq: 341, Mathematics 231.


494-495 Special Engineering Science Topics (1-3, 1-3) Problems related to recent developments and practice. May be repeated once for credit. Prereq: Junior or senior standing, consent of Instructor.

ENGLISH (339)

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: individual conferences. Prereq: 101. A.B.C.NC grading.

103 Writing Workshop (1) Writing Center-based course for any student wanting additional instruction while enrolled in English 101 and for students automatically enrolled in 103 on the basis of placement scores. Individual instruction in mechanics, paragraph development and essay structure. 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. S/NC grading.

104 Writing Workshop II (1) Self-paced Writing Center course for students remediated at the beginning of the semester by their English 102 instructors. Individual instruction in critical reading and in developing and documenting the research paper. To receive credit, students must participate at least two hours per week and must also pass the 102 class in which they are enrolled. Prerequisite: English 101. S/NC only.

118 Honors English Composition (3) No open enrollment. Students will be automatically enrolled on the basis of placement scores and performance on the placement exam taken at registration. Grading scales and workload the same as regular sequence. Expository and analytical writing based on the study of literature and on fiction prose. Research and practice of research writing, individual conferences. Students receiving a grade below B in 118 will complete a year's work in English Composition by taking 102. Students receiving a grade of A or B will complete their freshman English requirement by choosing 102, a sophomore literature course in the English Department, or 355. A, B, C, NG grading.

121 English Grammar Review for Non-Native Speakers (4) Comprehensive review of English grammatical structures. Extensive practice in reading and writing. Required during their first semester in the University of all non-native English speaking students who demonstrate on the English Placement a need for placement exam taken at registration. Grading scale and workload the same as regular sequence. Expository and analytical writing based on the study of literature and on fiction prose. Research and practice of research writing, individual conferences. Admission to this course is by the English Placement Exam only. Meets four hours a week. A, B, C, NG grading.

131 Composition for Non-Native Speakers of English I (3) Paragraph organization and development with emphasis on informative and persuasive writing. Includes grammar and mechanics. Individual conferences. Admission to this course by the English Placement Exam only. A, B, C, NG grading.

132 Composition for Non-Native Speakers of English II (3) Writing based on reading and discussion. Analysis of works of literature. Emphasis on research techniques as aids to composition. Individual conferences. Admission to this course by the English Placement Exam only. A, B, C, NG grading.

201 British Literature I: Beowulf through Johnson (3) Major literary works from three periods: Middle Ages, Renaissance, and Restoration and Eighteenth Century. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

202 British Literature II: Wordsworth to the Present (3) Major literary works from three periods: Romantic, Victorian, and the Twentieth Century. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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.

221 Literature of the Western World I: Ancient, Medieval, and Renaissance (3) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

222 Literature of the Western World II: Enlightenment, Romanticism, and Modern (3) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 Western 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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

232 American Literature II: Civil War to the Present (3) Development of American literature from Civil War to the present. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.
415 Romantic Poetry and Prose I (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 Thackeray, the Pre-Raphaelites, Carlyle, Newman, and Mill.

419 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 contributions 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) Colonial, federal, and early national American literature from Columbus to Washington Irving.

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. (Same as American Studies 442.)

443 Topics in Black Literature (3) Contents vary according to particular genres, authors, or themes 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.

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) Neil's works as precursors to modern dramatists, such as Williams, Miller, Albee, and representatives of Black theater, like Bulfin and Baraka.

453 Continental Drama (3) Plays in English translation by major European writers from the late Renaissance to the present, with some emphasis on the eighteenth and nineteenth centuries.

454 Twentieth-Century Italian Novel (3) Such authors as Joyce, Camus, Kafka, Nabokov.

455 Persuasive Writing (3) Persuasive strategies in student and professional writing. Practice in mastering effective logical and emotional appeals.

460 Technical Editing (3) Editing technical material for publication. Principles of style, format, graphics, layout, and production management. Prereq: 456 and 459, or consent of instructor.

461 Advanced Technical and Professional 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.

462 Writing for Publication (3) Principles and practices of writing for publication. Dissertations, theses, articles, and reports in science and technology. Prereq: 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.

471 Sociolinguistics (3) Language in relation to society. Empirical and theoretical focus. Emphasis on large-scale units: tribes, nations, social groups. Prereq: 371 or 372, 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 emphasis on their functions and implications for cultural pluralism. Prereq: 371 or 372, Linguistics 200 or consent of instructor. (Same as Linguistics 472.)

474 Teaching English as a Second or Foreign Language (3) Grammaratical structures of English with emphasis on particular grammatical difficulties of native learners of English. Basic phonological characters 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) Second language acquisition theory. Issues in learning for the four 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 members. 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 writers in British or 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 critical and practical approaches to British and American literature. May be repeated with consent of department. Maximum 6 hours.

488 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. (Same as Cinema Studies 488.)

491 Foreign Study (1-15) Seeing, studying, and writing about drama as performed in London and Stratford-upon-Avon during the summer. Prereq: 363. Credit 0 to 15 hours. (Same as Theater 491.)

492 Off-Campus Study (1-15) Seeing, studying, and writing about drama as performed in New York City.

493 Independent Study (1-6) Tutorial in subjects not adequately covered in regular courses. May be repeated for a total of 6 hours credit.

495 Introduction to Rhetoric and Composition (3) Introduction to the historical, theoretical, and empirical models of rhetoric and composition and their implications for the teaching of composition.

498 Senior Honors Paper (3) Intended for (but not limited to) students with a 3.2 or better GPA. This paper is an individual tutorial in which the student prepares and writes a documented study or creative project that is more substantial than what can be accomplished in a standard course. See the Director of Undergraduate Studies in English for details.

ENTOMOLOGY AND PLANT PATHOLOGY (341)

306 Forest Protection (3) Biological, economic and legal consideration of fire, pathogens, insects, vertebrates, and pollution in the forest ecosystem. One or more all day or overnight field trips may be required. 2 hours and 1 lab. Sp, E.

313 Plant Pathology (3) Introduction to the microorganisms and environmental conditions causing disease in plants. Biology of pathogens, host-pathogen interactions, disease development and principles of control. Prereq: 6 hours of Biological Science. 2 hours and 1 lab. Sp, E.

325 Veterinary Entomology (3) Structure, life history, habits and principles of control of important pests of farm, garden, and household. Prereq: 6 hours of Biological Science. 2 hours and 1 lab. Sp, E.

321 Economic Entomology (3) Structure, life history, habits and principles of control of important pests of farm, garden, and household. Prereq: 6 hours of Biological Science. 2 hours and 1 lab. Sp, E.

325 Veterinary Entomology (3) Structure, life history, habits and principles of control of important pests of farm, garden, and household. Prereq: 6 hours of Biological Science. 2 hours and 1 lab. Sp, E.

326 Forest Protection (3) Biological, economic and legal consideration of fire, pathogens, insects, vertebrates, and pollution in the forest ecosystem. One or more all day or overnight field trips may be required. 2 hours and 1 lab. Sp, E.

FINANCE (349)

400 Special Topics (3) Seminar. Topic(s) announced prior to offering. Prereq: 201.

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. Prereq: 363.

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 of risk and return of portfolios, portfolio evaluation and selection, capital market theory, and extensions of portfolio analysis. Prereq: 301, 421 and Management 303.

430 Financial Markets (3) Role of short and long term financial markets in the process of capital formation and allocation. Theories and mathematical analysis of interest rates in money and capital markets. Prereq: 301.


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: 301, 450.

470 Risk Management and Insurance (3) Identification, measurement and decision making with regard to insurance-type risks facing the firm. Emphasizes handling these risks in the most cost-effective manner. Prereq: 301.

471 Estate and Financial Planning (3) Process of estate administration, taxation, estate planning, and distribution, with particular emphasis on impact of insurance and taxation. Prereq: 301.

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.) Prereq: 301.
and microbiological changes that occur during manufactu-
re. Prereq: Chemistry 100, 110, Microbiology 210. 2
hours and 1 lab. A, F
490 Meat Products Technology (4) Processing meth-
ods for processing cured, smoked, fried, and mass food.
Prereq: 360 or consent of instructor. 3 hours and 1 lab. A, F
470 Food Crop Products (3) Food products from plants
emphasizing types, ingredients, quality at-
tributes and utility. Prereq: 3 biology Science; 2
hours and 1 lab. A, Sp
480 Cereal Science and Bakery Products (3) Chem-
istry and technology of processing cereal grains; inter-
actions of ingredients during production and storage of
baked products. Prereq: 410 or 411 or equivalent. 2
hours and 1 lab. A, Sp
493 Independent Study (1-12) Specialized research in
are of interest under faculty direction. Field experience
in supervised internship in the food industry. May be
repeated; maximum 12 hours. Prereq: Consent of in-
structor. E

FORESTRY (396)
301 Forest and Wildland Resource Economics (3) Pro-
duction functions, supply-demand and market analy-
sis, commodity price determination, demand analy-
sis, demand forecasting, and resource economics.
Prereq: 140 or consent of instructor. S
321 Forest Recreation (3) Philosophical foundation of
recreation, planning, development, and management of
forest recreation resources; interpretation of forest re-
sources. Weekend field trips may be required. F
322 Applied Silviculture (3) Application of forest
silvicultural techniques; tree improvement; fire
management. Prereq: Forestry, Wildlife and Fisheries
123; Coreq: 322, 324, 325, and Entomology and Plant
Pathology 306. Sp
323 Forest Management and Recreation Practices (3)
Forest practices in the public and private sectors.
Coreq: 322, 324, 325 and Entomology and Plant Pathol-
ogy 306. Satisfactory/No Credit only. Sp
324 Forest Resource Analysis (3) Growth and yield
prediction; forest data collection; forest resource
management. Prereq: Forestry, Wildlife and Fisheries
311 or 321 and 323, or consent of instructor. Sp
325 Forest Resource Inventory and Surveying (3)
Volume and growth estimation; timber appraisal, sur-
veying techniques; road layout and construction as applies to forest inventory; 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) Wood as a biologi-
cal material: detailed examination of the wooden cell wall;
structural and functional qualities of wood and the
relationship of the wooden cell wall to these prop-
erties; use of wood in important commercial products;
field data collection may be required. Prereq: Botany
110 or consent of instructor. Coreq: 332 for Forestry majors. Sp
332 Wood Identification (1) Cell structure and arrange-
ment as a tool for species identification; microscopic and
hand identification of important commercial solid
woods, hardwoods and forested woods; laboratory pro-
cedures for making temporary slides for microscopic ex-
namination; student use of reference collection of wood
samples; day field trips may be required. Prereq: Forestry,
Wildlife and Fisheries 311 or consent of in-
structor. Coreq: 331 for Forestry majors. Sp
422 Forest and Wildland Resource Policy (3) Policy
formulation; criteria for policy determination; forest and
wildland management; theory of conflict resolution.
Prereq: 310 or consent of instructor. 2 hours and 1 lab.
Sp
423 Forest Recreation Planning and Management (3)
Planning processes, master and site planning, site de-
velopment, management of visitor and recreation site manage-
cement; case studies.
Weekend field trips may be required. Prereq: 321, 323,
Ornamental Horticulture and Landscape Design 280, or
consent of instructor. 2 hours and 1 lab. Sp
431 Solid Wood Processing (3) Production processes for
solid wood products including sawmilling, secondary
markets, marketing, and quality assurance. Prereq: 331
and 332, or consent of instructor. 2 hours and 1 lab. Sp
432 Practicum in Wood Products (2) Standard labora-
tory procedures used in the evaluation of wood and
wood products. Plant inspections including sawmills, pul-
ping, plywood finishing, furniture, composite panel, and
wood treatment. Prereq: Senior standing in Wood Utiliza-
tion or consent of instructor.

433 Wood Composites and Gluing (3) Principles of
adhesion; wood adhesives; fundamentals of plywood
and composite panel; gluing and fasteners. Emphasis on
properties; bond strength and durability. Prereq: 331
and 332, or consent of instructor. 2 hours and 1 lab.
F
434 Measurement and Marketing of Wood Products (3)
Measurement systems used for sale and transfer of
wood products. Application of market principles and
analysis to wood products markets and economic struc-
ture of wood products industry. Prereq: 431, 433 and
Forestry, Wildlife and Fisheries 313, or consent of in-
structor. Sp
492 Off-Campus Internship in Forestry (1-6) Super-
vised experience at departmental-approved internship
site. Prereq: Junior standing. Satisfactory/No credit only. E
194 Independent Study in Forestry (1-15) Special re-
search or individual problem in forestry. E
494 Independent Study in Wood Utilization (1-15) Special
research or individual problem in wood utiliza-
tion. E

FORESTRY, WILDLIFE AND FISHERIES (398)
211 Introduction to Forestry, Wildlife and Fisheries (3)
History, natural resource policies and practices, eco-
social perspectives and attitudes concerning natural
resources and their use; role of historical natural
resources management; ecological principles, cur-
rent policies, social trends, forest and wildland
resource use. Day-long field trips may be required. Sp
250 Conservation (3) Use and abuse of wildland re-
sources. Historical perspectives and current manage-
ment of forests, wildlife, and fish of North America including aspects of outdoor recreation and pollution
problems.
300 Current Issues in Renewable Natural Resources (3)
Current resource issues presented by invited guest spea-
kers each week; student discussion and interaction
with speaker; some written work required; topics and
speakers change each offering; attendance required at
all class meetings. May be repeated. Maximum 3 hours.
Satisfactory/No credit only.
311 Endodology/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 forest stands to
achieve selected objectives. Prereq: 311, Coreq: 313,
315. 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 photo
use. Prereq: Statistics 201. Coreq: 312, 313. 1 hour and 1 lab.
F
315 Forest Soils and Watershed Management (3)
Soil information, properties, water relations and the
basing for carbon exchange. Nutrient cycling. Classi-
fication and management of forest soil and management of water in the forest ecosystem. Over-
night weekend field trips may be required. Coreq: 312, 313.
2 hours and 1 lab. F
316 Managing Natural Resource Organizations (3)
Evolution of natural resource professions and organi-
zations. Culture and structure of natural resource organi-
zations. Organizational and managerial functions.
Operations and strategic issues including case studies.
Prereq: 211. 2 hours and 1 lab. Sp
317 Principles of Wildlife and Fisheries Management (3) Ecological relationships of wild animals with other animals and with their habitats. Biological, social, and economic aspects of their management. Coreq: 312, 313 and 315, or consent of instructor. F

416 Planning and Management of Forest, Wildlife and Fisheries Resources (3) Integrated forest and wildlife resource management through the application of land management plans and analyzing case studies including conflict resolution. Prereq: Senior standing, 1 hour and 2 labs. Sp

FRENCH (405)

111-112 Elementary French (3,3) Introduction to French. Must be taken in sequence. Language Laboratory required.

199 The French Language and World Business (1) The course will examine the importance of foreign trade at the local, state, and national levels. An interdisci- plinary team of employees from the College of Business and Liberal Arts will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students majoring in the program in Language and World Business. See the Director for further information.

210 Intermediate French Transition (3) A thorough study of the fundamentals of French language for those who have completed two or more years of high school study before whose language skills indicate that they are not prepared for the 211-212 sequence. Special emphasis on developing communicative proficiency in French. The course will meet five hours per week and will not count toward the College of Liberal Arts intermediate-level foreign language requirement. For elective credit only.

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 placement exam, high school average, and performance on ACT. Class held to a maximum of 15 for individual attention. Students follow enriched program with French major. All courses including literary selections. Students with a grade of A in 211 may enter 218 with permission of instructor. Credit for 500 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. Song of Roland, Rabelais, Montaigne, the Classical period, and Voltaire. 292-Diderot, 19th and 20th centuries; Flaubert, Proust, Camus. May not be counted toward the major or minor. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 departmental exams or those desiring further study beyond upper division courses 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 counter-movements. Prereq: French 212. 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. Either 342 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. Prereq: 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 and English-French Translation (3,3) 400- Consecutive Translation - practice in oral translation from English to and from French; 401-Simultaneous Translation to and from French, training of students with good knowledge of French for consecutive and simultaneous translation from French into English, and vice versa, on a variety of subjects such as business, politics, science. Prereq: 342, 345 or equivalent. Preferably taken in sequence.

410 Medieval French Literature (3) Major representative works of Medieval French literature. Texts in modern French. Prereq: 342 or 345. (Same as Medieval Studies 410.)

411 French Literature of the 16th Century (3) Highpoints of 16th century French literature. Excerpts from Rabelais and Montaigne; readings from the writers from Lyon and members of the Pleiade. Prereq: 212, 218 or equivalent.

412 French Literature of the 17th Century (3) Master works of the Enlightenment. Prereq: 212, 218 or equivalent.

413 French Literature of the 18th Century (3) Major works of the Enlightenment. Prereq: 212, 218 or equivalent.


416 Reading of Francophone Literature (3) Introduc- tion to reading 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. Credit can be applied to major: Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as Cinema Studies 420.)

421 Phonetics (3) Foundation in the science of phonetics. Practical exercises and individual performance. Laboratory training highly recommended. Students from departments outside Romance Languages may take this course for graduate credit. Graduate credit is not offered to students majoring in the Department of Romance Languages. Prereq: 212, 218 or equivalent.

422 Advanced Grammar (3) Improving one's own style of writing and speaking French. Prereq: 342 or 345.

423-424 Advanced Conversation (1,1) Informal conversa- tion with native speaker on contemporary topics. Stresses 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 dialectal geog- raphy. Application of descriptive linguistics—field linguis- tics, dialect studies, the dictionary, the grammar, the dictionary, the grammar, the syntax of a particular language. Prereq: 342 or 345.

426 Methods of Historical Linguistics (3) (Same as German 425, Russian 425, Spanish 425 and Linguistics 425.)

427 Romance Linguistics (3) Development of Classical Latin through Vulgar Latin and the Romance languages. (Same as Spanish 428 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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

432 Contemporary French Culture (3) French con- temporary civilization and culture since World War II. Problems, trends and organization of French society today. Prereq: 212, 218 or equivalent.

433 Literary Portraits of French Women (3) This course is designed to acquaint students with a variety of French literary masterpieces dealing with women of different social backgrounds and of complex personali- ties. Not for major or minor credit in French. (Same as Women's Studies 433.)

434 Literature of Quebec (3) Survey of literature of Quebec as well as French literature connected with North America. Reading include explorer and masonary- istic works of various world problems and issues. Enrolment limited. Prereq: Open to freshmen with a score of 25 or better on the SAT, and to sophomores with a cumulative GPA of 3.5 or higher. Geography 107 may be substituted for Geography 101 in the 101-102 sequence. Students may not receive French and Geography 101 credit.

435 Capstone Experience in French (4) Synthesizing senior colloboration and tutoring, which reflect the student on the raisin d'etre of the discipline from a multi- dimensional point of view. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

GEOGRAPHY (415)

101-102 World Geography (3,3) Selected topics and regions, especially those problems or situations of contemporary interest, to illustrate geographical points of view, concepts, and techniques. Must be taken in sequence.

107 Honors: World Geography (3) Designed for freshman and sophomore students of superior ability who are preparing for careers in cartography, urban planning, or other fields where understanding the geography of various world problems and issues is important. Prereq: Open to freshmen with a score of 25 or better on the SAT, and to sophomores with a cumulative GPA of 3.5 or higher. Geography 107 may be substituted for Geography 101 in the 101-102 sequence. Students may not receive French and Geography 101 credit.

101-123 Geography of the Natural Environment (4,4) Characteristics and processes of the earth's surface and lower atmosphere; their interaction to produce a world pattern of distinctive environments significant to human behavior and living processes in such a sequence, 3 hours lecture and 2 hours lab per week. Not open to students who have taken 330. Prereq: 101 is prerequisite to 132.

141 Introduction to Economic Geography (3) Lo- cation and spatial organization of the world's major types of economic activities: 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 of maps, aerial photos, 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) Back- ground and method of cultural geography; basic concepts and theories focusing on world culture regions, cultural integration, and world cultural patterns.
413 Remote Sensing: Types and Applications (3) Geophysical, economic, and social distributions as they influence the human environment. Regional emphasis on the United States and Canada. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

415 Quantitative Methods in Geography (3) Geophysical, economic, and social distributions as they influence the human environment. Regional emphasis on the United States and Canada. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

421 Geography of Folk Societies (3) Geophysical, economic, and social distributions as they influence the human environment. Regional emphasis on the United States and Canada. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

433 The Land-Surface System (3) Characteristics of surface form, water, vegetation, and surface materials, and their regional interrelationships. People as evaluators and agents of change. Prereq: 131-132 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 334 or consent of instructor.

436 Biogeography (3) Study of the changing distribution patterns of plants and animals on a variety of spatial and temporal scales. The effects of continental drift, Pleistocene climatic change, and human activity on world biota are emphasized. Prereq: 131-132 or 334 or consent of instructor.

438 Water Resources (3) Global water resources and hydrologic processes, including water availability, flooding, and water quality. Prereq: 131-132 or consent of instructor.

441 Urban Geography (3) Concepts and theories concerning development and significance of systems of cities and urban morphology. Prereq: 131-132 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, land use, locations, systems, and development. Prereq: 141 or 340 or consent of instructor.

450 Process Geomorphology (3) (Same as Geology 450.)

491 Foreign Study (1-15) Prereq: Written consent of department required prior to registration. S/NC or letter grade.

492 Off-Campus Study (1-15) Prereq: Written consent of department required prior to registration. S/NC or letter grade.

493 Independent Study (1-15) Prereq: Written consent of department required prior to registration. S/NC or letter grade.

499 Proseminar in Geography (3) Major themes in geographic application and theory. Prereq: Senior standing and completion of at least 12 hours of major or minor requirements in geography. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

GEOLOGY (424)

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 The Dynamic Earth (4) Physical processes within and upon the Earth's surface. Emphasis on the foundation of rocks, plate tectonics and earthquakes, and landscapes. Must be taken in sequence. 3 lecture hours and one 2-hour lab per field period.

