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
  State of Tennessee: 1-800-221-8657
  All others: (865) 974-2184
- 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
- UT Homepage —http://www.utk.edu/

EEO/TITLE IX/AA/SECTION 504 STATEMENT

The University of Tennessee does not discriminate on the basis of race, sex, color, religion, national origin, age, disability, or veteran status in provision of education programs and services or employment opportunities and benefits. This policy extends to both employment by and admission to the University.

The University does not discriminate on the basis of race, sex, or disability in the education programs and activities pursuant to the requirements of Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act (ADA) of 1990.

Inquiries and charges of violation concerning Title VI, Title IX, Section 504, ADA, the Age Discrimination in Employment Act (ADEA), or any of the other above referenced policies should be directed to the Office Equity and Diversity (OED); 1840 Melrose Avenue; Knoxville, Tennessee 37996-3560; telephone (865) 974-2498 (TTY available). Requests for accommodation of a disability should be directed to the ADA Coordinator at the Office of Human Resources Management; 600 Henley Street; Knoxville, Tennessee 37996-4125.

A project of UT Undergraduate Academic Affairs, 420 Communications Building, Knoxville, Tennessee 37996-0349, with assistance from Creative Services, (865) 974-2225. Revisions: 5358.

In accordance with the Tennessee College and University Security Information Act of 1989 and the Student Right-to-Know and Campus Security Act, the University of Tennessee has prepared a report containing campus security policies and procedures, data on campus crimes, and other related information. A free copy of this report may be obtained by any student, employee, or applicant for admission or employment from the Office of the Dean of Students; The University of Tennessee; 413 Student Services Building; Knoxville, Tennessee 37996-0248.

Publication Authorization Number: E17-0405-002-003-02
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## THE UNIVERSITY OF TENNESSEE

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**Ex-Officio Members**
- Governor, State of Tennessee
- Commissioner of Education
- Commissioner of Agriculture
- President, The University of Tennessee
- Executive Director, Tennessee Higher Education Commission

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<td>Andrea Loughry, Brentwood</td>
<td>Sixth</td>
<td>1999</td>
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<td>Rynette N. Hurd</td>
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### Administration

- Emerson H. Fly, Acting President and Chief Executive Officer; Executive Vice President and Vice President for Business and Finance, B.A., CPA
- Loren W. Crabtree, Vice President and Provost, B.A., M.A., Ph.D.
- Jack H. Britt, Vice President for Agriculture, B.S., M.S., Ph.D.
- Dwayne McCoy, Vice President for Research and Information Technology, B.S., M.S., Ph.D.
- Catherine S. Mizell, Vice President, General Counsel, B.A., J.D.
- Charles M. Peccolo, Vice President and Treasurer, M. Acct., C.P.A., C.C.M.
- William R. Rice, Vice President for Health Affairs, A.B., J.D.
- Jack E. Williams, Vice President for Development and Alumni Affairs, B.S., T.E.D.P.
- Thomas B. Ballard, Vice President for Public and Governmental Relations, B.S.
- Theotis Robinson, Vice President for Equity and Diversity
- Philip A. Scheurer, Vice President for Knoxville Operations, B.A., M.S.
- Sylvia S. Davis, Vice President for Budget and Finance, B.S., M.S., CPA
- Philip W. Conn, Vice President for Special Programs, Ph.D.
- Sarah Phillips, Acting Vice President and Executive Assistant, B.A., M.S.
- Buddy Mitchell, Associate Vice President of Federal Relations
- Nick Dunagan, Chancellor, Martin, B.S., J.D., Ed.D.
- Bill W. Stacey, Chancellor, Chattanooga, B.S., M.S., Ph.D.

### Colleges and Schools

- Dean of the College of Agricultural Sciences and Natural Resources and Tennessee Agricultural Experiment Station, C. A. Speer, B.S., M.S., Ph.D.
- Dean of the College of Architecture and Design, Marleen K. Davis, B. Arch., M. Arch.
- Dean of the College of Arts and Sciences, Lorayne W. Lester, B.S., M.A., Ed.D.
- Dean of the College of Business Administration, Jan R. Williams, B.S., M.B.A., Ph.D.
- Dean of the College of Communications, Dwight L. Teeter, A.B., M.J., Ph.D.
- Dean of the College of Education, C. Glennon Rowell, B.S., M.A., Ed.D.
- Interim Dean of the College of Engineering, Fred D. Tompkins, B.S., Ph.D.
- Dean of the College of Human Ecology, James D. Moran III, B.A., M.S., Ph.D.
- Director, School of Information Sciences, Elizabeth S. Aversa, B.A., M.Ln., Ph.D.
- Dean of the College of Law, Thomas C. Galligan, Jr., A.B., J.D., L.L.M.
- Dean of the College of Nursing, Joan L. Creasia, B.S.N., M.S.N., Ph.D., R.N.
- Dean of the College of Social Work, Karen M. Sowers, B.A., M.S.W., Ph.D.
- Dean of the College of Veterinary Medicine, Michael J. Blackwell, B.S., D.V.M., M.P.H.
- Dean of University Libraries, Barbara I. Dewey, B.A., M.A.
- Vice Provost for Academic Affairs and Dean of Graduate Studies, Anne Mayhew, B.A., M.A., Ph.D.
- Dean of Undergraduate Academic Affairs, Faye D. Julian, B.A., M.A., Ph.D.
- Dean of University Outreach and Continuing Education, Robert B. Leiter, B.S., M.S., Ed.D.
- Dean of Admissions and Records, Richard Bayer, B.A., M.A.

### Independent Departments

- Air Force Reserve Officers’ Training Corps, Professor of Aerospace Studies, Colonel Charles F. Schreck, USAF
- Army Reserve Officers’ Training, Professor of Military Science and Leadership, Lieutenant Colonel William P. Woodcock, USA
ACADEMIC CALENDAR FOR 2002-2003

FALL SEMESTER, 2002

- August 21: Classes Begin
- September 2: LABOR DAY HOLIDAY
- October 10-11: Fall Break
- November 28-29: THANKSGIVING HOLIDAYS
- December 3: Classes End
- December 4, 6: Study Period
- December 5, 9-12: Final Examinations
- December 13: Commencement

SPRING SEMESTER, 2003

- January 13: Classes Begin
- January 20: MARTIN LUTHER KING, JR. HOLIDAY
- March 17-21: SPRING BREAK
- April 18: SPRING RECESS
- April 30: Classes End
- May 1-2: Study Period
- May 5-9: Final Examinations
- May 10: Commencement

MINI-TERM 2003

- May 14-June 4: Mini-Term
- May 26: MEMORIAL DAY HOLIDAY

SUMMER TERM 2003

- June 5: Classes Begin
- July 4: INDEPENDENCE DAY HOLIDAY
- July 9: First Session Ends
- July 10: Second Session Begins
- August 12: Second Session Ends
The University of Tennessee is the state's flagship institution, offering comprehensive programs of undergraduate, graduate, and professional education, research, and public service throughout the state. The university is composed of the campus at Knoxville, the Health Science Center at Memphis, the Space Institute at Tullahoma, and statewide institutes of agriculture and public service.