102 Earth, Life and Time (4) Fossils, evolution, and ancient environments, plus a review of 4.5 billion years of earth history. Must be taken in sequence. 3 lecture hours and one 2-hour lab or field period.

103 Environmental Geology (4) Contemporary problems, solutions related to human disturbance of the environment; topics include: global climate change, pollution, resource depletion. Prereq: 101. Fulfils laboratory science sequence requirement for College of Liberal Arts.

107 Honors: The Dynamic Earth (4) Laboratory and field emphasis to understanding physical processes, including the formation of rocks, plate tectonics, earthquakes, and landscapes. 3 lecture hours, 1 2-hour lab, and 2 field trips. Consult current College of Liberal Arts guidelines. Students may not receive credit for both Geology 101 and 107.

108 Honors: Earth, Life and Time (4) Laboratory and field emphasis to understanding fossils, evolution, and ancient environments throughout 4.5 billion years of Earth history. 3 lecture hours, 1 2-hour lab, and 2 field trips. Prereq: Grade of B or better in Geology 107, grade of A in Geology 101, or permission of the instructor. Students may not receive credit for both Geology 102 and 108.

201 Darwin, Dinosaurs, and Extinctions: An Introduction to Evolution (3) Theories and evidence of evolution presented in a non-majors course, with emphasis on its relevance to modern society. Topics include origin of life, mass extinctions, evolutionary trends. Opportunity to examine fossil specimens. May not be applied toward the Biology major.

202 Earth as an Ecosystem: Modern Problems and Solutions (3) Study of the earth as an integrated system between physical and biological processes. Focus is on understanding human disturbances such as habitat destruction and pollution. No prerequisite. May not be applied toward the Geology major.

203 Geology of National Parks (3) Geologically spectacul- lar landscapes and geologic history of national parks of the world. Humankind's attempts to preserve the Earth's geologic 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.

301 Mineralogy (4) Introduction of crystallography, crystal chemistry, x-ray diffraction, optical mineralogy, and the structures of inorganic minerals. Includes hand specimen identification, x-ray diffraction techniques, and microscopic identification of minerals. Prereq: Chemistry 120-130 or equivalent. 3 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 and present distribution 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, their formation, 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; processes of sedimentation and interrelations 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 South and its relation to human life. 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 of the oceans, including tides, waves, standing and oscillating basin processes, marine sedimentation, biogeochemical
cycles, and food webs. Prereq: Chemistry 120-130; recommended: 101-102. 3 lecture hours and one 2-hour lab. (Same as Botany 436.)

370 Structural Geology (4) Common geologic structures (folds, faults, cleavage) and their genesis. Laboratory includes macroscopics, 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 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 of mineralogy. Prereq: 310. 2 lectures, one 2-hour lab.

420 Paleocology (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 based on field and laboratory analysis. Writing emphasis course. 3 lecture hours and one 2-hour lab.

421 Invertebrate Paleontology I (3) Preservational processes and geologically important representatives of Protista, Porifera, Cnidaria, Bryozoa, and Brachiopoda. Emphasis is on functional morphology, skeletal structures, ecology, and stratigraphic distribution. Prereq: 300 or consent of instructor. 2 lecture hours and one 2-hour lab.

422 Invertebrate Paleontology II (3) "Higher invertebrates": Annelida and other worms, Mollusca, Arthropoda, Echinodermata, Graptolida, Conodontida, 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 floricentric 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. Explores problems in geologic field methods with emphasis on field techniques demonstrated and practiced, and applied 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 geologic sciences toward a comprehension of the effects of geologic processes on humans and the effects of human activities on the earth's environments. Prereq: 12 hours of geology courses. 2 lecture hours and one 3-hour lab or field period.

460 Principles of Geomorphology (3) Application of chemical principles to geologic problems. Emphasis on crystal chemistry and relation between basic atomic structure and physical properties of rocks and minerals in the earth's crust. Prereq: Chemistry 120-130; recommended Geology 330. 2 lecture hours and one 2-hour lab.

470 Advanced 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 (4) Ore-forming processes, classification of mineral deposits, survey of different types of mineral deposits with examples, and metallogeny. Prereq: 310 and 330 or equivalents. Recommended: 460. 3 lecture hours and one 2-hour lab.

485 Principles of Geohydrology (3) Ground water flow, aquifer analysis, ground water contamination, and ground water management. Prereq: 101 or equivalent or consent, Chemistry 120-130 or equivalent, and Mathematics 141-142 or equivalent. (Same as Civil Engineering 485.)

490 Special Problems in Geology (1-3) Directed study of special topics. Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

GERMAN (433)

101-102 Elementary German (3,3) Must be taken in sequence.

108-208 Honors: Elementary and Intermediate German (6,6) Open to students who qualify for Honors Freshman English. Upperclass students must have a B average to enter. Completion of 108-208 allows the student to enter all 300-level German courses. A grade of C or above must be achieved in 103 in order to continue German 208. A student obtaining a grade of D or better in 108 may continue with German 102. Enrollment limited to 12 students.

111 Language Laboratory (0)

112 Language Laboratory (0)

199 The German Language and World Business (1) The course will examine the role of the German language at the local, state, and national level. An interdisciplinary team of faculty from the College of Business Administration and Liberal Arts will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students majoring in the program in Language and World Business. See the Director for further information.

201-202 Intermediate German (3,3) Must be taken in sequence. Prereq: 102 or equivalent.

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 previous German required.

305 Readings in German (3) Topical in literary and non-literary fields. Students or student groups are encouraged to suggest topics for future courses. May be repeated twice with approval of department. Prereq: 202 or equivalent.

311-312 Conversation and Composition (3,3) Prereq: 202 or equivalent.

323 German Film (3) A study of the German cinema from the earliest days to the present. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as Cinema Studies 323.)

325 Modern German Novel in English Translation (3) Great twentieth-century German novels, including study of novel theory and criticism. No foreign language credit. Writing emphasis course.

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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside of class.

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 examination, and upper-division students desiring reading knowledge of the language. Undergraduate credit only. No credit for students who have completed 101-102 or 107. 332 may be repeated only once for credit. A,B,C, no credit grading.

363 Modern German Culture (3) German culture from the mid-nineteenth century to the present: customs, art, music, literature, society, state. Readings in English for non-majors and in German for major majors. Major credit, but no foreign language credit. A writing-emphasis course. Fulfills Upper-level Distribution Requirement for Foreign Studies for those who have not satisfied the history requirement with Western Civilization. Writing emphasis course.

411-412 Advanced Conversation and Composition (3,3) Prereq: 311-312 or equivalent consent of department.

420 Selected Topics in German Literature from 1750 to the Present (3) Prereq: 6 hours of courses excluding 331-332 and courses in English translation, or equivalent.

421 German Lyric Poetry (3) Prereq: 6 hours of courses excluding 331-332 and courses in English translation, or equivalent.

422 German Drama (3) Prereq: 6 hours of courses excluding 331-332 and courses in English translation, or equivalent.

423 German Narrative Prose (3) Prereq: 3 hours of courses excluding 331-332 and courses in English translation, or equivalent.

424 German Literary Movements (3) Major periods in the development of German literature. Major credit, 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 feature analysis, sound change types, nature of sound change, principles of reconstruction and fundamental assumptions about language change through time. Major credit, with emphasis on the problems and pitfalls of periodization.

432 Basic German Grammar (3) Designed for advanced German language study and international cultural awareness. 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.)

433 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 433.)

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 and 331 or 332. (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 331 or 332.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

497 Senior Honors (1-6) Admission by consent of department.

GREEK

121-122 Beginning Greek (3,3) Must be taken in sequence.

211 Intermediate Greek: Grammar Review and Readings (3) Intermediate Greek: Grammar Review and Readings (3) (Same as Greek 202.) (Same as Greek 201.)
HEALTH (449)

110 Personal Health and Wellness (3) Information and behavior necessary for 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 (2) Theory and skills to implement basic cardiopulmonary support following cardiac arrest due to such conditions as heart attack, drowning, electrocution, poisoning, drug intoxication, and vehicular 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 school, community, and health care settings; health careers and occupations; health behavior change strategies; interpersonal intervention techniques; health appraisal techniques; health promotion strategies. F

305 The School in Community Health (2) Roles and responsibilities of teachers in school health programs with emphasis upon: health problems of the school child, recognition and methods of handling them; healthful school environment; school health services; and community resources; health personnel, voluntary and official health agencies. May not be taken for credit by health majors. F, Sp

306 Health Instruction in Elementary Grades (3) School health program for the child in elementary grades. Teachers become familiar with organizing and presenting health content, health materials, health curricula, community resources, and communicating healthful lifestyle. F, Sp

310 Advanced First Aid and Emergency Care (3) Theory and practice of first aid and emergency care. Provides essential information for developing functional first aid capabilities of lay persons. Course leads to Advanced First Aid and Emergency Care certification. Applicant must be at least 16 years old for certification. E

325 Health Education Program Planning (3) Principles of curriculum development, administration, implementation, methodology, and evaluation. F

330 Wellness Through Health, Leisure and Physical Activity (3) Emphasis on taking personal responsibility for one's health. Includes topics related to the healthy lifestyle, and provides specific guidelines of how to change inappropriate behaviors. (Same as Physical Education 330.) F

375 Health Communications (3) Communication strategies for health educators in various settings. Emphasis on interpersonal relationships, public relations, leader- ship, small group processes, health teams, and effective use of media. F

380 Research and Grant Writing (2) Study and application of research methods and grant writing techniques for health education programs. Skills for reading and interpreting journals and research articles. Exercises and student projects to develop a research or grant proposal. Emphasis on development and review processes.

400 Consumer Health (3) Major consumer health care providers and health care services; selecting, purchasing, evaluating and financing medical and health care services/products. (Same as Public Health 400.) Sp

405 Alcoholism and Alcohol Education (3) Factors which promote alcoholism; serious health and social problem. Various types of instructional/educational and intervention programs. F

406 Death, Dying and Bereavement (3) Aspects of dying, death and handling the trauma of illness. Medical, financial, physical, legal, and social implications of death. F, 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

414 Fitness Testing and Exercise Prescription (3) (Same as HPSS 414.) F

420 Sex Education As It Relates to Human Sexuality (3) Science of human sexuality. Emphasis on the trends, issues, content of sex education. F, Su

425 Women's Health (3) Factors influencing women's health and women as consumers in nation's health service delivery systems. Study of health problems/concerns of women and techniques for intervention, maintenance, and/or correction. (Same as Women's Studies 425.) E

430 Suicide and Crisis Intervention (3) Factors which make suicide a serious health problem. Assessment, intervention, and prevention techniques. Sp

435 Substance Use and Abuse (3) Drug and alcohol abuse problems and suspected causes pharmacology of drugs and effects society, strategies for intervention and education. Sp, Su

465 Aging and Health (3) Aging process in a health perspective as it relates to health promotion and wellness of the aged. F, Sp

470 Special Topics (1-3) For advanced students, teachers, social administrators, nurses and other para-medical personnel. Lectures, demonstrations, films, field trips, and supervised research in special health/wellness or health promotion issues. May be repeated. Maximum 12 hours.

475 Directed Independent Studies (1-3) Individual identification and study of a health/wellness or health promotion problem/issue. Prereq: Consent of instructor. May be repeated. Maximum 12 hours. E

481 Internship I: Grades 7-12 (3-6) Methods and theories of teaching physical education 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 7-12 (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.

483 Field Practice (10) Off-campus health internship or field practice in an educational or other agency with qualified professional. Prereq: Consent of instructor. Satisfactory/No Credit only.

HISTORY (462)

151-162 Development of Western Civilization (3,3) Historical survey of the civilization of the western world. 151-Ancient world to 1715. 152-1715 to present. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

157-158 Honors: Development of Western Civilization (3,3) Consent of department required. Prereq: F, Sp Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

161-162 A History of World Civilization (3,3) Historical survey of world civilization. 161-Originis to 1500. 162-1500 to present. 161-F, 162-Sp Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

195-196 African-American History: An Introduction (3,3) 195-African-American experience to 1890. Traditional African societies from which African-Americans emerged; evolution of prejudice and racism in America; institutionalization of segregation; 196-African-American experience from 1890. The African-American struggle for political, social, and cultural identity; leadership and strategies; responses of Black community institutions to the challenges of the 20th century; the rise of the urban ghetto; the Civil Rights and Black Power movements.

202 The City in Europe, 1000-1500 (3) Urban growth, emphasizing the relationship between the economic and social foundation of the cities, their political and cultural development and their physical structure.

251-252 History of the United States (3,3) 251-Settlement to 1877. 252-1877 to present. E

253-254 United States History for International Students (3,3) 253-Settlement to 1865. 254-1865 to present. F, 253-Sp, 254-So

257-258 Honors: History of the United States (3,3) Prereq: Consent of department. 257-F, 258-Sp

307 Honors: Introduction/Historical Problems (3) Historical analysis, philosophy of history, principles and techniques of research emphasizing the roles of climate, human and natural forces, and human actions in the problems of evidence, interpretation, and objectivity. Required of students working for honors in history. Prereq: Consent of the department.

310-311 The Ancient World (3,3) 310-1 Development of Athenian democracy; its successes and failures; pole crisis of the fourth century B.C.; emergence of hellenistic civilization. 311-Originis of Roman imperialism and its consequences: militarism, empires, socioeconomic changes, constitutional crises, emergence of military and political autocracy.

312-313 Medieval History (3,3) 312-1 Early Middle Ages; 313-1000. Formations of medieval society and institutions; 311-1100-1400. Height of medieval civilization, and its waning in the fourteenth century. (Same as Medieval Studies 312-313.)

314 Renaissance Europe (3) The period traditionally seen as a transition from the Middle Ages to the modern world. Interrelationship of cultural, social, economic, political, and intellectual developments, with an emphasis upon historical interpretation.

315 Reformation Europe, 1500-1650 (3) The period during which Europe witnessed religious division, domestic conflict, the political emergence of the middle class and the masses, nationalism, imperialism, rationalism and romanticism in social thought and politics. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

320 Contemporary Europe, 1900-1990 (3) The transformation from industrial to post-industrial society and the transformation of the European nation-state. Topics such as war and depression and the consequent political and social instability; totalitarian control; decolonization; the impact of Freud, Einstein and existentialism; welfare states; and the problems of European unification. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

321 New Testament Origins (3) (Same as Religious Studies 321.)

322 Christian Thought (3) (Same as Religious Studies 322.)

330-331 History of England (3,3) 330-to 1668. 331-1668 to present. Medieval state, church, and society; origins of Anglo-American law, the monarchy and parliamen- tary government, the Reformation, 17th Century
332-333 History of France (3,3) 332-The emergence of modern France from the Renaissance to 1789. 333-334 France since the Revolution, 1789 to present.

334-335 History of Germany (3,3) 334-Germany I, to 1815. The first Reich's fortune and failure. The development of the German nation from the medieval empire to its disintegration, through dynastic and religious rivalries, to the Austrian Prussian dualism in the time of Frederick the Great and Maria Theresa, culminating with the end of the older order in the Age of Napoleon. 335-Germany II, Since 1800. The Quest for Nationality. The evolution of modern Germany through revolution, industrialization, the Moltke-Metternich Coalition, Prussian aggression, to Bismarck's Second Reich, to the Weimar republic to Hitler's Third Reich, to Adenauer's Federal Republic and the development nation of two states.

336 A History of Austria and Central Europe: Frontier and Civilization Center (3) Austria's development, as part 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 untenable republic, to an exploited Third Reich province, to a four-fold Allied occupation zone, to — finally — an independent neutral nation at the crossroads of Europe. Major themes include 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. (Same as Russian and East European Studies 340-341)

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 in antebellum America within the framework of the struggle between nationalism and sectionalism.

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 Roosevelt's New Deal through World War II and the Cold War, America's diplomatic history but includes military and foreign policy.

360-361 History of Latin America (3,3) 360-Colonialism and Independence, 1500-1825. 361-National Development, 1825 to present. (Same as Latin American Studies 360-361.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

362-363 History of East Asia (3,3) 362-East Asia: History and Culture to 1600. Chiefly China and Japan; Korea and Vietnam also included. Confucianism, Buddhist social structure, political tradition, and Japanese feudalism. Comparison and contrast with Western history and other Eastern civilizations. 363-China, Japan, Korea and Vietnam. Comparative modernization; Western impact, cultural transformation, communist movement, and capitalist fulfillment and post-war economic successes. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

364 History of China (3) Changes and continuities of the world's longest uninterrupted civilization with a quarter of the human population and historical differences between China and Western civilizations; Chinese revolutions in historical context.

365 History of Japan (3) Japanese history from mythological origins, to Confucianism, 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 Japanese militarism.


369-370 History of the Middle East (3,3) 369-Rise and spread of Islam; historical civilization to the sixteenth century. 370-The Middle East from the sixteenth century to the present. Impact of the West and background of current problems except those of geographical distribution.

371-372 African History (3,3) 371-Ethnic groups of the continent; control of regions of sub-Saharan Africa and the conflict and change occurring there from 1000 A.D. through the World War I era in 1918. 372-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 formation of a national identity within 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. Includes economic interdependence and underdevelopment, ideologies in conflict with non-Western cultures, and the search for individual identity in circumstances of colonial disruption. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 complications in these causes, phases, and outcomes. Relations between leaders and masses. Major theories of revolution. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

376 History Behind the News (3) Contemporary analysis and the historical background of selected newsworthy events in North and South America, Europe, and the non-Western world. May satisfy history major requirements except those of geographical distribution. May be repeated by non-majors. Maximum 6 hours.

377 American Issues: Individualism and Community (3) Ways in which Americans have organized their political, economic, and social relationships and the historical development of American views and attitudes. Topics include political participation, socialization, and an analysis of the United States regional models. (Same as Urban Studies 453.)

378 American Issues: War and the Peaceful 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 dominance over other peoples. Topics include relationship between leaders and followers, patterns and dissent, mobilization for war, and post-war attitudes. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

379 African Issues: Colonialism and Independence (3) Ways in which African organizations and political structures have developed since independence from 1000 A.D. through the World War I era in 1918, and the post-independence period. May satisfy history major requirements except those of geographical distribution. May be repeated by non-majors. Maximum 6 hours.

401-402 Honors: Advanced Writing Course (3,3) Honors writing course for advanced majors. Honors in history.

407-408 Honors: Senior Paper (3,3) 407-Supervised reading, bibliographical search, conceptual clarification, and an analysis of the United States regional models. (Same as American Studies 407.)

412 Comparative Studies in African and Afro-American Societies (3) (Same as Afro-American Studies 412.)

431-432 European Intellectual and Cultural History (3,3) 431-European intellectual movements 1500-1768. 432-Romanticism to Relativism, 1750-Recent.

442 Indian-White Relations in United States History (3) Dilemma of two cultures existing side by side: the historical background and formulation of official Indian policy; under mining of policy by frontier circumstances; Indian wars and campaigns; present-day relationships.

443-444 History of the South (3,3) 443-South from colonial period through the Civil War. 444-New South from Reconstruction through the Second Reconstruction.

445 The Afro-American Experience from the Colonial Period to the Present (3) Topics in 19th and 20th century Afro-American history, such as Pan-Africanism and the effect of education on the status of Blacks. (Same as Afro-American Studies 445.)

446 History of American Culture (3) Topical examination of the development of America's cultural values, attitudes and beliefs from the formation of the nation to the present. Illustrative topics: creation of a national culture; Civil War as cultural conflict; challenge of modernism: rural versus urban cultures; cultural upheaval 1920's-30's; present nature of American culture. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 and expansionism and United States response to challenges of autocracy, liberalism and third world nationalism.

451 United States Military History, 1754 to the Present (3) The nation's broad strategic aims and means used to attain them, shifting strategic, tactics and weapon involvement in wars, and relationship between America's military and its armed forces. (Same as Military Science 450.)

452 The American Experience in World War II (3) Diplomat and warfaring in Europe and Asia, and the impact of the war on American society. (Team-taught course.)

453 Women in American History (3) Approaches of 343 applied to American society. (Same as Women's Studies 453.)

454 Cities and Urbanization in American History (3) Origins, growth, and influence of American cities in development of the nation, from colonial era to present. (Same as Urban Studies 454.)

455 Local and Regional History (3) History of the community, the regional city, the geographical region, and the regional state. (Same as American Studies 455.)

456 History of Sports in the United States (3) Development of sports and their significance in American life from colonial period to present, with emphasis on social, cultural, economic and political impact of both spectator and participatory sports in 20th century. (Same as American Studies 456.)

459 Introduction to Quantitative Methods for Historians (3) Selecting, gathering, analyzing machine-readable data with SAS (Statistical Analysis System). Uses practical historical problems in urban and rural perspectives.

470 Studies in British History (Variable content) Select from the same as those 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, revolts, or nationalism. 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 history, especially on Russian and Polish history. May be repeated. Maximum 9 hours.

474 Studies in Medieval and Early Modern European History (3) Variable content. 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.