The campus at Knoxville is the only public institution in the state with the Carnegie classification of "doctoral/research university-extensive." The campus offers more than 300 degree programs to its 25,500 students, who come from every county in Tennessee, every state in the nation, and more than 100 foreign countries.

A faculty of 1,200 provides high quality educational experiences to students while also performing research and providing public service to the state and nation.

UT is a major research institution, attracting more than $90 million in research funding annually, Centers of Excellence in advanced materials, environmental biotechnology, structural biology, food safety, and information technology have exceeded projections for grant support since their founding in late 2000.

UT is one of the first major universities in the century to have campus-wide wireless access to the Internet and university data bases. Every academic building and most administrative offices have wireless connections.

UT-Battelle manages the Oak Ridge National Laboratory, located 25 miles northwest of campus. UT's involvement places it among a select group of universities that manage national laboratories for the U.S. Department of Energy.

ORNL is the university's largest research partner. The Science Alliance, a Tennessee Accomplished Center of Excellence, strengthens research ties between UT and the laboratory and improves science programs at the university. As part of the Science Alliance, UT and ORNL share 12 Distinguished Scientists, who hold the rank of full professor at the university and senior scientist at the laboratory.

The university's libraries have more than 2 million volumes as well as online access to numerous prestigious collections.

Through public service, the university extends its resources throughout the state and nation. Lifelong learning programs are delivered online and via video and correspondence to off-campus students, particularly working adults seeking college degrees or career advancement.

HISTORICAL BACKGROUND

The University of Tennessee, one of the nation's older institutions of higher education, celebrated its Bicentennial in 1994. Two years before statehood was achieved, the legislature of the Southwest 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 nonsectarian in character, which was unusual for an institution of higher education in that day. The University has remained nondenominational and is said to be the oldest such institution west of the Appalachian Divide.

From the outset, Blount College was all-male, as were most colleges at the time. The restriction was ended in 1892, when the first women students were admitted. The University of Tennessee thereafter was fully coeducational.

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.

Today the University of Tennessee System serves the entire state through three separate institutions: the University of Tennessee (Knoxville, Memphis, and institutes of agriculture, public service, and space), the University of Tennessee at Chattanooga, and the University of Tennessee at Martin.

The University has among its faculty and alumni two Nobel laureates, seven Rhodes scholars, six Pulitzer Prize winners, and ten astronauts. UT alumni number more than 250,000.

ACCREDITATION

The University of Tennessee (Knoxville campus) is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award baccalaureate, masters, and doctoral degrees.

STUDENT AFFAIRS AND SERVICES

ACADEMIC COMMON MARKET

The Academic Common Market is an agreement among states for sharing unique programs. Participating states can make arrangements for their residents who are fully admitted to specific programs at UT (Knoxville campus) to enroll on an in-state tuition basis, if these programs are not available in the state of residence.
Cooperating states in the Academic Common Market are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. Bachelor's, master's, and doctoral programs at UT are approved by the Academic Common Market for residents of these states to enroll at in-state tuition rates.

ADULT STUDENT SERVICES CENTER

The Adult Student Services Center 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, financial aid, and educational workshops for adult students. Personalized referral for university services will be made as well.

The Office of Adult Student Services Center is located at 413 Student Services Building. 8:00 a.m.-5:00 p.m. Monday-Friday and in the evening hours by appointment.

ATHLETICS

The University of Tennessee 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 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, rowing, softball, soccer, 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 to try out. Additional information can be obtained by writing to the Director of Women's Athletics, 207 Thompson-Boling Arena.

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 in December 1987. The facility, which seats 24,535, is named for the late Knoxville businessman B. Ray Thompson and former 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. The 1994 Men's Southeast Regional finals were held at Thompson-Boling Arena, as were the 1995 Women's Mideast Regional Championships. The 1999 Men's South Regional Tournament was also held at Thompson-Boling Arena.

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, was expanded in 1996 to a capacity of 102,854 fans. New luxury boxes on the upper east side of the stadium were in place for the 2000 season, bringing total capacity to 104,079.

OTHER FACILITIES

Tom Black Track is host to regional and national meets and is built to Olympic specifications. The University hosted the 1995 NCAA Men's and Women's Division I Track Championships. The UT baseball facility, the 5,500-seat Lindsey Nelson Stadium, was completed in February of 1993. Named for broadcasting legend and UT alumnus Lindsey Nelson, the facility provides an ideal environment for fans. It was the site of the 1993, 1994, and 1995 NCAA Mideast Regionals. Outdoor tennis courts and a new indoor facility, named the Goodfriend Tennis Center, also afford an excellent vantage point for spectators.

RECREATIONAL SPORTS

The Office of Recreational Sports coordinates recreation activities of the Student Aquatics Center, H.P.E.R., Stokely Athletics Center, including Intramurals, Sports Clubs, Aquatics Programs and Informal Recreation and Fitness Programs. Please refer to Hilltopics, The student handbook for more detailed information.

THE BLACK CULTURAL CENTER

The Center is an integral part of the University of Tennessee. The Center provides academic, cultural, and social outlets through programs and services as an on-going part of the University's retention efforts. The Tutorial and Early Alert Programs—along with the library, computer lab, student lounge, and multi-purpose area—serve as an extension to services provided across campus. The Center houses several student organizations that plan activities ranging from guest lecturers, Black History Month activities; Welcome Week activities; career exhibits; and recruitment speakers such as Maya Angelou, Tavis Smiley, Cornel West, and Alice Walker.

The new Center opened in April 2002 and is located at 1800 Melrose Avenue. The Center is a testament to the University's commitment to the entire student population and is a unique, landmark structure. The University community is encouraged to visit the facility and take advantage of the opportunities provided for all students.

CAREER SERVICES

Career Services helps students through individual and group assistance to choose a major, assess career alternatives, find employment, and complete a successful 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.

CAREER SERVICES also offers Internship Services, are the Strong Interest Inventory; exploring Majors and Careers, a one credit course designed to help with choosing a major; career counseling appointments; a Career Resource Center that includes a comprehensive collection of career-related books, magazines, articles, and videotapes; information about a wide variety of internships, annual Career Fairs providing opportunity to speak informally with representatives from hundreds of different employers about their entry level jobs and hiring practices; and an annual Summer Job Festival. Also available are resume critiques; video-taped mock interviews; 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 and Placement, Engineering Career Planning and Placement, and Exploring Majors and Careers.

On-Campus Interviews are scheduled during the year of graduation and require registration. A state-of-the-art web-based information and scheduling system is used. Thousands of interviews are scheduled each year which include approximately 500 companies, government agencies, and school systems.

Career Services also includes a Part-time Employment service for students seeking on-campus or off-campus jobs. Job vacancies are listed on the departmental websites and by the Career Resource Center. An Alumni Placement Service offers assistance in the job search after graduation and a Credential Service is available for doctoral candidates in professions requiring documentation of career-related experiences along with letters of recommendation. For information regarding Career Services call 974-5435 or check the web site at http://career.utk.edu.

CENTER FOR INTERNATIONAL EDUCATION

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

The goal of the Center for International Education, 1620 Melrose Avenue, is to promote and facilitate the internationalization of the UT 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.