480 Studies in 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 social and economic development under colonialism to 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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

HOME ECONOMICS EDUCATION (490)

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. F, Sp

320 Strategies of Teaching Home Economics (3) Teaching methods, techniques, uses of media. Field experience included. Prereq: 220. 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. Includes laboratory. F, 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 (6-15) Prereq: 420. Satisfactory/No Credit only. F

440 Teaching in Community-Based Programs (3) Planning and implementing non-formal instructional programs; method, techniques, delivery systems, evaluation. Includes field experience. Prereq: 320. (Same as CFS 440.) Sp

445 Field Experience in Community-Based Programs (1-15) Placement in Home Economics-related programs or businesses. Includes seminar. May be repeated. Maximum 15 hours. F, Sp, Su

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. F, Sp, Su

HOTEL AND RESTAURANT ADMINISTRATION (551)

120 Introduction to Hotel and Restaurant Administration (2) History and place of industry in national economy, basic operating systems, organization structure; problems in the hotel and restaurant industry. F

125 Front Office Management (3) Front office procedures within context of overall operation of the hotel/motel; includes reservation systems, equipment, accounting procedures, settlement procedures, public relations, management. F, Sp

220 Foodservice Systems Administration (3) Management concepts, processes, resources in foodservice systems; decision-making and problem solving principles. F, Sp

230 Quantity Food Procurement, Production and Service (2) Principles for determining needs; procuring, storing, producing and serving foods in volume. Prereq: 120, 220, NTR 100 or 107, NTR 101, Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 321 or 322. F, Sp

321 Quantity Food Procurement, Production and Service Laboratory (1) Application of principles in determining needs, procuring, storing, producing and serving foods in volume. Prereq: 120, 220, NTR 100 or 107, NTR 101, Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 320. F, Sp

322 Quantity Food Procurement, Production and Service Observation (1) Application of principles in determining needs, procuring, storing, producing and serving foods in volume as they apply in the hotel/motel industry. Prereq: 120, 220, NTR 100 or 107, NTR 101, Micro 210 or PH 310; progression into HRA program or consent of the instructor. Coreq: 320. F, Sp

324 Tourism and Travel Administration (3) Economic and social forces influencing domestic and international tourism; services, functions of retail, wholesale travel agencies. Prereq: 120; progression into HRA program or consent of the instructor. F, Sp

326 Food and Lodging Cost Control (3) Budget, cost analysis, computer, financial statement use in decision making and control of lodging and foodservice systems. Prereq: 320, 321 or 322; Accounting 202. F, Sp

420 Field Experience in Hotel and Restaurant Administration (6) Supervised educational experiences in selected tourism, food and lodging operations followed by a two-day seminar. Students enrolled in this course may not enroll in any other courses. Prereq: 320, 321 or 322; Accounting 202; Economics 201; Marketing 301; Business Law 301; 100 hours of verifiable work experience. Satisfactory/No Credit only. F, Sp, Su

421 Foodservice Systems Design and Equipment (3) Physical facility design, production, delivery system analysis, equipment selection. Prereq: 320, 321, or consent of the instructor. A, F

422 Food and Lodging Personnel Development (3) Training programs; personnel management procedures and policies involving human resource analysis for lodging and foodservice systems. Prereq: 320, 321 or 322; Accounting 202; Economics 201; Marketing 301; Business Law 301; 100 hours of verifiable work experience. Satisfactory/No Credit only. F, Sp, Su

423 Hospitality Sales and Marketing (3) Strategic marketing for lodging and restaurant organizations; includes property/product, market, and competition analysis, computer, financial statement use in decision making and control of lodging and foodservice systems. Prereq: 320, 321 or 322; Accounting 202. F, Sp

424 Advanced Hotel and Restaurant Administration (3) Integration of functional areas. Management level administrative processes and decision making concerning hotel and restaurant business policy, strategy formulation, implementation, and evaluation. Prereq: 320, 321 or 322; Accounting 202; Economics 201; Marketing 301; Business Law 301; 100 hours of verifiable work experience. F, Sp

425 Hospitality Law (3) Legal rights and responsibilities of staff, management, and guests. Prereq: 320, 321, or 322; Bus. Law 301 or consent of the instructor. F, Sp

426 Convention Management (3) Scope and segments of convention management including requirements meeting individual needs; methods and techniques for outstanding service. Prereq: 320, 321, 322 or consent of the instructor. F, Sp

440 Special Topics: Hotel and Restaurant Administration (1-15) Development and operations in Hotel and Restaurant Administration; topics variable. Prereq: Junior or Senior Standing in Hotel and Restaurant Administration Program or consent of the instructor. May be repeated. Maximum 3 credits. E

494 Directed Study: Hotel and Restaurant Administration (1-3) Individual student; faculty expertise. Prereq: Junior and Senior, Standing, consent of the instructor. Satisfactory/No Credit only. E

497 Honors: Hotel and Restaurant Administration (1-3) Senior project. Prereq: Senior standing, consent of the instructor. E

HUMAN ECOLOGY (520)

100 Special Topics in Human Ecology (1-3) Topics variable. Prereq: Consent of the instructor. Satisfactory/No Credit only. May be repeated. Maximum 3 credits.

210 Microcomputer Applications (3) Introduction to microcomputer use and five software programs; operating systems, word processing systems, data base systems, spreadsheet programs and graphics programs, design of a management information system, spreadsheets, word processing, and database. Prereq: Declared major in College of Human Ecology. F, Sp

480 Directed Study: Human Ecology (1-3) Topic arranged by individual student under supervision of facility. May be repeated with different topic. Maximum 6 hours. Prereq: Junior or Senior standing in a major in the College of Human Ecology and consent of instructor. E

HUMAN PERFORMANCE AND SPORT STUDIES (526)

100 Orientation to Physical Education (2) Overview of the professional and disciplinary areas in physical education with special emphasis on introductory field experiences. Prereq: Taken the first semester in the student's major.

102 PE Major: Basketball (1) Fundamentals of basketball, including individual and team skills with consideration of techniques for effective teaching of these fundamentals.

103 PE Major: Tennis (1) Development of skills, rules and game strategies in tennis applying skill analysis and various styles of teaching.

104 PE Education Major: Gymnastics I (1) Beginning skills in tumbling and on selected men's and women's gymnastics apparatus. Tumbling skills include forward, backward, and balance skills. Apparatus include vaulting, balance beam, and pommel horse. Special emphasis on teaching techniques, safety, progression, and spotting.

105 PE Major: Folk and Square Dance (1) Basic folk and square dance steps, patterns and designs with emphasis on skill development, terminology, etiquette and basic social dancing.

106 PE Major: Track and Field (1) Basic skills of track and field with consideration of techniques for effective teaching.

260 Practicum I (1-3) First practicum experiences to support and clarify career goals. May be repeated. Prereq: Consent of instructor and completion of a major.

271 PE Major: Soccer/Softball (1) Basic fundamenals, including individual and team skills with consideration of techniques for effective teaching.
272 PE Major: Volleyball (1) Elementary and intermediate volleyball skills, rules, safety precautions, and strategies 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 PE Major: Gymnastics II (1) Beginning 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: Ballroom Dance (1) Basic ballroom dance patterns and designs, terminology and etiquette with application to the various techniques of teaching.

276 Fitness for Life (2) Evaluation and discussion of factors related to health-related fitness, cardiovascular function, muscular strength and endurance, flexibility, low back function, nutrition, and stress. Emphasis on evaluation of current status with recommendations for change toward reasonable health-related goals. (Same as PE 276.)

290 Human Motor Behavior (3) Theories and principles explaining motor behavior; psychological factors related to and/or affecting motor skill acquisition and performance, and their application to the classroom setting.

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.)

292 Field Studies I (2) Peer teaching, using selected styles, and systematic observation of motor behaviors of physical education students in elementary, middle, and high school settings. Prereq: 100.

311 Coaching Football (1) 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 offensive and defensive strategies, and the role of the assistant coach.

312 Coaching of Basketball (1) 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 (1) 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 (1) Fundamentals used in the coaching and judging of competitive men's and women's gymnastics. Emphasis on the safety and spotting of competitive gymnastics skills. Prereq: Consent of instructor.

315 Coaching of Baseball/Softball (1) Theoretical and practical application of various coaching techniques in baseball/softball for the secondary/college coach. Topics include 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 (3) Historical survey of the development of sport and physical education from ancient times to the twentieth century. Prereq: Progression to the major or consent of instructor.

322 Fitness Activities (2) Methods of instructing and leading fitness activities, including jogging, exercise to music, water activities, and fitness classes. 1 hour lecture; 3 hour lab. 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 or consent of instructor.

326 Practicum in Preschool Aquatics (2) Individualized planning and teaching of aquatic experiences to 3 to 5 year-old children in 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, and related biomechanical principles. Prereq: Junior standing.

350 Sport Management: Theory to Practice (3) An overview of the managerial theories and applications including responsibilities that must be considered within the broad perspective of the sport enterprise. This course will deal primarily with the sport enterprise in the private sector.

356 Motor Development (3) Evaluation of human motor behavior within the context of structural/functional changes, and with the respect to psychological, sociological, and social-psychological factors related to and/or affecting motor performance/learning; analysis of changes in motor performance and underlying attributes across the lifespan with emphasis upon critical developmental periods. Prereq: Progression to major or consent of instructor.

372 Philosophy of Sport and Physical Education (3) Theories of realty and value as they apply to sport with emphasis on ethical issues. Prereq: Progression to major or consent of instructor.

380 Special Topics (1-3) Study in selected disciplinary areas of sport and physical education and relating to sport performance, with practical implications and applications to teaching and coaching. May be repeated. Prereq: Progression to the major.

391 Psychology of Coaching (2) Major topics and theories dealing with social-psychological factors affecting and relating to sport performance, with practical implications and applications to teaching and coaching. Prereq: Progression to major or consent of instructor.

405 Sociology of Sport (3) Social meaning, organization and process of sport. Difference between sport and play and games, social stratification and sport, sport as an occupation, place of sport in mass culture, sport sub-cultures, and reciprocal influences of sport and cultural milieu. Prereq: 291 or Sociology 285, or permission of instructor. (Same as Sociology 291.)

409 Measurement and Evaluation of Physical Education (2) Relationship of measurement 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. Must be completed the term immediately preceding the internship. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. Sp, Su.

411 Adapted Physical Education (3) Developmental disabilities: other physical handicaps and variant/invariant characteristics of special syndromes germane to motor development/programming for those with special education needs.

412 Practicum in Adapted Physical Education (1) Teaching those with special education needs. Observation and assistance to physical education teachers who teach in schools for the handicapped and/or in which many handicapped individuals are mainstreamed. Prereq: Progression to the major. Coreq: 411.

413 Special Practicum in Adapted Physical Education (1) Two sections including an on-campus lab program with one-one-one with a 2 to 5-year-old child who is a high-needs student. Prerequisite is relevant to student needs with a physical education teacher, physical or occupational therapist, at a school for the handicapped. May be repeated. Maximum 3 hours.

414 Physical Testing and Exercise Prescription (3) Relationship of exercise to cardiorespiratory function, body composition, strength and flexibility. Measurement and evaluation of fitness in normal populations. (Same as Health 414.)

416 Athletic Coaching Field Experience (1) Practical experience in coaching and related responsibilities. May be repeated. Maximum 2 hours. Prereq: Approval of instructor.

420 Methods in Physical Education (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, sport, teaching, macro teaching and field experiences. Prereq: Minimum 6 credits in Physical Education Major activity courses with admission to Teacher Education Program.


422 Applied Kinesiology (3) Study and emphasis of human movement with emphasis on biomechanical principles and their application to movement and neuromuscular fitness. Prereq: Junior standing.

423 Readings in Physical Education (2) Current and classic literature in physical education.

424 Program Planning in Physical Education (2) Curriculum theory, principles, and issues specific to physical education with opportunities to develop and evaluate K-12 physical education programs. Prereq: Admission to Teacher Education Program.

425 Administration and Evaluation in Physical Activity and Sport (3) Fundamental principles of organization, administration, and evaluation in the areas of physical activity and sport. Prereq: Admission to Teacher Education Program. Coreq: 450 for teacher education students.

426 Practicum II (1-3) Supervised experience in sport management or exercise/fitness area. May be repeated. Minimum 10 hours. Prereq: Progression to the major, and consent of instructor.

435 Approaches to Physical Education for Children (3) Contemporary approaches with emphasis upon movement education. Prereq: Admission to Teacher Education Program.

442 Administration of Physical Education and Athletics (2) Topics in organizational concepts and management strategies as related to physical education programs and athletics in the public schools. Prereq: Admission to Teacher Education Program.

466 Movement Education (2) Educational games/ sports, and gymnastics. Prereq: 292, 356, 425, and admission to Teacher Education Program.

467 Motor Development Laboratory (3) Application of selected perceptual-motor development, movement education, and pedagogical concepts to performance assessment and the motor task design and presentation to normally developing preschool or primary grade children. Participation in intra- or inter-curricular research projects. Prereq: Progression to major or consent of instructor.

468 Physiology of Exercise (3) Lecture and lab class dealing with functions of the body in muscular work. Topics include physiological aspects of fatigue, training and adaptation to environment. Prereq: Zoology 230 and 441 Lecture and 1 lab. (Same as Sociology 400.)

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 competencies 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 Management or Fitness Internship (12-15) Full-time practice in approved business/agency. Prereq: Completion of practicum in physical education, attendance of Teacher Education Program. Additional preres. for Exercise Physiology/Fitness Option: 322, 414, 415.

493 Directed Independent Studies (1-3) Independent study in a specialized area with physical education. May
be repeated. Maximum 9 hours. Prereq: Consent of advisor and director to the major. Satisfactory/No Credit or letter grade.

HUMAN SERVICES (532)
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 complex issues of human needs and social problems. Prereq: Consent of instructor. F

320 Peoples 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. F

330 Thinking About People (3) Development of thoughtful, informed, and critical human services studies. 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 in a practical setting. Prereq: Progression to the major. Sp

420 Human Services Methodologies II (3) Includes reality therapy, humanistic, process, 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

Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 or consent of instructor. Coreq: 420. Satisfactory/No Credit only.

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.

491 Foreign Study (1-15) 492 Off-Campus Study (1-15) 493 Independent Study (1-15)

INTERDISCIPLINARY PROGRAMS (270)
100 Selected Topics (1-3) May be repeated. Maximum credit 6 hours.

400 Selected Interdisciplinary Cultural Topics (1-12) Acceptable for credit in any cultural studies concentration or minor with the consent of the director of cultural studies and the respective chairperson. May be repeated for credit up to a maximum of 12 hours. Letter grade or S/NC grading.

491 Foreign Study (1-15) Acceptable for credit in any cultural studies concentration or minor except Afro-American studies. Registration by consent of director of cultural studies and the respective chairperson.

492 Off-Campus Study (1-15) Acceptable for credit in any cultural studies concentration or minor except Afro-American studies. Registration by consent of director of cultural studies and the respective chairperson.

493 Independent Study (1-15) Acceptable for credit in any cultural studies concentration or minor except Afro-American studies. Registration by consent of director of cultural studies and the respective chairperson.

INTERIOR DESIGN (582)
140 Introduction to Interior Design (3) Orientation to the profession; relationship to allied fields; contemporary developments, philosophical approaches. Open only to interior design majors and architecture, F

150 Visual Studies (4) 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. One hour lecture and three hour studio. Open only to majors in interior design and architecture. Coreq: 140. F

200 Human-Environment Systems (3) Role of culture in defining environment; physical, social and conceptual systems; personal goals, impacts of environment on human behavior, feelings and values; mutual-casual properties of behavior-environment systems. (Same as Urban Studies 200.) Sp

240 Fundamentals of Interior Design (4) Principles of spatial organization; creative problem-solving and communication techniques for micro-environment; perspective drawing, modeling, experimentation with black and white media. One hour lecture and three hour studio. Prereq: or coreq: 140, 150, 280, Arch 172, Math 202. F

250 Fundamentals of Interior Design II (4) Problem solving, spatial organization of micro environments, increasingly larger scale; communication of total design solution through visual and oral presentation techniques; emphasis on the use of color. One hour lecture and three hour studio. Prereq: or coreq: 240, Art 235. Sp

270 History of Interior Architecture I (4) Interior architecture, decoration and decorative arts within cultural context, ancient through eighteenth century. Emphasis on Italy, France and England. Prereq: one semester Art History. Sp

280 Micro-Computers for Interior Design (3) Introduction to computer-aided design and integration of computer software with the design process. Use of computer-aided design applications. Prereq: 280. Coreq: 350. Interior Design majors only. Sp

290 Lighting for Interior Designers (3) Application of elements and principles of lighting and wiring to design of visual environment. Prereq: or coreq: 350, Physics 122 or consent of instructor. Sp

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 Education and Hotel Restaurant Administration majors. A, Sp

315 Hospitality Interiors (3) Planning and organizing interior spaces (rooms, apartments, residences) to meet personal and family housing needs; relation of furnishings to architectural space. Open only to Hotel and Restaurant Administration majors. F, Sp

340 Intermediate Interior Design I (5) Studio problems of intermediate complexity with emphasis on program generation, color and material selection, design and execution of specific design projects. Prereq: Intermediate Interior Design I. Satisfactory/No Credit only. Sp

350 Intermediate Interior Design II (5) 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. Two hour lecture and three hour studio. Prereq: or Coreq: 340, 340, 460, Physics 122. Sp


370 History of Interior Architecture II (4) Interior architecture, decoration and decorative arts within cultural context, nineteenth through twentieth centuries; design philosophies, influence of fine art movements, technological advances. Prereq: 270 or consent of instructor. F

417 Honors: Interior Design I (1-4) Advanced research in interior design problems for juniors or seniors. May be repeated. Maximum 8 hours. Consent of Interior Design faculty. E

420 Practicum for Interior Design (12) Supervised experience in a professional design firm; business practices, project management and design philosophy. Prereq: 360 and consent of instructor. Coreq: Fourth year standing in Interior Design. Sp

430 Computer-Aided-Design (3) Interaction between computer-aided design process, data-base, spreadsheet software, computer-aided design software related to space planning. One hour lecture and two hour studio. Prereq: 280, Coreq: 350. Interior Design majors only. Sp

440 Advanced Interior Design I (5) Non-residential studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. Two hour lecture and three hour studio. Prereq: 440 or consent of instructor. Sp

445 Advanced Interior Design II (5) Comprehensive studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. Two hour lecture and three hour studio. Prereq: 440 or consent of instructor. Sp

450 Lighting for Interior Designers II (3) Application of elements and principles of lighting and wiring to design of visual environment. Prereq: or coreq: 350, Physics 122 or consent of instructor. Sp

475 History of American Interior Architecture (3) Historical developments in interior architecture and decorative arts within cultural context, medieval through nineteenth century. Prereq: 370 or consent of instructor. Sp

480 Furniture Design (4) Human factors data applied to design of body support, task support, storage and systems of organization; consideration of materials and advanced millwork design; materials and manufacturing processes. One hour lecture and two hour studio. Coreq: fourth year standing in interior design program or consent of instructor. Sp

485 Interior Design Synthesis (4-8) Advanced integrative design/research experience. Prereq: 450 or consent of instructor. F

491 International Study (1-15) Individual or group studio and/or study abroad; academic research, field internship, or studio internship substituted for 420 in student's professional curriculum. Determination of credit based on particular international experience. Prereq: Consent of instructor. Sp

493 Directed Studies in Interior Design (1-4) Student or staff initiated research or studio investigation of special topic. Elective credit only. May be repeated. Maximum 6 hours. Prereq: Consent of instructor. Sp

ITALIAN (584)
111-112 Elementary Italian (3,3) Introduction to 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 literature and 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 significance 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 Pucci 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)

421 Topics in Italian Literature and Cinema (3) Examination of Italian literature and cinema from 1930 to the present focusing on literary works translated into English as a dadaist film. Objectives of the course are to investigate the relationship between literature and cinema and to achieve a greater understanding of Italian culture since 1930. Films will be shown in Italian with English subtitles. May be repeated. Maximum of 6 hours. (Same as Cinema Studies 421.)

471 Latin American Civilization (3) (Same as Spanish 473-474.)

475 Studies in Latin American History (3) (Same as History 475.)

479 Social Protest Literature of Latin America (3) (Same as Spanish 479.)

481 Foreign Study (1-15)

JOURNALISM (594)

201 Publicity and Public Relations (3) Principles and practice of working for mass media. Publicity campaigns for organizations and institutions. Not available for majors in the College of Communications. Prereq: English 102. F, Sp

203 Editing (3) Methods and practice in judging news, organizing and presenting material, with emphasis upon study and use of rhetorical devices and logic. Prereq: 203 or consent of instructor.

211 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 areas such as business, science, agriculture, the humanities. Prereq: 203 or consent of instructor.

212 News Writing (3) Topics vary. May be repeated. Maximum credit 6 hours. Prereq: Consent of instructor.

220 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. Sp


233 Advanced Editing (3) Primary focus is on sensitivity to language and editing skills. Includes headline writing, layout and production. Prereq: 203.

300 Journalism in The High School (3) Functions and methods of high school publications. Staff selection, content of publications, copy, layout, photography, printing, advertising and business. Planning course outlines and curricula for journalism mass media studies.

300 Advanced Photographic Journalism (3) Advanced principles and methods of black-and-white photography. Introduction to color photography. News and feature photography, photo essays. Prereq: 290, or consent of instructor.

302 Field Experience (1-2) Approved internships and other supervised practice in journalism and public relations. May be repeated for a maximum of 4 credit hours. Prereq: Senior standing and consent of instructor. E

303 Independent Study (3) May be repeated for maximum of 6 hours. Prereq: Consent of instructor.

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.

310 Cicero and Sallust (3) Prereq: 252 or equivalent.

312 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 the 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 9 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 (600)

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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing during the course.

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.)

319 Caribbean Cultures and Societies (3) Same as Anthropology 319 and African and African-American Studies 318.

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.)

373 Geography of South America (3) (Same as Geography 373.)

401 Cultural Plurality and Institutional Changes in Latin America (3) Value systems, behavioral patterns, political parties, role of the military, the Church, educational institutions, dictatorship and nationalism. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing during the course. Prereq: 6 hours of Latin American Studies courses or consent of instructor.

402 Latin American Studies Seminar (3) Selected topics in Latin American studies. May be repeated. Maximum of 6 hours. Prereq: 6 hours of 300 or 400 level Latin American Studies courses or consent of instructor.

431 Directed Readings in Brazilian and Portuguese Literature (3) (Same as Portuguese 431.)

432 Directed Readings in Brazilian and Portuguese Literature (3) (Same as Portuguese 432.)

450 20th Century Hispanic Theater (3) (Same as Spanish 450.)

455 Latin American Government and Politics II (3) (Same as Political Science 455.)

471 Latin American Civilization (3) (Same as Spanish 471.)

472 Masterpieces of Spanish American Literature (3) (Same as Spanish 472.)

473-474 Survey of Spanish American Literature (3) (Same as Spanish 473-474.)

475 Studies in Latin American History (3) (Same as History 475.)

478 Social Protest Literature of Latin America (3) (Same as Spanish 478.)

LIBRARY AND INFORMATION SCIENCE (620)

310 Finding Information: Resources and Strategies (3) Information as a critical resource for research and decision making, emphasis on planning and executing information searches and using library resources.

390 Books and Related Materials for Children (3) Materials for children in leisure time or classroom activities; criteria for selecting books, magazines, recordings, films and related materials; storytelling and other devices for encouraging reading. Undergraduate Credit only. E

340 Books and Related Materials for Young People (3) Materials for teenagers in leisure time or classroom activities; criteria for selecting books, magazines, re-
410 Topics in Linguistics (3) Content varies. May be repeated. Maximum 6 hours.

411 Linguistic Anthropology (3) (Same as Anthropology 411.)

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 426, 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.)


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.)

475 Teaching English as a Second or Foreign Language II (3) (Same as English 475.)

485 Special Topics in Language (3) (Same as English 485.)

LOGISTICS AND TRANSPORTATION (624)

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 customer service, order processing and information flow, transportation, warehousing, purchasing, inventory, and system design and organization.

302 Introduction to Transportation (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: Economics 201.

400 Special Topic in Logistics and Transportation (3) Seminar in current problem area in logistics and transportation. Topic announced prior to offering. May be repeated. Additional credit provided topic is different. Maximum 6 hours. Prereq: Consent of instructor.

401 Materials and Traffic Management (3) Planning and management of logistics activities including purchasing, transportation, storage and control, and sales strategies. Materials management tools and organizational structures for various industries. Prereq: 301-302.

402 Transportation Operations and Cost Management (3) Freight carrier operations with the development of carrier costs and their control considered by each mode individually and in coordination with each other. Prereq: 301-302.


450 Computer Information Systems Analysis and Design (3) Design of operational/logistical information systems for organizations based on evolving microcomputer hardware networks, data base design theory, procedural and standard/query language software. Analysis of both operational and decision support requirements. Prereq: Management 303.

461 Seminar in Logistics Strategy (3) Senior seminar in development of strategy in logistics management. Major writing requirement. Prereq: 301, 302 and senior standing.

462 Seminar in Transportation Strategy (3) Senior seminar in development of strategy in transportation management. Major writing requirement. Prereq: 301, 302 and senior standing.

493 Independent Study (1-6) Directed research on subject of mutual interest to student and staff member. May be repeated. Maximum 6 credit hours. 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.

MANAGEMENT (625)

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. Prereq: Computer Science 102.

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 structures, conflict, politics, change and development. Prereq: 301.


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 strategies which will enable the organization to reach objectives. Major writing requirement. Prereq: Completion of business core courses and senior standing. Must be admitted to a business core course and senior standing. Prereq: 301, Statistics 201.


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 various personnel programs. Prereq: 431, senior standing.

440 Organizational Psychology (3) (Same as Psychology 440.)

441 Operations Management II (3) Planning and control of service systems. Aggregate planning-scheduling systems, materials management. Prereq: 341.

471 International Management (3) Factors significant to the manager in international business activities. Prereq: 301.

493 Independent Study (3) Readings, research, and special projects. Prereq: Consent of instructor. May be repeated one time for credit.

MANAGEMENT SCIENCE (627)

301 Management Science and Managerial Decision Support Systems (3) Introduction to quantitative decision models and their integration into microcomputer-based decision support systems. Topics include linear, dynamic, and simulation software as well as decision analysis, Markov, inventory and queuing models. Prereq: Mathematics 121, 122 and Statistics 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 the study's 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.


493 Independent Study (1-6) Directed research on subjects of mutual interest to student and staff member. May be repeated. Maximum six credit hours. Prereq: Consent of instructor.

497-498 Honors I & II (3,3) Topics may include non-business marketing applications, macro-environmental issues, market segmentation, international marketing, services marketing, marketing channels and related issues. Prereq: Consent of instructor.

MATHEMATICS (641)

100 Intermediate Algebra (3) First degree equations and inequalities, polynomials, rational expressions, exponents, graphing, second degree equations and inequalities, systems of equations, introduction to exponential and logarithmic functions. The course is designed for students who have completed Intermediate Algebra or have demonstrated readiness through appropriate placement testing or college algebra from another institution. Prereq: 110, 115, 119, 130, 201, and 202. Course does not satisfy graduation requirements. A, B, C, NC grading.

110 Algebraic Reasoning (3) A course in the applications of elementary mathematics to life in the modern world. Topics include applications in personal finance, consumer mathematics, and other areas. Students preparing to take 121 should take 119 instead of 110.
MEDIEVAL STUDIES (674)

201-202 Medieval Civilization (3,3) Introduction to basic themes in the medieval experience, approached from multiple points of view and including philosophy and religion, art and architecture, language and literature, social and political history. Writing-emphasis course; at least one in-class essay examination and 2000 words of writing outside the classroom.

261 Medieval Culture: Readings from the Early Middle Ages, 500-1000 (3) Critical analysis and interpretation of selected works from the early medieval period. Focuses on major types of literature produced during the period 500-1000 A.D., e.g., cultural, religious, historical, lyric, epic, biographical. Includes Augustine's Confessions, Boethius' Consolation, St. Gregory's Life of St. Benedict, The Life of Charlemagne, etc. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

262 Medieval Culture: Readings from the Later Middle Ages, 1000-1500 (3) Critical analysis and interpretation of selected works from the later medieval period. Focuses on romantic, allegorical and mystical writings from the high and later Middle Ages, e.g., the Song of the Nibelungen, The Romance of the Rose, St. Bernard's Commentary on the Song of Songs, Peter Abelard's History of My Callamities. Should be taken in sequence with 261. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

312-313 Medieval History (3,3) Same as History 312-313.

322 Medieval Philosophy (3) Same as Philosophy 322.

371 Early Christian and Byzantine Art to 1350 (3) Same as Art 371.

382 The Art of Italy, 1250-1450 (3) Same as Art 382.

401 Dante and Medieval Culture (3) Same as Italian 401.

402 Petrarch and Boccaccio (3) Same as Italian 402.

410 Medieval Art of the West, 800-1400 (3) Same as Art 381.

430 Medieval and Renaissance Thought (3) Same as Art 382.

431 Medieval Freshman Literature (3) Same as French 410.

415 Medieval Architecture (3) Same as Architecture 415.

475 Ancient and Medieval Political Thought (3) Same as Political Science 475.

MICROBIOLOGY (684)

200 Microbiology for Student Nurses (3) Only for student nurses in diploma program of hospitals affiliated with The University of Tennessee. Microbiological principles as they apply to nursing care of the patient, epidemiology of infection, and principles of immunity and allergy.

210 General Microbiology (3) General properties of bacteria and viruses including physiology, metabolism, genetics, applied bacteriology, pathogenesis, and immunity. May not be used as part of the major in microbiology. 2 hours and 2 labs.

210 Introduction to Microbiology (3) Introduction to bacteria and viruses including physiology, metabolism, and genetics of bacteria and replication and expression of viruses; bacterial and viral pathogenicity; mechanisms of resistance to disease. Prereq: Biology 240. Coreq: Biology 220.

319 Introductory Microbiology Laboratory (1) Basic techniques for the study of bacteria, current culture, and identification of microorganisms. Coreq: 310. F

320 Advanced Microbiology (3) Cell and molecular biology of microorganisms, principles and applications in modern technological society. Intended for Microbiology majors. Prereq: 310. Sp

329 Advanced Microbiology Laboratory (2) Laboratory techniques applicable to the major. Coreq: 320. Sp

400 Laboratory Problems in Microbiology (2-4) Research projects under the direction of a faculty member. May not be used for credit toward requirements for a major. Prereq: Consent of instructor. Maximum 9 hours. Satisfactory/No Credit only. Prereq: Consent of instructor. E

401 Undergraduate Research in Microbiology (3) Research experience in laboratory of faculty member with faculty committee guidance. Prereq: Junior or senior standing. 310.15-390.529. 3.2 minimum grade point average in all course work, consent of department head. E

402 Microbiology Senior Honors Thesis (4) Supervised research, preparation and presentation of the senior honors thesis. Prereq: Senior standing. 401, 3.2 minimum grade point average in all course work and 3.5 in Microbiology courses, and consent of department head. E

410 Bacterial Physiology (3) Modern concepts of the structure and function of the bacterial cell. Prereq: 310. F

411 Bacterial Genetics (3) Transmission and expression of genetic information by bacteria. Prereq: 310. Sp

420 Medical Microbiology (3) Disease producing microorganisms including bacteria, rickettsia, chlamydia and fungi. Prereq: 310. Sp

420 Medical Microbiology Laboratory (2) Laboratory exercises designed to accompany 420. Coreq: 319. Coreq: 420. Sp


449 Virology Laboratory (1) Laboratory procedures for isolation, handling, and culturing of animal viruses. Prereq: 310. Coreq: 440. F

470 Microbial Ecology (3) Physiological diversity and taxonomy of microorganisms from natural environments. Emphasis on the functional role of microorganisms in natural and simulated ecosystems. Prereq: 310. Sp

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

495 Senior Seminar (3) In depth consideration of microbiological problems of current interest requiring an integration of two or more disciplines. Emphasis on original literature and the experimental basis of current knowledge. Historical background, impact on society, predictions of the future, and the basis of moral and ethical judgements. Written reports required. A capstone course. Prereq: Senior standing. Writing-emphasis course.

MILITARY SCIENCE (688)

110 Basic Military Science (3) Formation and functioning of the American defense establishment and its relationship with American society, customs and traditions of the army, aspects of physical fitness training; selected topics dealing with current world affairs; challenges facing the military in the future. Prereq: United States citizen; freshman or sophomore standing. Students with higher standing may consult with the faculty. Letter grade only. F, Sp
Advanced Camp Practicum. Instruction builds on lesson grade only. 3 hours and 1 hour lab. F

210 Basic Military Leadership (2) Course of leadership principles and skills, with emphasis given to significant leaders, events, and situations, from 1636 to present.

220 Basic Officer Skills (3) Practical application of small unit operating techniques to include first aid, marksmanship and weapons familiarization, map reading and land navigation, drill and ceremony, processing of enemy prisoners of war (EPW), execution of individual/unit movement techniques, and the exercise of leadership. Prereq: 210 or consent of the Professor of Military Science. Letter grade only. F

310 Advance Military Studies I (4) Discussion and practical exercises in commandincluding operation of the military team, land navigation, small unit patrolling, and physical fitness. Tactical and administrative roles in the military are discussed in classroom and applied during leadership labs and field training. Prereq: United States citizen; minimum of 55 credit hours passed and have at least two years remaining to complete degree (undergraduate); physically qualified; cumulative GPA 2.00 or higher; legally qualified; 3 or 4 years of ROTC (or) 110, 120, 210, 220 completion (or) 200 completing evaluation. Letter grade only. 3 hours and 1 hour lab. Sp

400 Advanced Camp-Praetorian (4) Contact hours of instruction and evaluation of leadership skills, group dynamics, communication skills, decision-making skills during the summer between the Junior and Senior year.

410 Command and Staff Functions (4) Command and staff duties and relationships including logistics, personnel systems, efficiency reports, correspondence, training management, adjutancy, counseling, strategic force positioning, and non-commissioned officer relationships. Prereq: 310 and 320, 400 or consent of instructor. Letter grade only. 3 hours and 1 hour lab. Sp

420 Military Ethics and Law (4) Military profession, ethical reasoning, staff operations, military briefings and leadership, military justice system, individual leadership. Law of War and Peace. Prereq: 310, 320 and 400, 410 or consent of instructor. Letter grade only. 3 hours and 1 hour lab. Sp

430 U.S. Military History, 1754 to the Present (3) (Same as History 451.)

MUSIC EDUCATION (707)

200 Choral Laboratory (1) A laboratory choir designed to afford conducting opportunities for student conductors and to acquaint students with a variety of choral literature. May be repeated.

210 Class Wind Ensemble (2) 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. May be repeated. Maximum 4 hours. Letter grade only. F

220 Class Brass Methods (2) 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. Sp

230 Class Percussion Methods (2) Structure, use, techniques of playing and care of percussion 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, S

240 Class String Methods (2) 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, S

250 Functional Piano for Teachers (1) Practical piano skills for the general/vocal teacher who does not have a keyboard instrument as the applied principal. Transposition, improvisation, accompaniment skills, emphasis given to practical exercises and accompaniments. May be repeated once for credit. F, Sp

260 Eurhythmics (1) Principles and practice of eurhythmics, as developed by Emile Jaques-Dalcroze. Prereq: Consent of instructor. May be repeated once for credit. Maximum 2 hours. Letter grade only. F, S

300 Music for Elementary Teachers (2) Singing, rhythm activities, instrumental activities, listening, music reading, and creative activities appropriate for the elementary grades. Practical exercises and a leadership laboratory. Prereq: 310. Letter grade only. Su

310 Conducting I (3) Basic skills of conducting: baton, time-beating of traditional patterns, preparatory beat, cut-offs, cueing materials, the left hand, fermata, subdividing, Mechanics of full score. Video tapes of great conductors. Conducting “live” groups. Video tapes of each student conductor. Prereq: Two years of music theory or consent of instructor and admission to Teacher Education Program. 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 the full score. Achieving complete physical control. Rehearsal techniques. Conducting “live” groups in advanced works. Video tapes of all student conductors. Prereq: Conducting I or consent of instructor and admission to Teacher Education Program. Letter grade only. Sp

330 Music Methods for the Elementary School (3) Methods and materials 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

360 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

370-570 Symphony Orchestra (1,1) May be repeated.

380-580 Concert Choir (1,1) May be repeated.

390-590 Lab Band (1,1) May be repeated.

400-500 Concert Band (1,1) May be repeated.

410-510 Marching Band (1,1) May be repeated.

420-520 Wind Ensemble 301-389). May be repeated once for credit.

430-530 Jazz Ensemble (1,1) May be repeated.

440-540 Opera Theatre (1,1) May be repeated.

450-550 Choral Conducting (1,1) May be repeated.

460-560 Musical Theatre 103-440)

470-570 Band Conducting (1,1) May be repeated.

480-580 Sinfonietta (1,1) May be repeated.

490-590 Solo Group (1,1) May be repeated.

491 Internship I: Grades 6-8 (3) Methods and materials for teaching music in the junior high school. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only. F

492 Internship II: Grades 9-12 (3) Methods and materials for teaching music in the senior high school. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only. F

493 Independent Study in Music Education (1-6) Prereq: Consent of instructor. May be repeated. Maximum 9 hours. Letter grade only. F

494 Advanced Music Methods for Elementary Teachers (3) Continuation and amplification of the concepts and skills covered in Music Education 330 and required for Elementary Education majors. Prereq: 300 or consent of instructor. Letter grade only. Sp

MUSIC ENSEMBLE (708)

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. Maximum 12 hours.

305-505 Studio Orchestra (1,1) May be repeated. Maximum 12 hours.

306-506 Trombone Choir (1,1) May be repeated.

309-509 Tubas 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.

320-530 Chamber Singers (1,1) May be repeated.

322-532 Collegium (1,1) May be repeated.

323-533 Saxophone Choir (1,1) May be repeated.

340-540 Opera Theatre (1,1) May be repeated.

342-542 Opera Workshop (1,1) May be repeated.

350-550 Concert Band (1,1) May be repeated.

352-552 Campus Band (1,1) May be repeated.

354-554 Varsity Band (1,1) May be repeated.

356-556 Laboratory Band (1,1) May be repeated.

357-557 Marching Band (1,1) May be repeated.

360-570 Symphony Orchestra (1,1) May be repeated.

380-580 Concert Choir (1,1) May be repeated.

382-582 University Chorus (1,1) May be repeated.

383-583 Men’s Chorus (1,1) May be repeated.

389-588 Women’s Chorus (1,1) May be repeated.

399-599 Accompanying (1,1) May be repeated.

MUSIC GENERAL (698)

100 Fundamentals of Music (3) Theory and practice of basic elements of music. Writing-emphasis course.

110 Music Appreciation (3) Developing listening skills and understanding of Western music from the ancient world through the 20th century. For non-music majors. Writing-emphasis course.

120 History of Rock (3) Study and appreciation of rock music, its origins in blues and rock and roll, its development and cultural dimensions to the present. Writing-emphasis course.

130 Music Performance (3) Individualized course of study combining participation in a University musical ensemble with collateral study of an instrument or voice. One hour of applied study (Music Performance 103-440) and ensemble rehearsals as scheduled (Music Ensemble 301-389). May be repeated once for credit. Requires payment of Applied Music fee. For non-majors only. Prereq: Performing ability on an instrument or voice.

200 Solo Class (0)

430 Symphonic Literature (3) Survey of literature for the evolution of the symphony.

420 History of Opera (3) Dramatic, vocal, and orchestral elements in opera of Italian, French, and German reper- tores. Must be taken in sequence.

310 Introduction to Afro-American Music (3) History of African music, blues, gospel music, and jazz with emphasis on Black artists and their contributions. (Same as Afro-American Studies 310.)

330 Women in Music (3) History of women in music from the Middle Ages to present as composers, performers, educators, and patrons. (Same as Women's Studies 330.)

350 History of Jazz (3) Origin, development, and styles of jazz music and its exponents. Cultivation of special listening techniques. (Same as Afro-American Studies 350.) Writing-emphasis course.

380 Introduction to Folk and Popular Musics (3) Study of musics other than Western European classical music. Emphasis on musical structure. Examples will be drawn from folk, pop, rock, jazz, and non-Western repertoires. Prereq: 210-220.

390 World Music (3) Basic attitudes and techniques of ethnomusicology. Survey of music cultures throughout the world, with emphasis on the Pacific, Near East, Asia, and Europe.

400 Music History Survey (3) History of music with emphasis on genres, style changes, and cultural forces. Western European tradition from 400 to 1900. Recommended as a review course for graduate students. Prereq: Consent of instructor.

410 Music History Genre (3) Topics vary. May be repeated for credit. Maximum 8 hours.

420 History of Opera (3) Dramatic, vocal, and orchestral elements in opera of 1750 to 1820. Prereq: 220.

430-450 Keyboard Literature I, II (3,3) From 1750 through the baroque period, with primary emphasis on music for the harpsichord. Prereq: Music History 210-220.

420-430 Keyboard Literature I, II (3,3) From 1750 to middle 19th century. 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; collateral 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; organ literature and methods; organ design. Prereq or Coreq: Music History 220 and consent of instructor.

480 Teaching Class Piano (3) Historical survey and evaluation of teaching materials and methodology for college and/or adult beginning piano classes, with collateral teaching experience. Prereq: Consent of Instructor.

485 Suzuki Piano Method I (2) Study of the psychology, procedures, and literature of the Suzuki piano method. Must be taken in sequence. Prereq: Consent of instructor.

495 Suzuki Piano Method II (2) Study of the psychology, procedures, and literature of the Suzuki Piano Method. Prereq: Consent of instructor.

MUSIC JAZZ (711)

110 Jazz Theory (2) Fundamentals of the jazz language, including terminology, chord symbols, chord scales, and chord progressions. Prereq: Music Theory 110.

120 Analysis of Jazz Styles (2) Individual improvisatory styles through analysis of their transcribed solos. Training and function of the ear in music. Transcription of solos from recordings and preparation of analysis. Prereq: 110.

130-140 Jazz Piano I, II (1,1) Harmonic language of jazz. Interpretation of chord symbols, formata for voicing chords, chord progressions, and fundamental melody-playing and improvisation for right hand. Must be taken in sequence.

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 components and performers who have contributed significantly to the 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 tone 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.

340 Advanced Improvisation (3) Development of individual skills and solving technical problems in jazz improvisation. Prereq: 210 and 220.

420 Jazz Pedagogy (1) Methods and materials related to teaching of jazz, designing and administering jazz programs, and rehearsal techniques for jazz ensembles. Prereq: Studio Music and Jazz major or consent of music faculty.

MUSIC KEYBOARD (712)

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 completes piano competency requirement; must be taken in sequence.


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.

340-350 Piano Pedagogy I, II - Practicum (3)

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; collateral teaching experience. Must be taken in sequence. Prereq: Consent of instructor.

MUSIC PERFORMANCE (713)

103-203-303-403-503 Flute (1-4) May be repeated.

105-205-305-405-505 Oboe (1-4) May be repeated.

110-210-310-410-510 Bassoon (1-4) May be repeated.