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

The Center also serves students and faculty
interested in travel, work or study abroad. Staff are available to advise, to assist in the preparation of fellowship/scholarship applications, and to provide information on a broad range of international topics. A reference library of overseas study and travel materials, scholarship and other special programs intended to serve those with international interests is at the Center. International exchange programs through which enrollment at more than 100 universities throughout the world becomes possible and affordable for UT students are available. The phone number of the Center is 974-3177. E-mail: CIE@UTK.EDU.

UT’s International House, 1623 Melrose Avenue (phone 541-4533), is an integral part of the Center for International Education. The 30,000 square foot facility opened in the winter of 1995-96 and serves as a meeting place for everyone, regardless of nationality. The “I-House” always offers a cup of coffee or tea and features numerous meeting rooms, informal seating areas, a computer lab, international television, table tennis and a library. A list of I-House events may be accessed via the main UT Web homepage.

CULTURAL OPPORTUNITIES

ART
Exhibits of the work of artists, craftspersons and architects are sponsored on a regular basis by the School of Art and the College of Architecture and Design. 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 three to four weeks. A photo located on the ground floor of the Art and Architecture Building, is used for short-term exhibits and project critiques. The Reese collection, a group of outdoor sculpture, is on permanent display throughout the campus.

1010 Gallery, administered by the School of Art Student Advisory Committee, is located off-campus in the Candy Factory Building on the World’s Fair Site. This gallery features student work in short-term exhibits.

Arrowmont School of Arts and Crafts, a UT affiliate located in Gatlinburg, Tennessee, displays works by faculty and students during the summer months, and works from both the permanent collection and sponsored competitions during the remainder of the year.

The Art Education Gallery is located on the ground floor of Claxton Education Building, and features work by elementary, high school and university students and by regional artists. The gallery is open year-round and most exhibits are on display from three to four weeks.

The Ralph E. Dunford Art Collection and the Marian G. Heard Crafts Collection are housed and exhibited in the University Center. These collections are each year with purchases made possible through student programs. Acquisitions of works by area artists are emphasized by the selection committee. Additionally, shows selected by the Student Exhibition Committee are exhibited on a monthly basis in the Concours Gallery and the Barton Music Lounge of the Carolyn P. Brown Memorial University Center.

BROADCASTING
WUOT 91.9 FM 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 and information format designed to enrich and improve the quality of life for those within reception range. Programming includes National Public Radio news, classical, and jazz music. WUOT is a charter member of National Public Radio, Public Radio International, and Southern Public Radio. WUOT meets criteria 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. www.wuot.org

WUTK-FM is a student-oriented radio station operated by the Department of Broadcasting at the University of Tennessee (Knoxville campus). Broadcasting majors serve as announcers, news writers and reporters, producers, and account executives. The station is programmed as an alternative 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. Studios are located at P-103 Andy Holt Tower.

CONCERTS
Popular and cultural concert series bring to the University community some of the finest artists in the entertainment field. Major popular music artists regularly perform in the 25,000 seat Thompson-Boling Arena.

The student “Campus Entertainment Board” 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!

Another student committee, the “Cultural Attractions Committee,” group is responsible for the presentation of programs in the arts to include dance and music. Jazz, strings, wind, brass, modern and classical dance and music productions are annually presented.

FRANK H. MCCLUNG MUSEUM
Officially dedicated in 1963, 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 and architecture, geological sciences and natural history. 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 new major exhibition “Archaeology and the Native Peoples of Tennessee.” Another major, continuing exhibit “Ancient Egypt: The Eternal Voice” highlights life in the Nile Valley from the predynastic through the pharaonic period, with statuary, artifacts and a Dynasty XXI mummy. The continuing exhibition “The Decorative Experience” in the Judge John and Ellen Green and Eleanor Deane Audigier Gallery showcases selections made in a variety of materials such as ceramics, glass, textiles and metals from the Museum’s collections. Some aspects of the geological sciences and the natural history of Tennessee are also displayed on the main floor. Four million years of human evolution is presented in “Lucy and Her Relatives” on the lower floor. In the case opposite Lucy, is another exhibit, “Past and Present: Freshwater Mussels” which displays the life cycle and many uses of the mussel, from tools to the pearl button industry in Tennessee. 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.

LECTURES
Each semester the student 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.

MUSIC
Choral groups consist of the Concert Choir, Women’s Chorale, Men’s Chorale, Chamber Singers, and UT Singers.

The Opera Theatre presents varied programs of operatic music ranging from one-act operas to complete three-act operas with symphonic accompaniment and from television opera to selected scenes from the standard repertory.

The Symphony Orchestra plays concerts on campus and serves as orchestra for musical theatre and choral productions.

UT’s “Pride of the Southland” Marching Band presents outstanding entertainment on football Saturdays at both home and out-of-town games.

The Wind Ensemble, Symphonic Band, and Concert Band provide three concerts a semester of classic and modern wind band repertoire.

The Jazz Ensemble, Studio Orchestra, Jazz-Saxophone Ensemble, and many small jazz ensembles offer concerts of big band music and other types of jazz music throughout the year.

The School of Music also presents faculty recitals which feature vocal and instrumental music, student recitals presented by upperclass and graduate in partial fulfillment of degree requirements, and recitals by small ensembles and student service groups and fraternities such as Sigma Alpha Iota and Phi Mu Alpha.

The auditorium of the Music Building is named for East Tennessean Grace Moore, whose family donated a large collection of her memorabilia to UT. The collection may be viewed at the Frank H. McClung Museum by appointment.

THEATRE
Two theatre companies comprise The University of Tennessee Theatres.

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

The second company (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, social activities and assistance, and to sponsor its own productions as time, human resources, interest, and space permit.

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 prosenium
The University

stage, and the Studio Theatre, a 125-seat proscenium thrust theatre.

The Ula Love Doughty Carousel Theatre is a theatre-in-the-round constructed in 1951. Preceded by a tent theatre, this permanent structure, the Carousel, provides intimate performance surroundings. The seating is flexible, accommodating 350 to 500 patrons.

The season runs from September through June, and features a combination of student/ faculty and professional productions. The Department of Theatre also hosts several international artists annually.

All University students are welcome to participate in the University of Tennessee Theatres.

DISABILITY SERVICES

The Office of Disability Services (ODS) is committed to providing equal opportunities for students and employees with disabilities at the University of Tennessee. The primary objective for the office is to eliminate accessibility barriers in order to provide individuals with disabilities equal access to academic, social, career, cultural, and recreational opportunities offered within the university.

To ensure that services are provided in a timely manner, prospective students with disabilities are encouraged to contact ODS one month prior to the semester in which they plan to attend. Contact with the students prior to registration enables the ODS staff to better assess the need for interpreters, readers, accessible facilities, and other support services.

Van service is also provided to those individuals with mobility limitations whether permanent or temporary. Documentation of the disability within the last three years from an attending physician or psychologist is required.

To contact the office, call (865) 974-6087, fax: (865) 974-9552, or e-mail: ods@utk.edu. To view the web site: ods.utk.edu.

DINING SERVICES FACILITIES

UT Dining Services recognizes that campus dining is a large part of your college experience. Students have the choice of the following meal plan options depending on the type of dining desired. Meal plans are available to all students living on or off campus.