115-215-315-415-515 Clarinet (1-4) May be repeated.

120-220-320-420-520 Saxophone (1-4) May be repeated.

135-235-335-435-535 Tenor Trombone (1-4) May be repeated.

140-240-340-440-540 Baritone (1-4) May be repeated.

145-245-345-445-545 Tuba (1-4) May be repeated.

150-250-350-450-550 Perussion (1-4) May be repeated.

155-255-355-455-555 Voice (1-4) May be repeated.

160-260-360-460-560 Violin (1-4) May be repeated.

165-265-365-465-566 Viola (1-4) May be repeated.

170-270-370-470-570 Cello (1-4) May be repeated.

175-275-375-475-575 String Bass (1-4) May be repeated.

176-276-376-476-576 Electric Bass (1-4) May be repeated.

179-279-379-479-579 Guitar (1-4) May be repeated.

180-280-380-480-580 Piano (1-4) May be repeated.
MUSIC THEORY (714)

110-120 Theory I, II, (3) Materials of music including basic elements through triads and seventh chords and modulation. Exercises in writing and analysis of music with emphasis on common practice.


210-220 Theory III, IV, (3) Materials of music with emphasis on literature of Classical, Romantic, and contemporary periods. Exercises in writing and analysis. Must be taken in sequence. Prereq: 120 or consent of instructor.


250 Composition (2) Writing short vocal and instrumental compositions using conventional and new forms of notation. Prereq: 220 or consent of instructor. May be repeated for credit. Maximum 4 hours.

290 Sound Recording Techniques (3) Theory and applications of tape recording's sound reproduction and reinforcement systems. Topics include room acoustics, audio measurements, microphones, studio and realtime processing, noise reduction, mixing, editing, monitors, system wiring, and maintenance.

310 Form and Analysis (3) Study and practice in analysis of forms of music from smallest structural units to large compound forms. Prereq: 220.

320 Orchestration (3) Study of capabilities of orchestral instruments for writing of orchestral music. Prereq: 290 or consent of instructor. Must be taken in sequence. Prereq: Consent of instructor.

330 Analysis of Sounds and Compositions (3) May be repeated. Prereq: Consent of instructor. Prereq: Consent of instructor.

340 Introduction to Computer Music Transcription (3) Exercise in notation, playback and publishing incorporating elements of word processing, graphic design, scanning and page layout. Study of Music Instrument Digital Interface protocol as it applies to computer music workstation design. Prereq: consent of instructor.

350 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: 230 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.

430-440 Counterpoint I, II, (3,3) 430-Species counterpoint in modal and tonal styles with emphasis on works of Palestrina and J.S. Bach. Prereq: 220. 440-Writing of contrapuntal forms of the 18th century and fugue analysis of works from the 18th through the 20th centuries. Prereq: 430.

450 Choral Arranging (2) Analysis of scores and writing of arrangements for choirs. Prereq: 220 or consent of instructor.

493 Independent Study in Music Theory (1-15) May be repeated for credit. Prereq: Consent of department head.

MUSIC VOICE (715)

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 musicals and revues. Prereq: Consent of instructor. May be repeated for credit. Maximum 4 hours.

220 Introduction to Music Theatre Technology (2) Stage technology unique to lyric stage.


240-250 Diction I, II (2,2) Sounds by phonetic symbols. Opera and art songs used for examples. Performance practice.

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 with emphasis on historical and national characteristics. Prereq: 230.

440 Projects in Opera Theatre (1-3) May be repeated for credit. Prereq: Consent of instructor. Maximum 9 hours.

450-460 Pedagogy I, II (1,1) 450-Concepts and approaches to teaching singing (past and present). 460-Vocal teaching materials, includes collateral teaching experiences. Prereq: Consent of instructor.

NURSING (720)

202 Health and Culture (3) An exploration of the beliefs and practices of various cultural groups within the United States in relation to health, illness, and the health care delivery system. Implications for the helping professions are examined. This course has no prerequisites and is open to all UT, Knoxville undergraduate students.

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 or consent of instructor.

301 Clinical Pharmacology (3) Biochemical and pharmacological effects of therapeutic drugs on the human body; positive and negative reactions to drugs and interaction effects between and among drugs. Prereq: Chemistry 100-10 and 6 semester hours of anatomy and physiology. F

302 Introduction to Professional Nursing (3) History, philosophy, and scope of nursing practice with emphasis on nursing process; cognitive and psychomotor skills necessary for effective nurse/client interactions. Clinical laboratory 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. F

304 Nursing Assessment and Wellness Promotion (3) Developmental, psychosocial, cultural, environmental, spiritual, family, and physical dimensions of health assessed. Collection, analysis, and application of assessment data in formulation of wellness-oriented nursing diagnoses and use of the nursing process in promotion and wellness. Evolution and expansion of the nursing role in wellness promotion and education. Laboratory sessions for development of nursing assessment skills. 3 lectures, 1 lab. Coreq: 301, 302. F

305 Transition to Professional Nursing (3) Current status of professional nursing utilization of the nursing process in a changing health care delivery system; Philosophy and conceptual framework of the baccalaureate nursing program and selected physiological and behavioral deviations demonstrated by clients whose health problems require in-patient services. 5 lectures, lab. For RN's only. F

311 Acute Care Nursing (10) Continuation of 302 with emphasis on physiological 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 providing nursing care for children and adults with complex and critical illnesses. 8 lectures, 4 lab. Prereq: 301, 302 and 304. Sp

312 Acute Care Nursing Theory (6) Theoretical component of 311. For RN's only. Prereq: 301, 305. Sp

313 Introduction to Nursing Research (3) Language of research, types of research designs, methodological approaches to sampling, data collection, and significance of findings. Evaluation of existing and ongoing nursing research studies. Prereq: 302 or consent of instructor.

315 Clinical Nursing Practicum (2) Application of nursing principles, philosophies and concepts to care of hospitalized clients. Prereq: 305. Coreq: 304, 312. For RN's only. Satisfactory/No Credit only. Sp, Su

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.

320 Advanced Placement Credit: Care of the Adult Client (3) For registered nurses only. Satisfactory/No Credit only. Sp

321 Advanced Placement Credit: Care of the Childbearing Client (3) For registered nurses only. Satisfactory/No Credit only. Sp

322 Advanced Placement Credit: Care of the Child (2) For registered nurses only. Satisfactory/No Credit only. Sp

323 Advanced Placement Credit: Care of Client with Mental Disorder (3) For registered nurses only. Satisfactory/No Credit only.

401 Family Health Nursing (6) Nursing needs of families in health and in crisis. Provision of comprehensive care to families in the childbearing and child-rearing phases of family development. Application of theories of human growth and development, family dynamics, and crisis intervention to provision of nursing care to families experiencing normal pregnancy and child birth and to those experiencing such health problems or complications as congenital anomalies, high risk birth, disturbed parent-child relationships, and/or psychological disturbances.

402 Family Health Nursing Theory (3) Theoretical component of 401. For RN's only. Prereq: 312. F, Sp

403 Community Health Nursing (6) Application of the nursing process to care of individuals, families, and groups in home and community settings with special emphasis on health promotion, disease prevention, and control of communicable diseases. Epidemiological approach is used to identify aggregates within the population that are at risk for illness, disability, or premature death. Political, social, economic, environmental, and ethical issues related to community health nursing. 3 lectures, 3 lab. Prereq: All 300 level nursing courses. F, Sp

405 Professional Nursing Seminar (2) Critical examination of legislative, legal, ethical, social, and educational roles and trends that have immediate and long-range implications for professional nursing practice. Prereq: Senior standing. For nursing majors only. Sp

409 Nursing Management and Strategies (6) Management and leadership principles and their application to clinical settings. Course topics include communication, quality assurance procedures, staffing patterns, nursing service delivery models, nursing practice standards, and evaluation of nursing practice. Counseling, seminars, and workshops are provided for development of entry level nursing management role. 3 lecs., 3 lab. Prereq: All 400 level nursing courses or consent of instructor. Sp

411 Psychosocial Long-Term Nursing (5) Nursing needs of clients whose health problems are developmental, behavioral, or long-term nature. Emphasis on prevention, wellness 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. Sp, F

412 Psychosocial Long-Term Nursing Theory (3) Theoretical component of 411. For RN's only. Prereq: 312, Sp, F

414 Community Mental Health Nursing (6) Nursing needs of clients and groups with psychosocial and/or long-term health problems. Clinical experiences provide opportunities for students to apply the nursing process to individuals, families, and groups in a variety of settings. 3 lectures, 3 lab. Prereq: All 300 level nursing courses. For non-nurse MSN students only. F

415 Family-Community Health Nursing (6) Application of the nursing process to individuals, families, and groups in the childbearing/rearing stages of development. Clinical experiences are provided in a variety of hospital and community settings. 3 lectures, 3 lab. Prereq: All 300 level nursing courses. For non-nurse MSN students only. Sp

450 Physiological Principles (3) Concepts and principles of normal human physiology; tissue and organ physiology as a basis for integration of system physiology and for understanding pathophysiological mechanisms. Prereq: RN status or consent of instructor. No credit for students who have taken 302, 305, 311 or 312. F, Sp

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. Sp

453 Oncology Nursing (3) In-depth exploration of oncologic disease; cancer treatment modalities; psychosocial and nursing interventions employed in all phases of the disease. Interdisciplinary approach analyzed. Prereq: 411 or 412 or consent of instructor. F

470 Special Topics (1-3) Indepth study of selected nursing topics, problems, or issues not covered in other courses. Topics determined by faculty and student interest. Prereq: Consent of instructor. F, Sp

493 Independent Study (1-3) Nursing or health-related topic not covered in other nursing courses. Prereq: Senior standing or permission of instructor.

NUTRITION (725)

100 Introductory Nutrition (3) Nutritional concepts; current consumer issues in nutrition; nutritional needs through life cycle; dietary problems and their underlying causes. 3 lectures, 3 lab. Prereq: All 300 level nursing courses or consent of instructor. A student who has received credit for NTR 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. F, 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; dietary problems and their underlying causes. A student who has received credit for NTR 107 or 300 may not receive credit for this course. F, Sp

200 Physiological Chemistry (4) Metabolism of carbohydrates, lipids, and nitrogenous compounds; role of vitamins and minerals as coenzymes and prosthetic groups. Prereq: Chemistry 110 or equivalent. F

201 Food and Clinical Analysis (4) Principles, procedures, instrumentation for analysis of food and body fluids. Prereq: 200 with a grade of C or better for NTR majors. 2 hours and 2 labs. Sp

300 Fundamentals of Nutrition (3) Nutrition in normal and altered health states during life cycle; nutritional analysis of diets. Prereq: Chemistry 110 or equivalent, Zoology 200. A student who has received credit for NTR 107 or 100 may not receive credit for this course. F

301 Nutrition for Educators (3) Principles of nutrition: biochemical and physiological aspects of nutrition during the life cycle; nutrition education concepts and strategies. Prereq: 100 or 107, 101, Chemistry 100 or equivalent, Zoology 230, or consent of instructor. A, Sp

312 Science of Food (4) Chemical and physical properties of food related to functional and nutritional properties; sensory evaluation and concepts and techniques; effects of processing on food; application of food principles related to health; diet planning. Prereq: 100 or 107, 101, 201, Micro 210. 3 hours and 1 lab. F

313 Advanced Nutrition (4) Integrated knowledge of physiological chemistry and physiology applied to understanding human nutrition requirements; computer analysis for diet adequacy. Prereq: 100 or 107, Zoology 230. F

410 Professional Issues in Dietetics (1) Dietetic registration, licensure, third party payments, dietetic practice, marketing dietetics; internship preparation, professional policy in dietetics practice. Prereq: Senior standing. F

411 Nutrition in Disease (4) Metabolic processes of diseased organs and/or tissues; dietary modifications required. Prereq: 312, 313, F

412 Food and Nutrition Resources Management (3) Integration of community food and nutrition resources; geographic, social, economic, educational, cultural, health characteristics associated with food and nutritional problems and the need for services by individuals in community public policy. Prereq: Or Coreq: 411. Sp

413 Experimental Food Science (3) Individual and group laboratory experimentation in food science; microcomputer applications. Prereq: 312, PSCS 471, 1 hour and 2 labs. F

414 Nutrient-Drug Interactions (2) Nutrient effects on efficacy and toxicity of drugs; drug effects on absorption, metabolism of nutrients. Prereq: 300 or equivalent. A, Sp

450 Special Topics: Nutrition (1-3) Developments, issues and problems in Nutrition; topics variable. Prereq: Junior or Senior standing in NTR or consent of instructor. May be repeated. Maximum 3 credits. E

487 Honors: Nutrition (1-3) Senior project. Prereq: Senior standing and consent of instructor: E

492 Field Experience: Nutrition (1-3) Prereq: Junior or Senior standing, consent of instructor: Satisfactory/No Credit only. E

493 Directed Study: Nutrition (1-3) Individual student faculty experience. Prereq: Junior or Senior standing, consent of instructor: Satisfactory/No Credit only. E

ORNAMENTAL HORTICULTURE AND LANDSCAPE DESIGN (740)

110 Environmental Horticulture (3) Basic plant sciences and their relationship to ornamental horticulture. Introduction to awareness and appreciation of ornamental plants, design and management of home landscapes, selection and use of herbaceous plants and turfgrasses. 3 hours. F

210 Floral Design (2) Principles and techniques of basic flower arranging with emphasis on arrangements for home and special use. Lab fee will be charged. 2 labs. Sp

220 Basic Landscape Plants (2) Identification, classification, adaptation, culture and landscape design uses of basic ornamental trees, shrubs, and vines. Prereq: 8 hours Botany or consent of instructor. 2 labs. E

230 Interior Plants (2) Identification, culture, design application, and propagation of foliage plants and plants in the interiorsche landscape. Introduction to interior space management. 2 labs. Sp

260 Fundamentals of Landscape Design (3) History of landscape design as it relates to contemporary application. Aesthetic and environmental concerns, principles of landscape design. Prereq: 110, 220 or consent of instructor. 1 hour and 2 labs. E

310 Greenhouse Production and Management (3) Management and operation of a greenhouse for commercial purposes, research and institutional use, and home hobby purposes. Culture and management of economically important florists' crops in the United States; basic physiology of plants including photosynthesis, thermoperiodism, growth regulation, and nutritional requirements of crops. Prereq: 110 or consent of instructor. 2 hours and 1 lab. F

320 Plant Materials (2) Identification, classification and design uses of ornamental plants including trees, shrubs, vines and herbaceous plants and generally excluding those covered in 220. Prereq: 220 or consent of instructor: 2 labs. Sp, F

330 Plant Propagation (3) Physiology, methodology, and environmental requirements for propagation. Prereq: 110 and 8 hours Botany or consent of instructor. 2 hours and 1 lab. F

340 Turfgrass Management (3) Practical management of turfgrass: cultivation selection, identification, establishment; basic applications, fertilization, watering, and irrigation practices, and thatch and compaction control; pest identification and control. Prereq: 110, Plant and Soil Science 210 and 8 hours of Botany or consent of instructor. 2 hours and 1 lab. F

350 Basic Landscape Construction (3) Basic materials and detailing. Introduction to the landscape construction and contracting industry, application of landscape materials, wood, concrete and masonry contracting, soil drainage, site grading, and landscape grading. Prereq: 280. 2 hours and 1 lab. F

360 Practicum in Landscape Construction (3) Practical experience in implementation of landscape development projects. Directed lab and field instruction in planting operations and basic landscape construction including interpreting and implementing landscape design, drawings and specifications. Prereq: 350. Two three hour labs. Sp

370 Grounds Maintenance (3) Identification and understanding of maintenance tasks; transplanting, soil amendments, growth control, irrigation, climate protection and pest control. Maintenance and use of equipment; management practices. Prereq: 110, 2 hours and 1 lab. F

380 Supplemental Landscape Design Graphics (2) Refinement of graphic skills. Sketches, elevations, sections, isometric projections, and perspectives. Lettering, plan graphics, color rendering, and other visual presentation media. Prereq: 280. Two 2 hour labs. F

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 aerator management; establishment 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, materials, and construction techniques for specialized components of the landscape industry. Irrigation systems, outdoor lighting, pools and other water features, and paver construction. Prereq: 350. Two 2 hour labs. F

451 Plant Tissue Culture (3) (Same as Botany 451.)

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 presentations by industry representatives. Prereq: 350 or consent of instructor. 2 hours. F

480 Advanced Landscape Design (4) Comprehensive application of landscape design skills. Design applications involving site layout, landscape grading, applied landscape construction, and planting design. Analysis, preparation, design, detailing, estimating, and specifying applicable to a variety of landscape projects. Prereq: 280, 350, and 380. 2 hours and 1 lab. Sp
420 Off-Campus Internship (1-3) Work experience in approved ornamentals, turf or landscaping industry. May be repeated. Maximum of 8 credits. E

433 Individual Problem Study (1-3) May be repeated. Maximum of 6 credits. E

PHILOSOPHY (745)

110 The Human Condition: Value and Reality (3) The meaning of life, the existence of God, freedom of the will, human nature and values. Writing-emphasis course.

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 or after 110. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

120 Foundations of Western Thought: Antiquity through 1500 (3) Plato, Latium and the Medieval Period. Writing-emphasis course.

121 Foundations of Western Thought: 1500 through Early Twentieth Century (3) Development of Rationalist and Empiricist thought; Nineteenth Century and early Twentieth-Century Philosophy. May be taken before or after 120. Writing-emphasis course.

130 Critical Thinking (3) An introduction to practical reasoning in natural language, designed to enhance skills in recognizing, analyzing, evaluating and constructing arguments. Satisfies Basic Skills Requirement. "Mathematics, Computer Science or Logic".

135 Formal Logic (3) Introduction to formal deductive systems; propositional and predicate logic. Satisfies Basic Skills Requirement. "Mathematics, Computer Science or Logic".

200 Special Topics (3) When content varies, may be repeated. Maximum 6 hours.

240 Ethics (3) Theories of ethical values. Writing-emphasis course.

242 Ethical Theory and Its Applications (3) A study of moral values and principles in theoretical and practical contexts. Open only to students registered in the College of Business Administration.

290 Social and Political Philosophy (3) Basic problems and concepts of social and political philosophy.

320 Ancient Western Philosophy (3) Writing-emphasis course.

322 Medieval Philosophy (3) Development of medieval thought from St. Augustine to William of Occam. Secondary and primary sources. (Same as Medieval Studies 322.) Writing-emphasis course.

324 Seventeenth- and Eighteenth-Century Philosophy (3) Writing-emphasis course.

325 Nineteenth- and Twentieth-Century Philosophy (3) Writing-emphasis course.

335 Intermediate Formal Logic (3) Metatheory of formal logic and philosophy of logic. Prereq: 135 or consent of instructor.

342 Business Ethics (3) Ethical problems as they confront both business as a social institution and individuals in business.

344 Professional Responsibility (3) Critical analysis of selected classic texts from philosophy, religious studies, and social sciences dealing with responsibility 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 the following: helping professions (social work, human services, ministry, teaching). (Same as Religious Studies 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.)

346 Environmental Ethics (3) Issues concerning the nature of the environment and the place of humanity within it.

349 War and Morality (3) Moral justification for war (just war); legal and moral constraints in war (just in bello).

350 Aesthetics (3) Philosophical discussion of art. Writing-emphasis course.

353 Philosophy and Literature (3) Nature of literature; philosophical assumptions in literary works. Writing-emphasis course.

360 Introduction to Philosophy of Science (3) Standard topics in philosophy of science; scientific method; nature of laws and theories, problem of induction, explanation, measurement. No background in logic is presupposed.

363 Conceptual History of Science (3) Historical evolution of thought in astronomy, mechanics, and the philosophy of living things, from the Greeks through the early twentieth century. Prereq: 8 hours of physical science or consent of instructor.

370 Philosophy of Religion (3) Analysis of basics in the philosophy of religion. (Same as Religious Studies 370.)

374 Philosophy and Religion of India (3) (Same as Religious Studies 374.)

376 Buddhist Philosophy and Religion (3) (Same as Religious Studies 376.)

379 Religion and Philosophy in China (3) (Same as Religious Studies 379.)

380 The Concept of Woman (3) The nature of woman has been conceived by major western philosophers from Plato to Simone de Beauvoir. (Same as Women's Studies 380.) Writing-emphasis course.

382 Philosophy of Feminism (3) Various feminist theories and their application to social issues of concern to women today. (Same as Women's Studies 382.)

390 Philosophical Foundations of Democracy (3) Philosophical problems relating to the nature and justification of the central values, principles, and concepts of democratic society. Writing-emphasis course.

393 Marxism (3) Basic philosophical issues in Marxist theory; ideology, dialectics, praxis, the critique of modern society. (Same as Russian and East European Studies 393.)

395 Existentialism (3) Themes related to freedom and finitude in the tradition that begins with Kierkegaard and Nietzsche and extends to Heidegger and Jaspers, Sartre and Merleau-Ponty.

400 Special Topics (3) When content varies, may be repeated. Maximum 6 hours.

411 Modern Religious Philosophies (3) (Same as Religious Studies 411.)

412 Classical Indian Systems of Philosophy: The Moksha Tradition (3) (Same as Religious Studies 412.)

420 Topics in History of Philosophy (3) One or more topics in the history of philosophy. (Same as Religious Studies 420.)

425 American Philosophy (3) Colonial to early 20th Century. Prereq: 8 hours of philosophy or consent of instructor. Writing-emphasis course.