MEAL PLAN OPTIONS

Unlimited Access Plus Plan

Unlimited Access means just that! You may enter Presidential Court Cafe, Sophie's Place, and Morrill Dining facilities as many times as you like and eat as much as you want, full meals or snacks! You also receive $300 bonus bucks per semester.

The Any Ten Plan

You choose up to 10 meals weekly to be eaten at Presidential Court Cafe, Sophie's Place, and Morrill Dining facilities. You also receive $100 bonus bucks per semester.

The Varsity Inn Fifteen Plan

Fifteen meals per week are provided to be eaten exclusively at Varsity Inn Dining. These 15 meals include breakfast, lunch, and dinner, Monday through Friday. Bonus bucks are not included with the Varsity Inn Fifteen Plan.

• Fees are paid on a per semester basis.
• Rates subject to final University approval.
• Local sales tax is added to the price of off campus meal plans.
• The meal plan contract covers the entire academic year (fall and spring semesters). Meal plan is not valid between semesters and during Spring Break.
• Meal week begins on Monday at breakfast and ends on Sunday after lunch.
• Bonus bucks may be used whenever you choose at any Dining Services' facility on campus, including convenience stores.
• Unused bonus bucks are forfeited at the end of the semester.
• Meal equivalency is another feature of your meal plan that may be used at select retail dining facilities. Certain restrictions apply at these locations.
• Any Ten Plus and Any Ten meal plan participants can elect to eat all their meals at Varsity Inn Dining. Please contact Dining Services for more information.
• Students living in North Carrick, South Carrick, Humidor, Gibbs, and Morrill Halls are required to select a meal plan.
• The AllStar Account and The Diner’s Club may also be used in Dining Services' facilities. Contact the VoCard Office at 974-3430 for more information on these accounts.

To initiate or amend a meal plan, call UT Dining Services at 974-4111.

EDUCATIONAL ADVANCEMENT PROGRAM

The Educational Advancement Program student support services is a U.S. Department of Education funded TRIO program designed to provide counseling, academic advising, instructional, tutorial, and mentoring services to students with demonstrated academic needs who are also first generation college students, low income, or who have physical disabilities.

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 advice and help students develop personal strategies in matters related to financial aid, learning styles, relations with family and friends, adjustment to college, personal and career decision making.

Academic Advising: EAP Counselors provide accurate, thorough and personalized one-on-one advice 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.

Tutoring: The program employs 35 experienced and knowledgeable undergraduate and graduate students who are trained to provide one-on-one tutoring in a wide range of subjects.

The McNair Program is designed to encourage and facilitate doctoral studies by first generation college students, 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 eight-week summer research internship ($2,800). In addition, it provides students six hours of academic credit (summer coursework in oral and written communications, statistics, and research techniques), graduate survival skills seminars, interaction with researchers, housing, meals, and travel allowances, graduate placement services, and long term contact and follow-up. The program also operates an academic year component which offers graduate school application workshops, Graduate Record Examination preparation seminars, and graduate school visitation tours.

For additional information, offices are located at 201 Aconda Court or phone 974-7900.

FRATERNITIES AND SORORITIES

Greek Life at the University of Tennessee includes 24 social fraternities and 17 social sororities. These groups are coordinated by the Interfraternity Council and Panhellenic Council, respectively. These organizations are dedicated to the development of individual potential, emphasizing sound scholarship and the interests and talents of their members. Fraternities and sororities foster a balanced program of social activities and service projects within both the university and the community. Greek organizations are open to new members throughout the school year and encourage interested men and women to acquaint themselves with the Greek system at any time.

HEARING AND SPEECH SERVICES

The Hearing and Speech Center, located at 1600 Peyton Manning Pass, 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 nine
hours, for any 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 aid center, providing diagnostic and treatment services for persons of all ages exhibiting communication disorders/differences.

The Center is accredited by the American Speech-Language-Hearing Association Professional Services Board. Further information is available at www.uthearingandspeech.org.

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 freshman 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 being assigned. If a student withdraws from the University, the housing contract is cancelled in accord with policies stated in the contract.

Students assigned to residence halls desiring a meal plan will be issued contracts for both room and meals. 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 University Housing, 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.

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

Married Students. The University maintains 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 Department of University Housing, The University of Tennessee, Knoxville, Tennessee 37996-0241.

OFFICE OF INFORMATION TECHNOLOGY

The Office of Information Technology (OIT) provides computing and telecommunication resources and services for students, faculty, and staff. Information about OIT is available on the OIT web site http://oit.utk.edu.

OIT provides the core information technology equipment services for The University of Tennessee. OIT provides public-access computer labs, central computing, administrative information systems and network services, as well as information security for UT.

Individual computer accounts are provided at no charge for all UT students. These accounts may be used for e-mail, course work, research, and personal Web pages. Information and on-line registration for computer accounts are available at http://oit.utk.edu/helpdesk/account. Students are also encouraged to download Norton AntiVirus software at no cost from http://www.nav.utk.edu/.

Students on the Knoxville campus may access the Internet through direct Ethernet, wireless, or dial-up accounts. Students living in the on-campus Residence Halls are each provided with a switched 10Mb Ethernet connection. For off-campus students, the Enhanced Remote Access (ERA) pool is provided by 756 modems supporting 56 Kbps analog and 64Kbps/128Kbps ISDN connections. All students can take advantage of UT’s new wireless infrastructure available in most of the academic and administrative buildings on campus.

To provide access to computing facilities on campus, OIT maintains seven staffed computing labs, several un-staffed labs, and supports computing installations in residence halls. The computing labs are equipped with more than 300 microcomputers including current models of Apple, Dell, and Gateway machines. In addition, there are laser printers, scanners, CD-Writers and zip drives available. A variety of industry standard software applications are available for use on the machines in the computing laboratories. Please refer to http://oit.utk.edu/labs.html for more information.

OIT HELP DESK

OIT provides the telephone Help Desk as a centralized source of information and service for the computer and network resources managed by OIT. Help Desk services are available to all UT students. Students may call the HelpDesk with questions in such areas as your e-mail, Internet usage and Web page design, ERA account setup and billing, desktop hardware and software, wireless and ResNet connectivity, and UNIX account. The HelpDesk phone number is 974-9900. You may also contact the HelpDesk by sending your questions via e-mail to helpdesk@utk.edu.

OIT CUSTOMER SERVICE CENTER

OIT maintains a Customer Service Center that centrally locates all contact points for walk-in support on related OIT services. Students can receive assistance and/or training on a wide variety of topics at our Customer Service Center. Just an example of some of the services offered include registering for an e-mail account, signing up for an ERA account, getting an Ethernet or wireless card installed, resetting a password, training on how to construct Web pages, and learning how to download or transfer files across the network. We will also help students learn how to download and use virus protection programs as well as help students with other applications like My Blackboard, TELNET, and WebMail. The Customer Service Center is located on the corner of Cumberland and Volunteer in rooms 103/104 Acconda Court and is open Monday through Friday, 9 a.m. until 4 p.m.