430 Topics in Logic (3) Prereq: 6 hours of logic or consent of instructor. Writing-emphasis course.

440 Contemporary Ethical Theory (3) Topics in metaphysics or ethics. Prereq: 6 hours of philosophy or consent of instructor.

446 Theoretical Issues in Medical Ethics (3) Prereq: 240 or 345 or consent of instructor. (Same as Religious Studies 446.)

460 Philosophy of Science (3) Methodological and conceptual issues in the natural and social sciences: patterns of theory modification and replacement, the status and justification of scientific entities. Prereq: 360 and one year of natural or social science, or consent of instructor.

465 Philosophy of History (3) Speculative and critical aspects of philosophy of history. Prereq: 6 hours of philosophy or consent of instructor.

473 Philosophy of Mind (3) Problems of mind and body in relation to consciousness and personal identity. Prereq: 6 hours of philosophy or consent of instructor.

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.

476 Philosophy of Language (3) Survey of issues such as meaning, reference, and truth. Prereq: 6 hours of philosophy or consent of instructor.

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.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

PHYSICAL EDUCATION SERVICE PROGRAM (764)

The following courses may not be repeated:

200 Special Topics (1-2) When content varies, may be repeated. Maximum 6 hours.

201 ARC WSI-Handicapped (1)

202 Badminton (1)

203 Elementary Ballet I (2)

204 Elementary Ballet II (2)

205 Basketball (1)

206 Bowling (1)

209 Flag Football (1)

210 Folk and Square Dance (1)

211 Golf (1)

212 Handball (1)

213 Ice Skating (1)

214 Elementary Jazz I (2)

215 Elementary Jazz II (2)

216 Martial Arts: (Special Topics) (1)

219 Coed Gymnastics: Men's Apparatus (1)

220 Elementary Modern Dance I (2)

221 Elementary Modern Dance II (2)

222 Paddleball (1)

223 Personal Safety and Self-Defense (1)

224 Physical Fitness: Conditioning (1)

225 Physical Fitness: Exercise to Music (1)

226 Exercise and Weight Control (1)

229 Physical Fitness: Jogging (1)

230 Physical Fitness: Swimming (1)

231 Physical Fitness: Walking (1)

232 Racquetball I (1)

233 Racquetball II (1)

234 Soccer (1)

235 Social Dance (1)

236 Softball (1)

239 Beginning Swimming (1)

240 Intermediate Swimming (1)

241 Emergency Water Safety (1)

242 Tap Dance I (2)

243 Tap Dance II (2)

244 Tennis I (1)

245 Tennis II (1)
PHYSICS (773)

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 the framework of mathematical analysis. 121: Description of motion, forces, energy and momentum, properties of matter. 122: Electricity, magnetism, light, topics from modern physics including properties of atoms and nuclei. Must be taken in sequence. 3 hours lecture including demonstration lab. Prereq: Algebra.

131-132 Fundamentals of Physics: Mechanics and Heat (4,4) For engineers and liberal arts majors in mathematics and the physical sciences. Basic engineering 121-131 is equivalent course for engineers. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 2 hours lab.


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, gravitational waves, relativistic effects. Atmosphere and oceanic phenomena, drifting continents, galactic phenomena, nuclear energy, cosmology, dynamic changes in atmospheres and in earth's crust. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 2 hours lab.

145 Physics of Athletic Activity (3) Principles of physics, particularly mechanics and energy with emphasis on their role in physical activities, particularly sports-related. Topics include statics, equilibrium, linear and angular motion, momentum, force, work, and energy. 3 hours lecture, 1 hour lab.

151-152 Elements of Physics: Computer Scientists (4,4) For students majoring in computer science. Principles of mechanics, heat and thermodynamics, wave motion and sound, electricity and magnetism, light, radiation, and modern physics. Must be taken in sequence. Coreq: Mathematics 141-142. 3 hours lecture, 2 hours lab.

170 Modern Optics (4) Transmission of light in uniform, isotropic media, reflection and transmission at interfaces; mathematics of wave motion and interference effects; Fundamentals of basic optics and holography. Prereq: 431 or 232 and consent of instructor. 3 hours lecture, 3 hours lab.

227 Honors: Electricity and Magnetism and Light (4) Honors course for selected students admitted on basis of performance in 131-132, 137-138 or Basic Engineering 131-132. Coreq: Mathematics 231. 3 hours lecture, 3 hours lab.

238 Honors: Wave Motion and Modern Physics (4) Honors course for selected students. Continuation of 237. Prereq: 237. Coreq: Mathematics 241. 3 hours lecture, 3 hours lab/recitation.


321 Thermal Physics (3) Concepts of temperature and heat; laws of thermodynamics; elementary statistical mechanics; applications to physical and chemical problems. Prereq: 311-312 and consent of instructor.

340 Relativity and the Structure of the Atom (3) Special relativity and the wave model of the atom. Fundamental concepts of modern physics and their applications to atomic systems. Prereq: 231.


351-352 Electronics Laboratory (3,3) Electronic components, circuits and instruments for physicists, with emphasis on applications to simple circuits and instrumentation. 361-362 Electronics Laboratory (3,3) Analog electronic circuits, including fundamental network theorems, complex impedance and admittance, AC frequency response and resonance, feedback, operational amplifiers, oscillators, and various semiconductor devices, as applied to scientific instrumentation. 362: Digital electronics, including elementary building blocks of relevance to data acquisition systems, digital to analog conversion, analog to digital conversion, simple applications of microprocessors. Prereq: 222 or 232. 6 hours lab per week.

390 Junior Seminar (1-3) Topic of current interest. Prereq: 231 or equivalent. May be repeated with consent of department. Maximum 6 hours.

401 A Survey of Physics (3) A survey of physics from earliest times to the present, emphasizing the underlying philosophico-mathematical principles. Classical theories of gravitation, electromagnetism, and relativity; various forms of quantum mechanics, quantum electrodynamics, and recent theories of particles, fields, and their interactions; effects of quantum mechanics on modern society and the practice of physics from a value-oriented perspective. Written reports on important original papers. Thought-provoking problems combined with oral and written report on some independent study. Prereq: Senior standing in Physics or consent of instructor.


421 Modern Optics (4) Transmission of light in uniform, isotropic media, reflection and transmission at interfaces; mathematics of wave motion and interference effects; Fundamentals of basic optics and holography. Prereq: 431 or 232 and consent of instructor. 3 hours lecture, 3 hours lab.

425 Principles of Non-Destructive Testing (3) (Same as Engineering Science and Mechanics 425.)

431-432 Electricity and Magnetism (3,3) Electrostatics, magnetostatics, and the electromagnetic field, the Maxwell Equations, electromagnetic waves and radiation. Prereq: 232.


461-462-463 Modern Physics Laboratory (3,3,3) Variety of experimental techniques, including spectroscopy, electronic measurements, computer interfacing, ressonance detectors, and applications to experiments in nuclear, atomic, molecular, and solid state systems. Classic experiments in quantum physics for advanced undergraduates. Prereq: 232 and a basic knowledge of circuits.

471-472 Health Physics (3,3) Radioactivity, interaction of electromagnetic radiation with matter, radiation quantities and units, point kernel and extended sources, x-rays and gamma rays, neutron fields, measurement of charged particles with matter, stopping power, range-energy relations, counting statistics, shielding, dosimetry, waste disposal, criticality prevention, radiation biology and ecology. Preq: 340 or 341.

480 Senior Seminar (1-3) Topics of current interest. May be repeated with consent of department. Maximum 6 hours.

491 Foreign Study (3-15)

492 Off-Campus Study (3-15)

493 Research and Independent Study (1-3) Research and study in field of particular interest with faculty guidance. Consent of department is required. Maximum 6 hours.

PLANNING (782)

401 The City in the United States (3) Development and character of United States cities. Contemporary issues and selected case studies. (Same as Urban Studies 401.)

402 Survey of Planning (3) History of city development and of planning with special attention to the United States. Examination of urban and regional models of planning. State of the art, the comprehensive plan, implementation devices. Planning issues in society. Not for credit for M.S.P. degree. (Same as Urban Studies 402.)

PLANT AND SOIL SCIENCE (792)

200 Current Topics in Environmental Science (1) Lectures and invited presentations on current environmental issues and careers in Environmental Science. Sp

210 Introduction to Soil Science (4) Differences in soils; soil genesis, physical, chemical, and biological properties of soil; relation of soils to land use and pollution; soil management relative to tillage, erosion, moisture supply, temperature, aeration, fertility, and plant nutrition. Prereq: Botany 110, 120 or Biology 110, 120. F

230 Introduction to Crop Science (3) Fundamentals of structure, classification, cultivation 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. 2 hours lecture and one 2 hour lab. Prereq: Botany 110, 120 or Biology 110, 120. F

292 Soil Morphology (1) Intensive course involving describing, classifying and interpreting soils in preparation for regional and national soil judging contests. Prereq: 210 and consent of instructor. May be repeated. Maximum 4 hours. 1 hour and 1 lab. F, Sp

311 Soil Fertility (3) Influence of soil properties on plant nutrient availability and uptake. Principles of fertilizer use and their reaction in soils. Prereq: 210. 2 hours and 1 lab. Sp

312 Soil and Water Conservation (2) Hydrologic, agronomic, and engineering principles applied to resource management problems including flood and erosion control, drainage and water quality. Prereq: 210. Coreq: 313. S

313 Soil and Water Conservation Laboratory (1) Laboratory on topics covered in 312. Coreq: 312.

331 Field and Forage Crops (3) Agronomic principles of crop production and management. Crop improvement, crop and range management, fertility, pest management, harvest and utilization of major field and forage crops. Prereq: 210 or 230. 2 hours and 1 lab. Sp
332 Fruit Crops (3) Fundamentals of site selection, fruit propagation, tree training, pest control and related management factors for deciduous fruit crops will be emphasized. Prereq: 230, 2 hours and 1 lab. F-A

333 Vegetable Crops (3) Characteristics, economic importance, adaptability and production of vegetables for fresh and processing crops with emphasis on both warm and cool season crops. Prereq: 210 or 230, 2 hours and 1 lab. Sp-A

334 Weed Management (3) Principles of weed interference, integrated management, herbicide selectivity and behavior, shoot and root competition, weeds in crop and non-crop situations. Prereq: 210, 2 hours and 1 lab. F

392 Practicum (2-4) Working with agricultural, environmental or natural resource-related enterprises in an area of student's career interest/field of study. Prereq. may be used as 300-level prerequisite for any course in Plant and Soil Science. Prereq: Consent of advisor and faculty committee. E

401 Seminar (1) Current topics in the plant and soil sciences. Techniques of effective oral and written professional presentation, professional ethics, a view 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 organic and inorganic compounds; decomposition residues; dynamics of soil organic matter. Prereq. 210 and Chemistry 110 or 350 or consent of instructor. 2 hours and 1 lab. Sp-A

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 soils with emphasis on the collodial 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 nonequilibrium aspects of site selection for land use, soil survey and resource data in land use, recognition and prevention of soil pollution. Prereq. 210 or consent of instructor. Sp-A

415 Soil-Water Relations (3) Physical relationships among solid, liquid, and gaseous phases of the soil system. The relationships of soil properties to the processes governing water and nutrients in soil. Prereq. 210. 2 hours and 1 lab. F, A

431 Crop Physiology and Ecology (3) Plant physiology and ecology applied to crop production. Effects of environmental factors on physiological processes. Prereq. Botany 231, 2 hours and 1 lab. F-A

432 Bioclimatology (3) Solar energy budget; interactions between global, regional and local climates and biological systems; qualitative and microclimate; microclimates and their modification; automated weather station data collection and analysis; biological responses to climatic stresses; climate variation and change and their effects on biological systems. Prereq: One year of physics, general biological science, junior standing. 2 hours and 1 lab. F-A

433 Agricultural Pesticides (3) Regulation of pesticide development, manufacture, transportation, marketing and use. Structure, use, mode of action, degradation and environmental effects of pesticides used in agriculture, forestry and related areas. Prereq: 1 year biological sciences and 1 semester chemistry. 2 hours and 1 lab. Sp

434 Postharvest Biology and Technology (3) Principles, methods, and techniques related to the maintenance of quality of horticultural commodities. Emphasis is placed on preharvest management, harvesting, storage facilities and techniques, quality evaluation and the biological and postharvest physiology of ripening, maturation, ripening, and senescence. Two Saturday field trips. 2 hours and 1 lab. Prereq: 1 year biological science and junior standing. F, A

453 Principles of Plant Breeding (3) Genetic principles and methods of plant breeding. 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

493 Problems in Plant and Soil Science (1-3) Special research or laboratory problems in plant and soil science. May be repeated. Maximum 6 hours. E

POLITICAL SCIENCE (801)

101 United States Government and Politics (3) Introduction to United States National Politics including the Constitution, the Presidency, the Congress and the courts.

102 Introduction to Political Science (3) Analysis of politics and political systems 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 3.5 average; entering freshmen accepted on basis of strong performance on SAT or ACT and/or 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.

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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

312 Popular Culture and American Politics (3) Popular culture related to American politics and government focusing on the role of film, television, fiction, music, drama and sports in American politics course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as American Studies 312 and Cinema Studies 312.)

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.


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.)

325 United States Constitutional Law: Sources of Regulatory Authority, and Constitutional Processes (3) Fiscal planning, budget and expenditure processes. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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 regulation. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

345 Government and Politics of China and Japan (3) Political setting, structure and political processes in China and Japan. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

365 Introduction to International Relations (3) Sources of regulatory authority, international economics, international security and peace (imperialism, war, diplomacy, the balance of power, international law and international organization.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

366 United States Foreign Policy Process (3) Processes whereby United States foreign policies are made and implemented, focusing on interaction within federal bureaucracy and 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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

385-386 Junior Honors Seminar (3.3) Required of two-year students; admission with consent of department.

410 Special Topics in Political Science (2) 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. (Same as American Studies 420.)

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: Civil Rights and Liberties (3) Current issues in civil rights and liberties including: first amendment freedoms, equal protection, privacy and the rights of the accused.

440 Public Management and Human Resources (3) How public and human resource management policies and procedures affect human resources in pursuit of public sector organization goals.

441 Budgetary Process and Financial Management (3) Fiscal planning, budget and expenditure processes in government, their policy and administrative implications.

442 Administrative Law (3) Legal dimensions of administrative power and procedure, and constitutional controls over administrators.

452 Black African Politics (3) Recent evolution and current political environment of Black African nations. (Same as Afro-American Studies 452.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

453 Politics in Western Democracies (3) Political culture and institutions of Western democratic systems. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

454 Government and Politics of China and Japan (3) Political setting, structure and political processes in China and Japan. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

455 Latin American Government and Politics II (3) Selected topics on Latin American political dynamics, including: institutionalization of leading theoretical explanations. (Same as Latin American Studies 455.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

459 Government and Politics of the Soviet Union (3) Origins and development of the Soviet political system,
and selected policy areas. (Same as Russian and East European Studies 459.) Writing-emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

460 Revolution (3) Characteristics, theories, and consequences of revolution with particular focus on left-wing revolutions and movements.

461 Policy Making in Democracies (3) Comparative approach to theory and process of making public policies.

463 Contemporary Middle East Politics (3) Governments and movements in the Middle East, their characteristics, bases, and interrelationships.

469 Soviet Foreign Policy (3) Soviet international behavior since 1917, and selected problems of Soviet foreign policy post World War II. (Same as Russian and East European Studies 469.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

470 International Law (3) Nature and development of writing outside the classroom.

476 Modern Political Thought (3) Major western political thinkers from Socrates to Marx. (Same as Medieval Studies 476.)

478-480 Directed Readings in Brazilian and Portuguese Literature (3,3,3) May be repeated with consent of instructor. Some review of grammar. Prereq: 212 or 300 equivalent.

110 General Psychology (3) Introduction to primary approaches to the study of human behavior and experience. E

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 and endocrine systems, and other biological influences on behavior. Prereq: 110 or equivalent, or consent of instructor. F, Sp

220 Behavior and Experience: Humanistic Psychology (3) Behavioral and phenomenological analysis of individuals and their development in natural environments. Prereq: 110 or equivalent, or consent of instructor. E

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 210 or 220, or consent of instructor. E

310 Learning and Thinking (3) Survey of theory and findings of research concerning both humans and nonhumans. Prereq: 110 or equivalent and 210 or 220, or consent of instructor. F, Sp

320 Motivation (3) Survey of theories and related research: discussion of applications. Prereq: 110 or equivalent and 210 or consent of instructor. F, Sp

330 Abnormal Psychology (3) Individual and environmental factors in deviant and maladaptive behavior; neurotic and psychosomatic reactions. Commonly found methods of treatment. Prereq: 110 or equivalent and 210 or 220, or consent of instructor. E

359 Laboratory in Human Relations (3) Interpersonal relations and communication through structured experiments 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 and 210 or 220. E

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 and 210 or 220, or consent of instructor. May be repeated. Maximum 6 hours may be applied toward major.

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 115, Statistics 201, or equivalent.

395 Methods of Research in Psychology (3) Fundamentals of research design, conduct, and interpretation of research, including systematic observation, experiments, quasi-experiments, and program-evaluations. Focus on both laboratory and natural settings. Prereq: 110 or equivalent, 210 or 220, or 385 or Statistics 201 or Mathematics 115, or equivalent. F, Sp

396 Laboratory in Psychology (3) Introduction to techniques used in the laboratory to study different topics: psychology, such as perception, memory, learning, and social behavior. Supervised experience in the use of laboratory techniques, collection and interpretation of data. Different topic each semester. Prereq: 110 or equivalent, 210, 220, 385, 395. May be repeated. Maximum 9 hours. F, Sp

399 Supervised Research and Field Work (1-3) Field experience in community-based research and service settings. Prereq: 110 and 210 or 220; and 385 or Statistics 201 or Mathematics 115 or equivalent, or consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 491, 492, and 493 combined may be applied toward the major. E

409 Group Facilitation (3) Study of theory and technique through supervised experience in small groups. Prereq: 359 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, 220 and three upper division courses in Psychology. F, Sp

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 treatments to medical illnesses. 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-theory and systems theory. Prereq: 360. (Same as Management 440.)

445 Measurement and Testing (3) Theory of test construction and psychological correlates of behavior. Biological basis of emotion, learning, and memory and stress. Prereq: 110 or equivalent, 210, and one year of Biology or Zoology introductory sequences or equivalents. F, Sp

469 Laboratory in Physiological Psychology (3) Laboratory setting of nervous system and physiological correlates of behavior. Coreq: 461.

470 Theories of Personality (3) Major theories of human personality and their development. Prereq: 220 and 300 or 330. F, Sp

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 evaluation of programs in the community. Prereq: 210 or 220 and at least 9 credit hours in 300 level courses. Recommended: 385, 395. May be repeated. Maximum of 6 hours may be applied toward the major.

489 Supervised Research (1-9) Prereq: Consent of instructor. May be repeated. Maximum 12 hours in 399, 489, 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.

493 Independent 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. F, Sp

494 Internship (1-6) Prereq: Consent of department. May be repeated. Maximum 15 hours.

495 Comparative Animal Behavior (3) (Same as Zoology 450.) F


500 Laboratory in Psychology (3) Introduction to topics in psychology. Prereq: 110 or equivalent, 210, 220, 385, 395. May be repeated. Maximum 6 hours may be applied toward major.

640 Historical and Contemporary Psychology (3) (Same as Psychology 640.)

839 Public Health (3) Basic introduction to public health, including topics of contemporary and controversial health issues. E
305 Communicable and Noncommunicable Diseases (3) Modern concepts of diseases; etiology of communicable and chronic disease problems including prevention and control. Prereq: 1 year of biological science or consent of instructor. F

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 to reduce health problems resulting from poor living conditions. Includes: Drinking water quality (chemical, physical and biological); waste management (liquid, solid, and hazardous); vector control; food safety 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) Fundamental activities involved in field of industrial health aimed at reducing health and safety problems of concern to nurses, medical staff, management, engineers and others involved in industrial health and safety fields. Prereq: Consent of instructor. May not be taken for credit by occupational health concentration (MPH) majors. F

480 Special Topics (3) Instructional or research topics to be assigned. Prereq: Consent of instructor. May be repeated under different topic. Maximum 6 hours.