ENHANCED REMOTE ACCESS (ERA) AND SUPPORT

Any UT student, staff, or faculty member can obtain an ERA account that will give them access to the Internet, as well as UT’s computing facilities, from home. OIT supports approximately 6,000 users of ERA. Currently OIT provides up to 128K ISDN connections and 56K analog connections. The Enhanced Remote Access office is located in room 103 of Acconda Court at the corner of Volunteer and Cumberland. The ERA staff will help you set up your account as well as provide technical assistance either over the phone (via the Help Desk number 974-9900) or for walk-in customers.

RESNET CONNECTIONS

OIT has wired every dorm room on campus for network access. The ResNet community enjoys a dedicated 45 Mbit DS-3 connection to the commodity Internet. Each network port in the room is a 10Mb dedicated Ethernet connection. Students living in the dorms with network capable computers will be connected free of charge. Students with computers that do not have network cards installed may obtain a network card at a reduced price. Technicians are available to install and configure the network card free of charge at the Customer Service Center in Acconda Court.

TECHNOLOGY TRAINING

Several courses are offered aimed at improving skills with the technology available at UT. Life Preserver: An Introduction to UT Computing is offered several times each semester on supported application software and operating systems. Other courses include those about MS Office products, Dreamweaver, JavaScript, using the Internet and search engines, and Web Page Essentials, which offers four levels of HTML training. There is also a series of courses on Adobe Photoshop. Please refer to http://web.utk.edu/~training for more information.

COMPUTER-BASED TRAINING

Computer-Based Training (CBT) is a self-paced series of interactive, WEB delivered, learning-as-you-go courses centered on any computing topics. CBT offers courses for Microsoft products (Word, Excel, etc.), Internet topics (Internet basics, How to create a Web page, etc.), and more advanced topics, such as JavaScript, Visual Basic, object-oriented techniques, and open systems. There are over 500 courses available. This training is free to UTK students. For registration and access to the CBT courses on the WEB go to http://oit.utk.edu/cbt/.

STATISTICAL CONSULTING CENTER

The mission of the Center is to help people enhance the quality of their research by working together to effectively apply statistical,
Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to develop research alliances among its members. Through the Oak Ridge Institute for Science and Education, the DOE facility that ORAU manages, undergraduates, graduates, post-graduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointments and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found on the ORAU website at www.orau.org.

ORAU’s office for Corporate and Partnership Initiatives seeks opportunities for collaborative research and development alliances among ORAU’s members, private industry, and major federal facilities. Examples of alliances include the Southern Association for High Energy Research, High Performance Computing, Bioprocessing, and the Materials Science Forum. Other activities include the sponsorship of conferences and workshops, the Visiting Scholars program, and the Junior Faculty Enhancement Awards. For more information about ORAU and its programs, contact Dr. Lee Magrid, ORAU Council member, at (865) 974-2470; or contact ORAU’s vice-president at (865) 576-1898.

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, bus service is available from the Main Campus to the Agriculture Campus. Also, bus service is available to university apartments 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.

Staff and students with current UT parking permits may park in unreserved staff areas from 5 p.m. to 3 a.m. After this time, vehicles without permits for these areas may be towed. Parking is not permitted in the Student Commuter Parking Areas nor in the Student Aquatic Center Parking Area between 3 a.m. and 6 a.m. except permit.

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, 24 University Center or 2121 Stephenson Drive; at the Campus Information Center at Circle Park; and at the vehicle point of registration.

**PROBATION SERVICES**

The Office of Probation Services has responsibility for supervising all students placed on Disciplinary Probation for violations of the University Standards of Conduct. This may include ongoing meetings and/or referral to other campus or external agencies. The office is located in Suite 409 of the Student Services Building.

**RELIGIOUS RESOURCES**

The University, established by a government that recognizes no distinction among religious beliefs, seeks neither to promote any 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 COUNSELING SERVICES CENTER**

The Student Counseling Services Center provides services designed to help students with educational, vocational, personal, and social problems. Psychologists and advanced doctoral students in psychology work with the student in a setting that allows confidential discussion of the student’s concerns. In addition, various groups are available to meet the developmental needs of the students. These group settings provide the opportunity to share and learn from others and/or improve specific skills. The Center also works with faculty and staff to develop educational programs and projects to meet the needs of various groups at the University.

First-time users of the Counseling Center may come during our walk-in hours, which are 10:00-11:30 a.m. and 1:00-3:30 p.m., Monday-Friday. If these times are not available in the student’s schedule, they may call the Center for a convenient time. Anyone in crisis is seen immediately at the Center during the week, Monday-Friday from 8:00 a.m.-5:00 p.m.

The Counseling Center is located at 900 Volunteer Boulevard. Phone number: (865) 974-2196. Web address: http://web.utk.edu/~counsel/

**STUDENT GOVERNMENT ASSOCIATION**

The Student Government Association (SGA) is composed of the Student Senate, the Undergraduate Academic Council, the Graduate Student Association, Student Services Committees, and the Freshman Council. SGA is the governing body of the students at UT. Some objectives are to provide a vehicle for responsible and effective student participation in 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 elected branches of the SGA. Student Senate members are elected to represent geographical areas of the campus. The Undergraduate Academic Council and Graduate Student Association representatives are elected from the academic colleges and graduate student programs, respectively. Offices of the SGA are located on the third floor 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 but at least 3 hours, paying the optional health fee). These out-patient services are available continually throughout every term.

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

Students traveling abroad may receive information, health alerts, and immunizations through the Travel Clinic (974-8647).

Most all medical services at the campus clinic are provided to eligible students at no additional cost.

The primary clinic at 1818 Andy Holt Avenue maintains scheduled daytime hours Monday through Friday. While urgent-care needs may be handled on a walk-in basis, appointments should be made in most instances. (Appointment line: 974-3648). After-hours care (nights, weekends, and holidays) is available, at reduced rates, through the emergency room at the University of Tennessee Memorial Hospital. Transportation service for the campus is provided by the Campus Police and the Escort Van Service.

The State of Tennessee requires that all students born after January 1, 1957 must provide proof of immunization with two doses of Measles, Mumps, and Rubella vaccine for attendance to all universities and colleges. This documentation must be provided to the Student Health Service. In addition, the University of Tennessee Student Health Service recommends that entering-college students assure immunity to Tetanus/Diphtheria, Polio, Hepatitis B, and Chicken Pox. The American College Health Association recommends that students, particularly freshmen living on campus, consider receiving meningitis immunizations.

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 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 their university career.

STUDENT JUDICIAL AFFAIRS
The Office of Student Judicial Affairs has primary responsibility for processing allegations of student misconduct. Personnel within this office serve as advisors to, and administrators of, the student judicial system and when necessary, initiate appropriate disciplinary proceedings. The office is located in Suite 409 of the Student Services Building.

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

A listing of all student organizations is found in Hilltopics, the student telephone directory, and on the Dean of Students web site. Student organizations must be registered through the Office of the Dean of Students in the fall of each year and update their file each semester.

STUDENT ORIENTATION
This office is dedicated to helping new students adjust to the university setting. It concerns itself with general, personal, and scholastic difficulties of the student during their first year of enrollment at UT. 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. The office is located in Suite 412 Student Services Building.

STUDENT PUBLICATIONS
Three editorially independent student publications are printed during each school year to serve as sources of information for 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/art magazine, are sponsored by The University of Tennessee Student Publications Board.

STUDENT RIGHTS AND RESPONSIBILITIES
By registering at the University, the student neither loses 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 pertaining to students and for complying with them in the interest of an orderly and productive community. The student handbook, Hilltopics, is published and distributed annually and is also available on-line at the Dean of Students’ web site so that students are aware of the University Standards of Conduct and all disciplinary regulations and procedures.

Since conduct and actions will be measured against the University’s standards, 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.

SUMMER SCHOOL SESSION
The summer school session offers current and visiting undergraduate and graduate students the opportunity to take a variety of courses offered by 11 colleges and schools. Information on summer courses and registration can be found at Circle Park on line www.cpo.utk.edu or the summer school web site www.outreach.utk.edu/evening. For a Summer School timetable call 1-800-676-8657 or (865) 974-5361.

Summer catalogs with additional information are available after March 1 from the Summer Sessions Office located in 451 Communication Building.

WOMEN’S CENTER
The Women’s Center provides essential information and referral services to UT students, staff and faculty as well as the Knoxville community. The library’s specialized collection provides books, journals, and brochures about issues and concerns of women from both a current and a historical perspective. Information is available on a variety of topics ranging from racism, violence against women, cross-cultural studies, feminist theory, gay studies, local/statewide activism to poetry and health. The Women’s Center is the location of the UTK’s Women’s Coordinating Council, as well as the Knoxville Chapter of the National Organization for Women. The Center is located in 301 University Center.

WRITING CENTER
The Writing Center offers free, one-to-one assistance to all writers on the UT campus. Students, faculty, and staff may drop by at any time to get feedback during every stage of the writing process. The up-to-date facility and trained tutors provide a supportive environment where writers can work and ask questions about their written texts. A variety of reference and writing instruction materials are available for use, as well as computers for those who are working with the Writing Center tutors.

Students enrolled in English 101 or 102 may enroll in English 103 or 104, writing workshop courses that meet two hours per week in the Writing Center, for one hour of credit.
UNIVERSITY FEES

University fees and other charges are determined by the Board of Trustees and are subject to change without notice. All student fees are due in advance.

All tuition, maintenance, and course related 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 must confirm their attendance by 1) making the minimum payment or 2) signing a Confirmation of Attendance form if no fees are due by the student. If the student does not owe fees due to a waiver (staff, GA, GTA, GRA, etc.), financial aid including scholarships, or fees are paid by another source, a signed Confirmation Form must be received by the Bursar's Office or before the due date published in the Timetable of Classes each semester. The schedule will be canceled if one of the above is not accomplished each term on or before the published due date. This includes graduate assistants, teaching assistants, teaching associates, research assistants, staff and others whose fees may be billed, prepaid, or waived. Late registration fees are applicable to students who register during Final Registration.

The University is authorized by statute to withhold diplomas, grades, transcripts, and registration privileges from any student until all debts and obligations owed to the University are satisfied.

The general fees in effect at the time of publication are as follows:

APPLICATION FEE ........................................... $25
Each first-time undergraduate for admission must be accompanied by a non-refundable fee of $25 before it will be processed. This fee is not required for transfers within the University system.

VOLXPRESS

VOLXpress, the University of Tennessee's centralized accounting system, allows students to pay all of their fees and charges with a check in the mail. Through VOLXPRESS, students are mailed statements to their billing address that include their class schedules, drop/add activity, current tuition and fees, fee waiver information, fines and past-due amounts, pending financial aid that can be credited toward their accounts, any excess funds from scholarships and/or loans, and choices about how to receive them.

VOLXpress is a convenient method for students to take care of business from home. Students who register and pay early will receive the greatest benefit if the payment deadlines are observed.

Each student must submit any change of address to CPO.UTK.EDU to ensure timely receipt of a VOLXPRESS Statement. Each Timetable of Classes lists the dates of registration and when and if statements will be mailed.

METHODS OF PAYMENT/CONFIRMATION

You may pay and/or confirm your account by mail with a check or with Mastercard, Visa, or Discover on the web at CPO.UTK.EDU or by telephone (865) 656-2527.

MAINTENANCE FEES (IN-STATE FEES)

<table>
<thead>
<tr>
<th>Undergraduate Students—</th>
<th>Full Time (12 hours or more)</th>
<th>$1,617</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Semester</td>
<td>$135</td>
<td></td>
</tr>
</tbody>
</table>

TUITION (OUT-OF-STATE FEES)

<table>
<thead>
<tr>
<th>Undergraduate—</th>
<th>Full Time $3,768</th>
</tr>
</thead>
</table>

Part-time students 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.

MAINTENANCE (IN-STATE FEES)

<table>
<thead>
<tr>
<th>Undergraduate Students—</th>
<th>Part Time (11 hours or less)</th>
<th>$314</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per Hour (credit or audit)</td>
<td>$135</td>
<td></td>
</tr>
</tbody>
</table>

All students both in and out-of-state are required to pay the established maintenance fee. In addition, tuition is required of students who are classified as non-residents for fee assessment purposes.

UNIVERSITY PROGRAMS AND SERVICES FEES

<table>
<thead>
<tr>
<th>Fall and Spring Semester—</th>
<th>Full Time (9 hours or more) $150</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part Time (8 hours or less)</td>
<td>$10</td>
</tr>
<tr>
<td>Per Credit (or Audit) Hour</td>
<td>$10</td>
</tr>
<tr>
<td>Summer Semester—</td>
<td>Full Time (9 hours or more) $90</td>
</tr>
<tr>
<td>Part Time (8 hours or less)</td>
<td>$7</td>
</tr>
<tr>
<td>Per Credit (or Audit) Hour</td>
<td>$10</td>
</tr>
</tbody>
</table>

NOTE: The Program and Services Fee is Non-Refundable

The purpose of the University Programs and Services Fee is to provide non-instructional facilities and programs of an educational, cultural, social, recreational, and service nature for UT students. The student health fee is included in the full programs and services fee. Refer to Student Health Insurance and Student Health Services for additional information.

All students enrolled in excess of eight semester hours per term are assessed a Program and Services Fee of $150 per semester. Part-time students taking fewer than nine semester hours will be assessed at the rate of $10 per semester hour, or a fraction thereof; minimum charge $10.

Graduate, teaching, and research assistants, teaching associates and fellowship students who may have a waiver of fees (tuition and/or maintenance) must pay the appropriate University Programs and Services Fee and late payment fee, if applicable.

Knoxville campus students taking a course load of 6-8 hours may elect to pay the full Programs and Services Fee.

Knoxville campus students taking 3-5 hours may elect to pay the student health fee ($48 for fall and spring, $36 for summer) plus the appropriate part-time programs and services fee. Students taking 6 to 8 hours may also elect to pay the student health fee ($48 for fall and spring, $36 for summer) plus the appropriate part-time Programs and Services Fee up to the maximum of $150.

TECHNOLOGY FEE

| Full Time (9 hours or more) | $100 |
| Part Time (8 hours or less)— | $12  |

The purpose of the Technology Fee is to provide all students with improved access to the technological infrastructure, resources, and services at UTK.