493 Directed Independent Study (1-3) Individual study of selected topics authorized by consent of instructor. May be repeated. Maximum 6 hours. E

RECREATION AND LEISURE STUDIES (853)

110 Foundations for Leisure Studies and Services (3) Focuses on understanding concepts, principles, and practices relevant to providing leisure service including philosophy of history, management, economics, leadership, and a survey of leisure services organizations and occupational opportunities. F, Sp

210 Dynamics of Recreation Leadership (3) Theories, practices and concepts as they apply to all roles of recreation leadership. F, Sp

250 Specialized Study in Leisure Education (1-3) Focus on developing positive attitudes toward leisure. Contribution of leisure to mental and physical health. Creative Cooking, Bike Rides, New Games. E

290 Practicum in Recreation (1-3) Supervised practice in approved agencies offering leisure and sport management opportunity. Each hour of credit requires 40 clock hours of work. For recreation students only. S/N only. Prereq: Permission of instructor. E

310 Leisure Program Development and Evaluation (3) Essential elements and basic principles involved in organization, administration, marketing, evaluation of various types of recreation programs with emphasis on development of program objectives, practical and comprehensive evaluation of recreation programs and facility within student's particular area of interest. Prereq: 210 or consent of instructor. Sp, Su

320 Therapeutic Recreation and Special Populations (3) Principles, concepts, historical development of recreation, therapeutic recreation, and leisure services to special populations. Explanation of legislation, attitudes, barriers to participants, mainstreaming, advocacy, as related to leisure fulfillment. Prereq: Consent of instructor. F

390 Practicum in Recreation (1-3) Supervised practice in approved agencies offering leisure and sport management opportunities. Each hour of credit requires 40 clock hours of work. For recreation majors only. S/N only. Prereq: 290 and permission of instructor. E

410 Maintenance and Management of Recreation and Sports Related Facilities (3) Principles for operationalizing modern facility maintenance systems and management strategies for recreation and related facilities and settings. Cost tracking, inventory systems, specialized maintenance techniques, safety guidelines, maintenance management techniques and systems. Prereq: 110; 310 or consent of instructor. 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: 320 or consent of instructor. F

430 Organization and Administration of Leisure Service (3) Principles of administration applied to provision of leisure services offered by public, private, and/or commercial enterprises. Organizational structures, personnel management, evaluation, research, budgeting, and fiscal procedures. Prereq: 310 or consent of instructor. F, Su

440 Dimensions of Private and Commercial Recreation Businesses (3) Nature and function of recreation in private, commercial, and industrial settings. Development and management of commercial goods 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. Sp

450 Specialized Study in Leisure Education (1-6) 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 Internship in Recreation (12) Full time practice in approved leisure or sport management agency. Emphasis on supervisory and administrative procedures. Prereq: 290, 390, senior standing. Satisfactory/No Credit only. E

RELIGIOUS STUDIES (863)

101 World Religions in History (3) Introduction to religion in culture and society, including examination of religious traditions in the ancient Near East and the Mediterranean world. Writing-emphasis course.

102 The Comparison of World Religions (3) Introduction to religion in culture and society, focusing on cross-cultural interpretation and the treatment of common problems and themes within religions. Writing-emphasis course.

232 Varieties of Religious Community (3) How different forms of religious communities (cults, tribes, sects, monastic orders, denominations, familial, etc.) have sought to create, maintain, or dominate the culture and society. (Same as Sociology 232.)

235 Issues in Religious Studies (1-3) Introduction to the study of religion through selected themes, controversies, or contemporary issues. Variable content. May be repeated. Maximum 6 hours.

300 Ways of Understanding Religion (3) Sources and methods used in the study of religion and religions: analysis of approaches to the study of religion. Writing-emphasis course.

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 Anthropology of Religion (3) Religions of selected non-literate peoples. Role of religion in their social and cultural systems. (Same as Anthropology 302.)

305 Modern Religious Thought (3) Major themes, issues, and thinkers of nineteenth and twentieth century religion. Variable content. May be repeated. Maximum 6 hours.

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 criticism.

311 Ancient Hebraic Religious Traditions (3) Development of ancient Israelite and early Jewish traditions with emphasis on those concerning the Exodus, Davidic kingship, and Zoroastrian prophetic apocalyptic material. Writing-emphasis course.

312 Religious Aspects of Biblical and Classical Literature (3) Ways in which contemporary modes of literary study enhance appreciation of biblical and classical literature. Integration of different literary traditions and their respective development to present. Prereq: 311 or consent of instructor. F

313 Religious Aspects of Modern Literature (3) Issues and problems for scholarship 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. Writing-emphasis course.

315 Reformation Europe, 1500-1650 (3) Same as History 315.)

316 Topics in Religion and Literature (3) Selected themes and issues of historical or contemporary interest between the literatures of the Bible, the Greco-Roman world, and the literary art and the religious imagination. Variable content; may be repeated. Maximum 6 hours.

319 Sociology of Religion (3) (Same as Sociology 319.)

320 Women and Religion (3) Concepts of gender in religious traditions, religious, social and psychological dimensions of gender-related symbols (e.g., the God¬
ness, God the Father) that shape women's and men's experiences; contemporary feminist discussions of ways in which religions have liberated or oppressed women. (Same as Women's Studies 320.)

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.). Writing-emphasis course. (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 of Hippo to Immanuel Kant. Writing-emphasis course. (Same as History 322.)

326 Images of Jesus (3) Major portrayals 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), 329-330 Readings in narrative material from the Hebrew Bible. 329-330 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. Writing-emphasis course.

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. Writing-emphasis course.

342 Religious Ethics (3) Selected ethical theories and moral teachings 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.)

345 Medical Ethics (3) (Same as Philosophy 345.)

351 Introduction to Religion in the United States (3) An introduction to the profile of religion in the United States, organized around selected focal themes or problems.

352 African-American Religious Tradition in United States (3) Historical and critical examination of formation and development of African-American religious thought and institutions. (Same as African-American Studies 352.) Writing-emphasis course.

353 Topics in African-American Religion (3) Selected figures, themes, movements, or problems in the African-American religious tradition. Variable content; may be repeated. Maximum 6 hours. (Same as African-American Studies 353.)

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. Writing-emphasis course. (Same as American Studies 355.)

370 Philosophy of Religion (3) (Same as Philosophy 370.)

371 Eastern Religions and Western Thought (3) Comparative study of selected movements, thinkers, and religious traditions. Asian and Western. Writing-emphasis course.

373 African Religions (3) Religions of the indigenous peoples of Africa, including how myth, rites, and symbols and certain cultural and political movements in
RETAIL AND CONSUMER SCIENCES

101 Apparel Selection and Construction (3) Garment selection decisions based upon knowledge of construction techniques. Not available for credit for department majors. Alt. F.

110 Introduction to Retailing (3) Study of the retailing industry based upon knowledge of its origin, history, function, employment opportunities, extent and importance to the economy. F.

120 Textiles for the Consumer (3) Study of fibers, yarns, fabrics structures and finishes of textiles related to selection, use, and care by the retail consumer. F.

230 Product Quality Evaluation (3) Price/quality relationships in hard and soft goods; linkages between raw materials, manufacturing, distribution, and retail and contributions to consumer goods. F.

310 Principles and Theories of Buying (3) Analysis of theoretical perspectives that formulate and affect buying principles and processes for the retail markets; application of principles in buying (1-0) uses and practices associated with procuring products for the consumer. F.

322 Quantitative Managerial Merchandising (3) In-depth analysis and practical application of the principles, techniques, and philosophies guiding the merchandising plan, inventory control, and alternative uses for quantitative merchandising; extensive use of computer programs designed to simulate actual buying situations. Prereq: 310. Sp.

340 Social Psychology of Clothing (3) Cultural and functional aspects of apparel; use of clothing and appearance cues as stimuli for understanding ourselves and world around us. Prereq: Soc 100.

345 Fashion in History (3) Structure of fashion industry; relation of lifestyles to apparel styles in selected periods of western civilization; consumers associated with origin, adoption, and abandonment.

350 Consumers in the Market (3) Consumer and family decision making in the domestic and international marketplaces; consumerism, consumer issues, advocacy, ethnographic issues; consumer policies in information, protection, and market choice; consumer choice in retail and other markets; major consumption expenditures, public goods, financial and risk management. Prereq: Econ 201. E.

390 Introduction to Internship (1) Interviews, placement, and planning for internship. Prereq: Approved application for internship.

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.

411 Entrepreneurship and Small Business Management (3) Concepts of entrepreneurship within single ownership and/or business organizations; risk-taking and risk management; management of a small business; current issues and problems. Prereq: 310, MKT 301. Sp.

412 Direct Retail Selling (3) General principles of selling goods at the retail level; analysis of customer types and personalities; psychology of selling, communication styles, development of the sales personality; nontraditional methods of direct selling using various sales techniques; such as catalog and electronic shopping techniques. Sp.

415 Retail Promotion (3) Advertising and special purpose media used to promote retail merchandise; evaluation of retail sales promotion activities. Sp.

450 Consumer and Retail Economics (3) Consumer choice models, consumer demand analysis, household behavior, economics of information, product diversification, and product differentiation, brand and label identification, structure of the retail complex, economic analysis of the retail organization; domestic and international implications. Prereq: 350, MKT 310. Sp.

490 Methods in Internship (3) Investigation of training systems and business organization, analyses of jobs and evaluation of internship. Prereq: 390; Coreq: 492. F.

492 Internship in Retail and Consumer Sciences (9) Off-campus cooperative program with business establishments which merchandise or manufacture textiles and/or apparel. Prereq: 390; Coreq: 490. F. Enrollment by application only.

493 Directed Topics (1-3) Individual problems for junior and senior students with special interests in retail and consumer sciences. Prereq: Junior or Senior standing and consent of the instructor. E.

495 Special Topics (3) Topics in retail and consumer sciences. May be repeated. Maximum 6 hours. Prereq: Junior or Senior standing and consent of the instructor. E.

497-498 Honors: Retail and Consumer Sciences (3) Individual problems for Junior and Senior students showing ability and interest in retail and consumer sciences. Prereq: Recommendation of Department Head. E.

RURAL SOCIOLOGY (880)

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.)

480 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 behaviour; mass media, role of professional change agents, leadership and the consequences of technological change. Prereq: 380 or consent of instructor. Sp. (Same as Sociology 480.)

RUSSIAN (886)

101-102 Elementary Russian (4,4) Must be taken in sequence.

201-202 Intermediate Russian (4,4) Must be taken in sequence.

221-222 Russian Literature in English Translation (3,3) Nineteenth and twentieth-century Russian literature. No foreign language credit. Writing-emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom.

225 Russian Philosophical and Theological Thought (3) Development of philosophical thought in Russia from the Middle Ages to the Revolution. Emphasis on expression of this thought in Russian literature and literary criticism. No knowledge of Russian required.

301-302 Introduction to Russian Literature (3,3) Russian poetry, short stories, and short novels. Prereq: 202. Need not be taken in sequence. (Same as Russian and East European Studies 301-302.)

311-312 Russian Composition and Conversation (3,3) Practice in writing and speaking; grammar review and vocabulary building. Prereq: Completion of 202.

321 Works of Dostoevsky in English Translation (3) Crime and Punishment, Brothers Karamazov, and other works. Writing-emphasis course; at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as Russian and East European Studies 321.)
322 Works of Tolstoy in English Translation (3) War and Peace, Anna Karenina, and other works. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom. (Same as Russian and East European Studies 322.)

326 Special Topics in Russian Literature in English Translation (3) Topics vary and are announced in advance. Student suggestions for topics are welcome. No foreign language credit. May be repeated once. (Same as Russian and East European Studies 326.)

371-372 Background and Main Currents of Russian Culture (in English) (3,3) Interdisciplinary approach to the appreciation of the language, religion, literature, art, music, history, geography, and social problems of Russia. No knowledge of Russian required. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

401-402 Advanced Grammar, Conversation, and Composition (3,3) Prereq: 317 or equivalent. (Same as Russian and East European Studies 401-402.)

425 Introduction to Descriptive Linguistics (3) (Same as German 425, French 425, Spanish 425, and Linguistics 425.)

426 Introduction to Historical and Comparative Linguistics (3) (Same as German 426, French 426, Spanish 426 and Linguistics 426.)

451-452 Senior Seminar (3,3) For majors in Russian; minors admitted at the discretion of the instructor. Intensive study of language, literary style, and literary criticism based on selected major novels. (Same as Russian and East European Studies 451-452.)

491 Foreign Study (1-15)

493 Independent Study (1-15)

RUSSIAN AND EAST EUROPEAN STUDIES (887)

301-302 Introduction to Russian Literature (3,3) (Same as Russian 301-302.)

321 Works of Dostoevsky in English Translation (3) (Same as Russian 321.)

322 Works of Tolstoy in English Translation (3) (Same as Russian 322.)

326 Special Topics in Russian Literature in English Translation (3) (Same as Russian 326.)

340-341 History of Russia (3,3) (Same as History 340-341.)

375 Geography of the Soviet Union (3,3) (Same as Geography 375.)

383 Marxism (3) (Same as Philosophy 383.)

401-402 Advanced Russian Grammar, Conversation, and Composition (3,3) (Same as Russian 401-402.)

410 Selected Topics in Russian and Eastern European Studies (3) Interdisciplinary seminar on a selected topic using a comparative approach. Requires research using Russian language sources, regardless of country, and a paper of 25-30 pages. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the class.

451-452 Senior Seminar (3,3) (Same as Russian 451-452.)

459 Government and Politics of the Soviet Union (3) (Same as Political Science 459.)

469 Soviet Foreign Policy (3) (Same as Political Science 469.)

SAFETY (890)

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.

411 Driver and Traffic Safety Education (3) Preparation of traffic safety instructors for schools, colleges, industry and commercial agencies. Each participant required to teach at least two non-drivers to drive. Valid drivers license required. 3 hours lecture and 2 hours lab.

442 Advanced Driver and Traffic Safety Education (3) Teaching driver education through use of simulation, multimedia, and multiple-car driving range. Emphasis placed on teaching skills and supervision. 2 hours and 2 labs.

443 Sports and Recreational Safety (3) Accident prevention and injury control in sports activities; philosophy of sports safety; human environmental factors and interrelationships; sports injury control; risk-taking 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. F, Su.

470 Special Topics (1-3) Study in selected disciplinary or professional areas of safety. May be repeated. Maximum 12 hours.

SOCIAL WORK (905)

200 Introduction to Social Work (3) Emergence of the social work profession; professional mission; knowledge, skills, and values; client groups; social work helping services; career patterns; practice methods. Designed to assist students to consider their ability for careers in social work.

250 Social Welfare (3) Development, structure and function of the social welfare institution. Analysis of social welfare programs and impact of the institution on society.


312 Social Work Practice I (3) Knowledge, values, and skills for entry level generalist practice in a variety of settings. The social work problem solving process, different client problem types, ethical/sensitive assumptions, and the worker's role in person-environment configuration. Concurrent skills laboratory. Prereq: Initial progression. Pre or Coreq: 314.


314 Human Behavior and the Social Environment (3) Interrelatedness of biological, social, cultural, environmental and psychological factors in human behavior. Person-environment 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) Eight-hour-per-week, supervised field experience with practical 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, values, and issues. Prereq: Full progression. Coreq: 418 and 480.


450 Integrative Seminar (2) Social work content for entry-level professional practice and current issues influencing the profession. Includes development of a portfolio reflecting BSW competencies. Prereq: Full progression. Coreq: 480.

and also involve those who specialize in Hispanic Stud-
ies. Prereq: 311, 312 or equivalent. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

460 Capstone Tutorial in Spanish (3) Independent study project supervised closely by a faculty member. Prereq: Consent of instructor, Spanish. Prereq: 311, 312 or equivalent. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

471 Latin American Civilization (3) Latin America's diverse heritage and major social and political institu-
tions. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 471.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

472 Masterpieces of Spanish American Literature (3) Selected works by major Spanish American writers such as Darío, Paz, Bogos, Fuentes and others. Gen-
res and periods may vary. Prereq: 311, 312 or equiv-
alent. (Same as Latin American Studies 472.)

473-474 Survey of Spanish American Literature (3-3) Historical survey from the Conquest to late 19th century. 474 Major literary movements, writers and works of the 20th century. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 473-474.)

479 Social Protest Literature of Latin America (3) Literature as a means of unmasking social ills that have traditionally beset Latin America. Among major themes: indigenismo, Black literature, women writers, the role of the writer in Latin American society. Prereq: 311, 312 or equivalent. (Same as Latin American Studies 479.)

481 Foreign Study (1-15)

483 Independent Study (1-15)

SPECIAL EDUCATION (393)

310 Special Education Principles (3) Introduction to the field of special education, including the nature and causes of disabling conditions, family systems, a history of the field, and current issues. Prereq: Admission to Teacher Education Program. Sp

320 Special Education Strategies (3) Introduction to basic special education procedures, including formal and informal assessment, planning, development of Individual Education Plans, applied behavioral analysis, appropriate medical procedures, and effective instruc-
tional strategies. Prereq: 310, Admission to Teacher Educa-
tion Program.

331 Articulation Disorders (3) Prereq: Admission to Teacher Education Program. (Same as Audiology and Speech Pathology 331.)

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 poli-
cies of the internship program. Must be completed the term immediately preceding the internship. Prereq: Ad-
mission to Teacher Education Program. Satisfactory/No Credit only. Sp, Su

415 Language Development for the Hearing Impaired I (3) Language problems of hearing impaired students. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

416 Language Development for the Hearing Impaired II (3) (3-3) Developmental and remedial systems of teaching language to hearing impaired children. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

419 Speech Development of Hearing Impaired (4) Theories of speech development, approaches in train-
ing perception and production of speech, and aural habilitation. Practicum experiences.

420 Psychology and Education of Students with Mild Disabilities (6) Nature and characteristics of persons with mild handicaps and the educational strategies appropriate for these persons. Prereq: 310, 320, Educa-
tional Curriculum and Instruction 422 and Admission to Teacher Education Program. Coreq: 421.

421 Field Experience in Modified Programs (3) Practi-
cum in teaching in modified programs; planning, developing, implementing, and evaluating instruction. Prereq: 316, 420, Educational Curriculum and Instruction 422 and Admission to Teacher Education Program. Coreq: 420. Satisfactory/No Credit only. F

423 Communication Processes for the Hearing Impaired (3) Expressive and receptive vocabulary develop-
ment in sign communication. Fingerspelling and edu-
cational applications of sign language.

424 Nature of Hearing Impairments (3) Anatomy and physiology of hearing; nature and causes of hearing loss; 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. Related research related to psychology, social adjustment, communication methodology, and an overview of the psychology of hearing impaired. Survey of literature, visits to pro-
grams.

430 Psychology and Education of Students with Moderate/Severe Disabilities (6) Nature and character-
tistics of persons with moderate/severe disabilities and the educational strategies appropriate for those persons. Prereq: 310, 320, Educational Curriculum & Instruction 422 and Admission to Teacher Education Program. Sp

431 Field Experience in Comprehensive Programs (3) On-site teaching experience with moderately and severely handicapped children and youth. Prereq: 310, 320, Educational Curriculum & Instruction 422 and Admission to Teacher Education Program. Coreq: 430. Satisfactory/No Credit only. Sp

432-434 Clinical Practice in Speech Pathology (1-
4,1-4) (Same as Audiology and Speech Pathology 432-
434.)

440 Voice Disorders (3) (Same as Audiology and Speech Pathology 440.)

454 Education of the Gifted and Talented Children (3) Psychometric and behavioral studies of giftedness. Analysis of past and present school practices in refer-
ce to curriculum implementation. Prereq: Admission to Teacher Education Program. Sp

456 Speech and Language Basis of Learning Dis-
abilities in the Classroom (3) Normal communication development; understanding of speech and language impairments. Prereq: 410, 420, 432, Educational Curriculum & Instruction 422 and Admission to Teacher Education Program. Sp

471 Internship I: Special Education (3-15) Testing and placement procedures with moderately and severely handicapped children and youth. Prereq: Admission to Teacher Education Program. Prereq: Consent of instructor. May be repeated. Maximum 15 hours.

471 Internship II: Special Education (3-15) Testing and placement procedures with moderately and severely handicapped children and youth. Prereq: Admission to Teacher Education Program. Prereq: Consent of instructor. May be repeated. Maximum 15 hours.

473 Audiology II (3) (Same as Audiology and Speech Pathology 473.)

482 Speech and Language Services in the Schools (3) Organization 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 (3) Supervised practicum with children with communication 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 (6) Supervised practicum with preschool, day school, and residential students. Prereq: Admission to Teacher Educa-
tion Program.

485 Student Teaching in Special Education (3-10) Intended for students in the four year program of equiv-

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Speech Communication/Courses of Instruction 193

100 Introduction to Speech Communication (3) Fundamental theories and practices with particular refer-
ce to interpersonal, intrapersonal, group, organiza-
tional, and public communication.

200 Developing Speech Confidence (1) Principles and techniques for coping with apprehension about po-
etry, monologues, and dramatic presentations. Recommended for students who desire additional work in dealing with their anxiety about speaking.

210 Public Speaking (3) 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 (3) Process by which thoughts, feelings, actions affect and are affected by the face-to-face communication situation. (Same as Sociology 220.)

240 Business and Professional Speaking (3) Basic principles of oral communication within organizations, including such topics as organizational communication theory, group problem solving, formal presentations, and interviewing.

270 Argumentation and Debate (3) Reasoned deci-
dation-making with emphasis on analysis, evidence, rea-
toning, constructing and refuting arguments.

280 Introduction to Oral Interpretation (3) Art of reading aloud; development of interpretive techniques and their application to selected passages of prose, poetry, and drama. Written and at least one in-class essay examination and 3000 words of writing outside the classroom.

295 Communication Research Methods (3) Survey of contemporary methods used for research in Speech Communication. Emphasis on interpreting and evaluat-
ing communication research reports.

300 Nonverbal Communication (3) Exploration of non-
verbal communication from human communication per-
spective; origins and research, usage and coding of nonverbal behavior; research strategies, and theoretical approaches.

310 Persuasion (3) Methods which contribute to effective and ineffective persuasion. Topics include credibil-
ity, message construction, receiver variables.

320 Interpersonal Communication Processes (3) Social dimensions of interpersonal communication and relationship. Prereq: Speech Communication 220 or Special Education 220 or consent of instructor. (Same as Sociology 320.)

330 Group Communication (3) Small group decision-
making, evidence, argumentation, leadership, roles, and norms as they affect critical thinking in groups.

350 Communication Theory (3) Survey of social sci-
ence approaches to theorizing about communication.

360 Topics in Communication and Society (3) Con-
tent varies. Studies in social function of such communi-
cation forms as posters, speeches, songs, plays, dem-
stration. May be repeated with consent of depart-
ment. Maximum 6 hours.

370 Evidence and Argumentation (3) Concept of evi-
dence in public controversies, uses and sources of evi-
dence, and consequences affecting credibility.