Graduate, teaching, and research assistants, teaching associates, and fellowship students, who may have a waiver of fees (tuition and/or maintenance), must pay the appropriate Technology Fee.

The Technology Fee is mandatory and may be refunded on the same percentage scale as maintenance and tuition charges.

FACILITIES FEE

The Facilities Fee is a mandatory fee assessed to all students enrolled in credit and audit courses. The fee will be used to provide students with upgraded classroom facilities, expand information technology into the classroom, and fund campus infrastructure improvements. These revenues will be targeted to assist in funding a backlog of campus and classroom projects that will enhance the University's facilities. The fee is $25 per semester for full-time, in-state and $150 per semester for full-time, out-of-state students. The fee will be pro-rated for part-time students.

MUSIC FEE

One-half hour lesson per week, per semester ...... $80
One hour lesson per week, per semester ........... $160

Payable by students receiving individual instruction in music. Refunds are determined by the Music Department.

SPECIAL COURSE FEES

Departments such as Art, Chemistry, Biology, Engineering, Bowling, and Golf (for example) charge fees per specific course sections. Refunds on these fees are determined by the department on the same percentage as maintenance and tuition.

PROFICIENCY FEES

Fees for proficiency examinations are $5 per hour credit for undergraduates and $7 per hour credit for graduates. See Proficiency Examinations for additional information.

FEES FOR COURSES NOT TAKEN FOR CREDIT

Fees for courses audited are the same as for courses taken for credit. For fee purposes, courses listed for 0 credit hours are considered as one-hour courses.

DEFERRED PAYMENT PLAN

SERVICE FEE ........................................... $20

A Deferred Payment Fee is assessed when payment of any part of a student's account is deferred.

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

Students are responsible for charges and fees which are to be paid by a third party. Non-Person Entity (NPE) accounts which include government sponsored agencies and private organizations are automatically assessed a $10.00 billing fee when an authorization is presented to the Bursar's Office. Late authorizations and payments are subject to late payment fees and University schedule cancellation policies and procedures.
PRIORITY REGISTRATION
For a priority registered student, minimum payment or a Confirmation of Attendance Form is due by the published due date or the student's schedule will be canceled. Failure to receive a statement does not relieve the student of their obligation to pay or confirm by the due date. The due date will be published in the Timetable of Classes available from the Registrar's Office.

FINAL REGISTRATION LATE FEE
For a student who registers during Final Registration (including those who were canceled during Priority Registration) payment of fees or a Confirmation of Attendance Form must be turned in to one of the Bursar's Office locations by the final registration due date. This due date will be published in the Time-table of Classes available from the Registrar's Office. The Final Registration Late Fee is non-refundable.

Students who register during Final Registration will be assessed a late fee based on the following:

<table>
<thead>
<tr>
<th>Week of classes</th>
<th>Late Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beginning</td>
<td>$20</td>
</tr>
<tr>
<td>2nd week</td>
<td>$40</td>
</tr>
<tr>
<td>3rd week</td>
<td>$60</td>
</tr>
<tr>
<td>4th week</td>
<td>$80</td>
</tr>
<tr>
<td>After 4th week</td>
<td>$100</td>
</tr>
</tbody>
</table>

Doctoral students who must register retroactively for dissertation credit will be charged a late fee of $35 for each semester of retroactive registration.

REINSTATEMENT FEE .........................$45
VolXpress accounts which have a balance mid-semester to the end of a term will be assessed a reinstatement fee of $45, and grades will be withheld until all fees are paid in full.

RETURNED CHECK SERVICE FEE
All checks are deposited the day they are received. A $20.00 service charge will be assessed when checks fail to clear the bank on which they are drawn. Returned checks will not be redeposited. Cash or certified funds are required for payment of the returned check and service charge.

Any student who does not respond within two weeks from the date of the first notice may be assessed an additional $10 Service Charge.

Failure to clear returned checks will result in the forfeiture of all university services, including the receipt of grades, transcripts, schedule of classes and check cashing/writing services. Failure to pay may also result in additional late fees, collection costs, and reasonable attorney fees.

RETURNED CHECK POLICY
Payments made by checks which are returned by the bank adhere to the following returned check guidelines:

First Returned Check—Check writing/check cashing privileges are suspended until the returned check and service charges are paid/cleared.

Second Returned Check—If the second returned check is within one calendar year of the first returned check, check writing/check cashing privileges are suspended for six months from the date of the second check. If the second returned check is not within one calendar year of the first, check writing/check cashing privileges are suspended until the returned check and services are paid/cleared. Third Returned Check—Check writing/check cashing privileges are suspended for one year from the date of the check. Fourth Returned Check—Check writing/check cashing privileges are permanently suspended.

TUITION PAYMENT PLANS
All student fees are due in advance and should be paid in full by the due date shown on the VolXpress statement and listed in the Time-table of classes. Failure to receive a statement does not relieve the student of their obligation to pay on or before the due date.

DEFERRED PAYMENT POLICY
Students in good financial standing will be offered a deferral of up to 50% of the total charges on their VolXpress statement. The remaining balance for the term is due approximately 45 days after the first due date. All financial aid must be applied toward fees before a deferral will be considered. A deferred payment service fee of $20 is assessed when any portion of tuition, fees, and other charges are deferred with the approval of the Bursar's Office. An additional $35 late payment fee will be assessed if the second installment is not paid on or before the due date. An additional $45 reinstatement fee will be assessed if fees are not paid by mid-semester.

ROOM PLAN
Semester room charges may be paid in monthly installments. The first month's rent, plus a deposit of one month's rent, is due at the beginning of the semester. The remaining installments are due every four weeks.

REFUNDS
Refunds are defined as the portion of maintenance and/or tuition and University housing/meal charges due as a rebate when a student withdraws or drops a portion of class hours. Refunds are also processed as a rebate on some fines/penalties paid such as parking fines, library fines, etc. Once a refund is determined to be applicable, all amounts will be applied toward other outstanding fees/fines owed to the University at the time the refund is issued, including outstanding fees due on the Deferred Payment Plan. Any remaining refund balance will be mailed to the student's billing address.

Refunds on payments made by credit card will be applied to the originating credit card.

Refund/Repayment Examples:

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Student</td>
<td></td>
</tr>
<tr>
<td>Withdraw 21 days after class began</td>
<td>$1,697.50</td>
</tr>
<tr>
<td>(actual loan amount $1,750.00)</td>
<td></td>
</tr>
<tr>
<td>Lived in dorm housing</td>
<td>$4,063.00</td>
</tr>
<tr>
<td>Enrolled on food plan</td>
<td></td>
</tr>
<tr>
<td>Total institutional costs</td>
<td>$4,063.00</td>
</tr>
<tr>
<td>Refund to Title IV program</td>
<td>$1,385.16</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Student</td>
<td></td>
</tr>
<tr>
<td>Withdraw 42 days after class began</td>
<td>$1,940.00</td>
</tr>
<tr>
<td>(actual loan amount $2,000.00)</td>
<td></td>
</tr>
<tr>
<td>Tuition charge</td>
<td>$1,767.00</td>
</tr>
<tr>
<td>Art fee</td>
<td>$15.00</td>
</tr>
<tr>
<td>Institutional charge totaled</td>
<td>$1,907.00</td>
</tr>
<tr>
<td>Refund to Title IV program</td>
<td>$1,205.22</td>
</tr>
</tbody>
</table>

NOTE: The above are examples of the current award year and are subject to change.