380 Advanced Oral Interpretation (3) Individual and group performances of prose literature and poetry.
Enrollment requires 200 or consent of instructor. Writing-emphasis course.

390 History of Rhetorical Theory (3) Western rhetorical theory from Plato to the present.

400 Topics in Speech Communication (3) Variable content course offering opportunity to offer subject matter not covered in a 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 (3) 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 (3) Organizational setting and those variables of the communication process that affect the quality of human interaction both within and outside the organization.

445 Internship (1-3) Supervised career-related experiences using Speech Communication theories and techniques in government and for profit or non-profit organizations, culminating in a written and oral report. Requires: Junior/Senior level majors with at least a 3.0 GPA, or by special permission of Internship Director. S/NC only. May be repeated; maximum 6 hours. Major credit limited to 3 hours.

450 Propaganda (3) Study of political commercial, and social propaganda in United States, World War I to present. Writing-emphasis course.

465 Studies in Rhetorical History and Criticism (3) May be repeated. Maximum 6 hours.

466 Rhetoric of the Women's Rights Movement (3) Historical analysis and study of public address in campaigns for women's rights from the 1830's to present. Same as Women's Studies 466. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

469 Freedom of Speech (3) Historical and philosophical perspectives on freedom of expression; legal issues in free speech controversies in the U.S. Writing-emphasis course. (Same as American Studies 469.)

470 Theories of Argumentation (3) Conceptual bases of argumentation from classical to contemporary theorists. Prereq: Consent of instructor.

480 Ensemble Interpretation (3) Study and presentation of literary texts through group performance.

490 Topics in Rhetorical Theory (3) Content varies. Emphasis on a particular period, such as Greek, eighteenth century, or contemporary. May be repeated. Maximum 6 hours.

481 Foreign Study (1-15) See description of major concentration. Prereq: Consent of faculty advisor and/or supervising instructor required prior to registration.

492 Off-Campus Study (1-15) See description of major concentration. Prereq: Consent of faculty advisor and/or supervising instructor required prior to registration.

493 Independent Study (1-15) See description of major concentration. Prereq: Consent of faculty advisor and/or supervising instructor required prior to registration.

499 Proseminar in Speech Communication (3) Major theoretical perspective as the basis for research in an area of speech communication to be determined by the student in consultation with supervising faculty member and, ordinarily, in a course of study coordinated by a faculty advisor. Application forms available in department office. Prereq: Consent of faculty advisor/supervising faculty member prior to registration.

500 Proseminar in Statistics (3) 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


252 Probability and Statistics for Scientists and Engineers II (3) Hypothesis testing. Introduction to statistical process control, reliability, analysis of variance. Simple and multiple linear regression. Prereq: 251. and a working knowledge of the UTCC VAX system, or Coreq: 261. Sp

261 Computing for Data Management and Analysis (3) Use of computer operating system commands and packaged programs for managing data files and statistical analysis. Prereq: 251. Sp

302 Statistical Methods (3) Linear regression and correlation; multiple regression, diagnostics, dummy variables; analysis of variance and covariance; categorical data. Emphasis on data analysis and interpretation. Not counted toward a major or minor in statistics. Not available for credit to students with credit in 461. Prereq: 201 or equivalent. E


411 Introduction to Statistical Computing (3) Use of computer operating system commands and packaged programs for statistical analysis and file management. Not acceptable for credit for statistics majors. Prereq: 201 or 251. E


462 Analysis of Variance and Experimental Design (3) Variance techniques for single and multifactor models. Post hoc procedures. Design considerations for complete randomized block, factorial, hierarchical and split-plot experiments. Major writing requirement. Prereq: 252 or 461. Sp


481 Special Topics in Probability (1-3) Topics in probability and stochastic processes. Prereq: Consent of the instructor. May be repeated. Maximum 6 hours.

483 Special Topics in Statistics (1-3) Topics vary. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

485 Principles of Statistical Process Management (3) Control charts and other statistical techniques applied to manufacturing processes. Prereq: Consent of department head. E

486 Undergraduate Seminar (1) Directed readings and active participation in the Department's undergraduate seminar program. Prereq: Senior standing and completion of at least 12 hours of major requirements in speech communication. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

492 Internship (1-6) Supervised off-campus experience in application of statistical principles and methods in business, industry, or government, culminating in a written and oral report. Prereq: Permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. Satisfactory/No credit only. May be repeated. Maximum 2 hours.

500 Independent Study (2-6) Faculty directed reading and investigation of specified topic in probability or statistics culminating in a written report. Prereq: Two courses in statistics and permission of the Chairperson of the Statistics Department Undergraduate Affairs Committee. Letter grade or Satisfactory/No credit. May be repeated. Maximum 6 hours.

497 Honors Thesis (6) Undergraduate thesis culminating in a written report and oral defense. Prereq: Invitation of the Department's Undergraduate Affairs Committee. Satisfactory/No credit only.

TECHNOLOGICAL AND ADULT EDUCATION (967)

161 Graphic Communications (3) Drafting as a means of communication in technology. Orthographic and multiview drawing, conventional practices, pictorial techniques and applications, sheet metal development and auxilliary view drawing. Sketching, dimensioning, board work, and CAD. F

163 Power and Energy Systems (3) Automotive technology and internal combustion engines. Includes various prime movers, methods of utilization, distribution, and transmission of power. Engine tune up and overhaul and small engine maintenance and repair is stressed through experimental and applied laboratory experiences. F

165 Woods Technology (3) Processes, tools, equipment, and products of the woodworking industry. Importance of safety and using hand tools and basic machinery. F

166 Metals Technology (3) Processes, equipment, materials and products of metal working industries. Processes in machine, foundry, forging, heat treatment, sheet metal and fabrication. F

201 Field Experience in Vocational Technical Education (1) Field experience in public school programs in distribution education. May be repeated. Maximum 3 hours. Satisfactory/No Credit only. E

230 Typewriting and Shorthand Proficiency (3) Proficiency credit for students planning to certify in business education and office technology who have typewriting and/or shorthand courses. Prereq Department approval. E

261 Architectural Graphics (3) Graphic representation and architecture. Principles of construction, working drawings for residential and/or non-residential construction. CAD techniques. Prereq: 161 or consent of instructor. Sp

263 Basic Electricity/Electronics (3) Operation and characteristics of electrical systems and devices; includes general DC/AC theory and application, use of electronic measuring instruments, circuit analysis, introduction to solid-state devices and semiconductor circuitry. Prereq: 260 or consent of instructor. Sp

265 Construction Technology (3) Residential construction including site selection, foundations, framing, roofing, interior, and exterior finishes. Prereq: 165 or consent of instructor. Sp

266 Machine Tool Processes (3) Function, care, setup, operation and theory of basic machine tools. Prereq: 166 or consent of instructor. Sp

336 Micro Business Applications (3) Operating and programming microcomputers. BASIC language is used and programming examples are oriented in business applications. Prereq: Admission to Teacher Education Program. F

350 Related and Applied Theory in Occupations (1-15) Applicants must show evidence of background occupational experience compatible with State Plan requirements. Written theory tests and the submission of a comprehensive portfolio are used to award variable credit. Measures evaluated by technical specialist and departmental faculty. May be repeated. Maximum 15 hours. Satisfactory/No Credit only. E

351 Manipulative Skills in Occupations (1-15) Applicants must show evidence of background occupational experience compatible with State Plan requirements. Written theory tests and the submission of a comprehensive portfolio are used to award variable credit. Measures evaluated by technical specialist and departmental faculty. May be repeated. Maximum 15 hours. Satisfactory/No Credit only.
421 Adult Education Program Design and Management (3) Program design, curriculum 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.

430 Principles and Organization of Business Marketing (3) Principles and organization of business marketing and development needs. Principles of educational organization in business and marketing, curriculum implications, establishing, evaluating, and improving the programs. Prereq: Admission to Teacher Education Program.

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.

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.

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 systems. Prereq: Admission to Teacher Education Program.

436 Supervised Occupational Experience (3-9) Practical field experience in business and marketing settings under the supervision of practitioner and departmental representative. May be repeated to a maximum of 9 credits.

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.

450 Seminar in Industrial Education (1-3) Current issues, innovations, problems, and other topics associated with technical programs. May be repeated. Maximum: 6 hours.

454 Training Aids Development (3) Study and preparation of instructional aids and non-print media commonly used by technical instructors and trainers.


456 Organization and Operation of VICA/HOSA (3) Planning, organizing and implementing youth-club activities in vocational-technical programs.

459 New Developments in Industrial Education (3) Developments, significant problems and recent trends in industrial education presented by coordinating instructor in conjunction with knowledgeable resource personnel. May be repeated. Maximum: 6 hours.

464 Methods and Mediation in Technology Education (3) Methods and media used in teaching technology education in the secondary public schools.

465 Materials and Processes (3) Materials relative to specifications, testing, and methods to classify and categorize materials. Determining correct processes to match industrial products needs. Prereq: Consent of instructor.

466 Course Construction in Technology Education (3) Selection and arrangement of course content. Planning, instructional packaging, product selection, assignments and evaluation. Prereq: Admission to Teacher Education Program.

470 Training for Human Resource Development (3) Organization and management of training, including roles and functions performed and the needs, costs, benefits, and productivity of training systems.

471 Principles of Supervision (3) Problems of motivation, communication, interpersonal relationships and leadership.

479 Internship in Human Resource Development (5-10) Internship, planning, implementing, and evaluating the effectiveness of training programs in an industrial setting. May be repeated to a maximum of 10 semester hours. Satisfactory/No Credit only.

481 Student Teaching: Grades 7-12 and Adults (10) Full-time student teaching in an industrial setting. Must complete the term immediately preceding student teaching and related responsibilities under the direct supervision of a master teacher in the content area. Satisfactory/No Credit only. Prereq: Admission to Teacher Education Program.

THEATRE (976)

100 Introduction to Theatre (3) Understanding theatre: thought, philosophy, aesthetics, and production practices. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

210-211 Survey of World Drama (3,3) 210-Includes Greek, Roman, Medieval, Elizabethan, and Eastern forms of drama. 211-Covers 19th century, as well as realism through contemporary drama. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

220-221 Acting (3,3) 220-Basic Acting techniques. 221-Further exploration and development of acting techniques through exercises and beginning scene work. Prereq: 220. Writing-emphasis courses: at least one in-class essay examination and 3000 words of writing outside the classroom. Prereq to 221: 220.

220 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.

250 Introduction to Scenography (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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

310-311 History of the Theatre (3,3) 310-Drama in performance 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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

320 Advanced Acting (3) Characterization and scene study in realistic plays. Prereq: 220-221 and consent of instructor. May be repeated. Maximum: 6 hours.

340 Introduction to Costume Design (3) Development of research and rendering skills. Prereq: 245 or consent of instructor.

345 Costume Design (3) Study and practice of skills in costume construction. Includes stitching, الحريرة، and crafts. Production participation is required.

355 Introduction to Scenic Design (3) Introduction to art and craft of scenic design.


401 Principles of Theatrical Design (3) Fundamental principles of design; visual and structural relationships. Projects will be assigned to develop understanding and perception.

409 Stage Make-Up (2) Problems in make-up design and application, character analysis, physics and chemistry. 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 styles, techniques, approaches, e.g., Shakespeare, movement, humor. Prereq: 320 and consent of instructor. May be repeated. Maximum: 9 hours.

426 Applied Phonetics (3) Development of skills in transcription and reproduction of the principal varieties of the English Language in North America and Great Britain and selected foreign dialects in North America. Prereq: Consent of instructor.

430-31 Principles of Play Directing (3,3) Problems in composition, picturization, rhythm, movement, Prereq: 220. Must be taken in sequence.


445 Advanced Costume Construction (3) Advanced construction techniques, such as tailoring, vacuum forming, plastic molding, and cobbling. Prereq: 345 or consent of instructor.

446 Costume Pattern (3) Draping patterns for presentation of instructor. Prereq: Consent of instructor.

540 Advanced Scenery Technology I (3) Study and construction techniques of scenery for departmental productions. Prereq: 250 Graduate credit available to theatres M.F.A. students only.

541 Advanced Scenery Technology II (3) Study and practice of metalworking and plastics for theatrical productions; production participation will be required. Prereq: 250. Graduate credit available to theatre M.F.A. students only.

542 Advanced Scenery Technology III (3) Study and practice of stage rigging for theatrical productions; production participation will be required. Prereq: 250. Graduate credit available to theatre M.F.A. students only.

545 Intermediate Scene Design (3) Materials, techniques and process of scenic design. Development of skills. Prereq: 355 and consent of instructor.

555 Scene Painting (2) Introduction to materials, techniques, and principles of the craft. Emphasis on gaining skill and understanding through studio experience. Prereq: Consent of instructor.

648 2nd Year Studio (3-15) Limited enrollment study of selected topics, issues or problems with a concentration in the humanities. Open only to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

647 4th Year Studio (3-15) Advanced instruction in the practice of metalworking and plastics for theatrical productions; production participation will be required. Prereq: 250. Graduate credit available to the theatre M.F.A. students only.

UNIVERSITY HONORS (983)

118-128 Whittle Scholars Seminar (1,1) Sequence limited to and required of all Whittle Scholars in their freshman year. 128 concentrates on aspects of leadership. Satisfactory/No Credit grading only.

237, 337, 437 Honors: Concentration in the Humanities (3,3,3) Small group studies of selected topics, issues or problems with a concentration in the humanities. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

247, 347, 447 Honors: Concentration in the Social Sciences (3,3,3) Small group studies of selected topics, issues or problems with a concentration in the social sciences. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

257, 357, 457 Honors: Concentration in the Natural and Applied Sciences (3,3,3) Small group studies of selected topics, issues or problems with a concentration in the natural and applied sciences. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

330-349 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.

358-368 Chancellor's Scholars Seminar (1,1) Sequence limited to and required of all Superior Scholars each year. May be repeated. Maximum 8 hours. Satisfactory/No Credit grading only.

418-428 Seminar on International Travel/Study/Work Overseas (1,1) Sequence required of Whittle Scholars and must be taken prior to their international experience. Open to all students who intend to travel, study or work abroad. Satisfactory/No Credit grading only.

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.

WILDLIFE AND FISHERIES SCIENCE (993)

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. F

441 Wildlife and Fisheries Techniques (3) Capturing and handling fish and wildlife; population restoration; food habitat sampling; wildlife damage control; marking techniques; fish culture systems; track and sign identification. Prereq: Forestry, Wildlife and Fisheries 317. 1 hour and 2 labs or field. One weekend field trip required. F

443 Fisheries Science (3) Quantification and management of freshwater fisheries including population estimation, age and growth, biological assessment, and stocking. Prereq: Forestry, Wildlife and Fisheries 317 or Biology 230, and 6 hours of mathematics. 2 hours and 1 lab. So

444 Ecology and Management of Wild Mammals (3) Biological and ecological characteristics of game mam-
mals and endangered mammals. Current principles and practices of wild mammalian management. Prereq: Forestry, Wildlife and Fisheries 317 or Biology 250. 2 hours and 1 lab. One weekend field trip required. Sp

445 Ecology and Management of Wild Birds (3) Biological and ecological characteristics of game birds, endangered birds, and birds pests. Current principles and practices of wild bird management. Prereq: Forestry, Wildlife and Fisheries 317 or Biology 230. 2 hours and 1 lab. One weekend field trip required. Sp

493 Independent Study in Wildlife and Fisheries Science (1-16) Special research or individual problem in wildlife and fisheries science. E

WOMEN’S STUDIES (994)

210 Images of Women in Literature: Biography and Autobiography (3) Introduction to women's journals, diaries, biographies and autobiographies. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

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. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

220 Women in Society (3) Role played by women in various societies and 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 civilization and values. Major topics include women's legal and political status, the emergence and development of feminism, and the creative arts, and women's roles in industry. A team-taught course with guest instructors. Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

320 Women and Religion (3) (Same as Religious Studies 320.)

324 Women in French Culture (3) (Same as French 324.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

330 Women in Music (3) (Same as Music History 330.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

332 Women in American Literature (3) (Same as English 332.)

340 Women, Politics, and the Law (3) An examination of recent changes in the laws affecting women and a study of the role of women in contemporary American politics.

360 Women in Cross-Cultural Perspective (3) A study of the changing role of women in various contemporary cultures: industrial democracies, developing nations, communist countries. A team-taught course with guest lecturers and slide presentations.

375 Gender in Society (3) (Same as Sociology 375.)

380 The Concept of Woman (3) (Same as Philosophy 380.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

382 Philosophy of Feminism (3) (Same as Philosophy 382.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

383 Women in the Greek and Roman World (3) (Same as Classics 383.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

400 Topics in Women's Studies (3) Content varies. May be repeated.

410 Sex Role Development: Implications for Education and Counseling (3) (Same as Educational and Counseling Psychology 410.)

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.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

433 Literary Portraits of French Women (3) (Same as French 433.)

434 Psychology of Gender (3) (Same as Psychology 434.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

435 Women in American History (3) (Same as History 435.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

446 Rhetoric of the Women's Rights Movement (3) (Same as Speech 446.) Writing-emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

469 Sexuality and Cinema (3) Explores issues surrounding sexuality and gender, from a viewpoint of feminist film criticism. (Same as Cinema Studies 469.)

483 Afro-American Women in American Society (3) (Same as Afro-American Studies 483.)

493 Independent Study (1-15) Registration by consent of chair of Women's Studies.

ZOLOGY (995)

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. Students not achieving at least a B in the first semester must complete the sequence with Biology 120. Must be taken in sequence. 117-Cellular processes, genetics, and development. 118-Physiology, phylogeny, and ecology. 6 hours combined lecture and lab. May not receive credit for 117-118 and Biology 110-120 or Botany 110-120.

210-220 Human Biology (3,3) For non-majors; not available as prerequisite or major credit in Zoology or Biology. 210 is a prerequisite to 220. 210-Cell biology, reproduction, fertilization, development and physiology. 220-Diversity of Life Forms. Uniqueness of Humans. Genetics and Ecology.

230 Human Physiology (5) Fundamentals of human physiology, primarily from the perspective of cellular and organismic systems. May not be applied toward Zoology major. Prereq: One year of college chemistry. 4 hours and one lab.

240 Human Anatomy (3) Gross and microanatomy of the human. Credit may not be applied toward Zoology major. Introductory Biology or Botany 230 or equivalent recommended. 2 hours and 1 lab.

301 Special Topics (1-2) Topics of current interest. Consult departmental listing for topics offered. May be repeated but maximum of 2 credit hours may be applied toward the Zoology major. 302 Zoology Colloquium (1) Weekly discussions of topics of contemporary interest. Intended for life science majors. Satisfactory/No Credit only. May be repeated but one 1 credit hour may be applied toward the Zoology major.

310 Bioethics (3) Relationships between biological discoveries and human values. Open discussions of selected dilemmas arising from new knowledge about evolution of behavior, genetics, reproduction, medicine, and environment.

322 Physiology of Reproduction and Lactation (3) (Same as Animal Science 322.)


331 Animal Development and Embryology Laboratory (2) Coreq: 330. 2 labs.

350 Comparative Vertebrate Biology (4) Origins, phylogeny, diversity and functional anatomy of vertebrates. Laboratory involves dissection of shark, cat, and selected other vertebrates. 2 hours and 2 labs.

360 Comparative Invertebrate Biology (4) Origins, phylogeny and functional anatomy of invertebrates with emphasis on diversity of life forms and adaptations to specific local environments. 2 hours and 2 labs.

370 Ethology and Sociobiology (3) (Same as Psychology 370.)

380 General Entomology (3) Introduction to insects: basic structure, physiology, behavior, evolution and classification of insect orders. 2 hours and 1 lab.

400 Undergraduate Research (2) Research projects under supervision of faculty. Prereq: Junior or senior standing and prior consent of instructor. May be repeated. Maximum of 4 hours may be applied toward the Zoology major.

401 Senior Thesis (3) Senior thesis, Honors Program. Prereq: Candidate for Honors Zoology degree.

402 Practicum in Zoology (2) Participation in individual or practical applications of zoology in community, government, and industry. Prereq: Biology 210, 220, 230 and prior consent of instructor.

430 General Genetics Laboratory (2) Experiments designed to illustrate basic principles of inheritance; primary organisms used is Drosophila. Prereq: Biology 220. 2 labs.

433 Immunology (3) (Same as Microbiology 433.)


445 Comparative Animal Physiology (3) Comparison of diverse physiological mechanisms aiding in adaptation to particular habitats and lifestyles. Prereq: Biology 210, 220. 2 years of chemistry; recommended: 360.

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. (Same as Psychology 450.)

458 Comparative Animal Behavior Laboratory (3) Introduction to observational and experimental research in ethology. Coreq: 450. (Same as Psychology 458.)

460 Evolution (3) Modern concepts of animal evolution. Prereq: Biology 220.
465 Human Genetics (3) Genetic and molecular principles and problems of human inheritance. Prereq: Biology 220.

470 Aquatic Ecology (3) Introduction to the physicochemical 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, scorpions 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 (4) Evolution, classification, collection and identification, distribution and biology of fishes with emphasis on freshwater fauna of Eastern North America. Prereq: Biology 230 or consent of instructor. 2 hours and 2 labs.

475 Ornithology (3) Behavior, ecology, populations, evolution and field identification of birds. Prereq: Biology 230. 2 hours and 1 lab.

476 Mammalogy (3) Evolution, classification, biogeography, ecology, behavior and functional anatomy of mammals. Prereq: Biology 230 or equivalent. 2 hours and 1 lab.

480 Physiology of Exercise (3) (Same as Physical Education 480.)

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)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

That's all, folks!
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