Refund/Charge of Fees for Dropped Courses (Continue With a Reduced Course Load)
Students pay fees computed at the appropriate semester-hour rate as indicated in the fee section. No charge is made for courses dropped during the first eight business days following the day before the first official day of University classes. An 80% refund/20% charge is made for courses dropped between nine and 10 business days following the day.
before the first official day of University classes. A 60% refund/40% charge is assessed for courses dropped between 11 and 15 business days following the day before the first official day of University classes. A 40% refund/60% charge is assessed for courses dropped 16 and 20 business days following the day before the first official day of University classes. A 100 percent charge is assessed for courses dropped after 20 business days following the day before the first official day of University classes.

Students who drop courses and continue with a reduced load are eligible for a refund only if the sum of charges computed at the semester-hour rate for the hours continued, plus the percentage assessed for the hours dropped, results in an amount less than that paid. A course on a student's schedule is officially dropped, and the drop becomes effective, on the date the change of registration form is processed or the date the drop was entered on the registration telephone system or on CPO.UTK.EDU. Any refund due for dropped courses will be made after the drop deadline which is published in the Timetable of Classes.

SUMMER TERM FEES AND EXPENSES

Fees and expenses for the summer semester are the same as for other semesters during the academic year, except for University Programs and Services Fees as previously mentioned.

Although the summer term is divided into sessions of varying lengths, tuition and fees are assessed at the regular semester-hour rate up to the maximum charge for a complete regular semester.

The refund policy covering withdrawal and dropped courses for the summer semester is based on the length of the term for the course(s) dropped. Percentages of refunds are based on the date of withdrawal/drop. See Timetable of Classes for specific dates.

WAIVER OF FEES

Graduate assistants, teaching assistants and associates, research assistants, staff and others whose fees are billed, prepaid, waived, or partially waived must confirm their attendance by making payment or signing a Confirmation of Attendance Form by the due date as published in the Timetable of Classes or their schedule will be canceled. If an appointment terminates during the term, the student owes the appropriate fees from the termination date until the end of the term.

ARRANGEMENT FOR BANKING WHILE AT UT KNOXVILLE

The University of Tennessee will accept out-of-state checks for tuition, books, and other University services. Students wishing to open a local bank or credit union account will find several banks and credit unions on campus and in the surrounding area. Please take into consideration some financial institutions do require a waiting period before honoring a deposit made from an out-of-town personal check. Students wishing to pay initial college expenses from their newly acquired banking account should be aware of the institution's waiting periods on deposits made with out-of-town checks.

STUDENT FINANCIAL AID

The University of Tennessee offers a comprehensive program of financial aid to students who would not otherwise be able to afford to attend. Through these federal, state, and university programs, an eligible student may receive one or more types of assistance.

Families applying for financial assistance based upon financial need (grants, scholarships, loans and employment) must complete a Free Application for Federal Student Aid annually. Families desiring only a scholarship based on academics and/or merit are not required to complete federal financial aid applications.

To receive major student aid programs, a student must have financial need, except for some of the loan programs. Students must also be a U.S. citizen or eligible non-citizen, have a high school diploma or General Education Development (GED) certificate, be enrolled or accepted for enrollment as a regular student working towards a degree or certificate in an eligible program, make satisfactory academic progress, sign a statement of educational purpose and a certification statement on overpayment and default, and register with the Selective Service. Students may not receive aid for correspondence or telecommunications courses unless they are part of an associate, bachelor's or graduate degree program.

When applying for financial aid the Free Application for Federal Financial Aid (FAFSA) must be completed. This information is used in a formula, established by the U.S. Congress, that calculates the Expected Family Contribution (EFC), an amount you and your family are expected to contribute towards your educational costs. Financial need is defined as the difference between the cost of attendance and a family's contribution towards these educational expenses.

\[
\text{Cost of Educational Expenses Minus Expected Family Contribution} = \text{Financial Need}
\]

UT offers three general types of financial aid: scholarships and grants, loans, and part-time employment. These may be awarded individually or in a combination according to the needs of the family and student.

For additional information on application procedures, please contact the Office of Financial Aid and Scholarships.

PRIORITY DATE FOR APPLICATIONS

Priority in awarding financial aid will be reserved for processed application data received on/before the priority application deadline of March 1. UT is unable to meet full financial need for all applicants, therefore, requests for financial aid are processed on both a date priority and financial need basis.

SCHOLARSHIPS AND GRANTS

Scholarships. The UT scholarship program is made possible through the generosity of funds provided to the university from individuals, alumni, outside foundations, private business, and civic organizations. The majority of the scholarship programs are coordinated by the Office of Financial Aid and Scholarships and are awarded based on demonstrated strong academic achievement and financial need. Some undergraduate scholarships for currently enrolled students are administered by individual colleges or departments may require a separate application.

Scholarship Application Dates. The Early Action Priority Filing Date of November 1 is intended for freshmen who desire early notification of their admissions and wish to be considered for UT's most competitive scholarships which include the Oldham Scholars, Whittle Scholars, Manning Scholars, Neyland Scholars, Bonham Scholars, Roddy Scholars, Holt Scholars, and McClanahan Scholars. Applicants who complete the admissions application process and submit the Entering Freshman Academic Scholarship Application, with all the supporting documentation, by November 1 will be considered for the competitive scholarships. All October ACT/SAT scores received at UT by December 1 will be considered in the scholarship selection process.

The Regular Admissions Application Priority Filing Date of February 1 is intended for freshmen who desire to be considered for Guaranteed Scholarships (Biennial, African American Achievers, Trustees, and Presidential), General University and Alumni Scholarships (except Holt Scholars), and College and Departmental Scholarships (except McClanahan Scholars).

Consideration for Guaranteed Scholarships will be automatically granted for all students who apply for admission and meet the criteria for Guaranteed Scholarships. Submission of the Entering Freshman Academic Scholarship Application is not required. Students meeting the criteria for the Guaranteed Scholarships will be automatically awarded. Students may submit additional grades and ACT/SAT scores until August 1 to improve their academic standing for Guaranteed Scholarship consideration.

All scholarships are highly competitive and there are not sufficient funds to assist all qualified students. Most scholarships are awarded for one year, with the recipients competing for scholarships each year of enrollment.

Federal Pell Grant. Pell Grants are awarded only to undergraduate students who have not earned a bachelor's or professional degree. A Federal Pell Grant does not have to be repaid. All undergraduates applying for need-based financial assistance from the university must apply for a Federal Pell Grant.

Federal Supplemental Educational Opportunity Grants. This federal grant is for undergraduate students with exceptional need. Financial need is given to students who receive a Federal Pell Grant. Students who are full or part-time may apply. Federal SEOG funds are limited, and do not require repayment.

The Tennessee Student Assistance Award is designed to further the educational opportunities to residents of the state who display financial need. Awards cover approximately one-half of the maintenance fees for Fall and Spring terms.

More information may be obtained by writing to the Tennessee Student Assistance Commission, 404 4th Avenue, Jackson State Park, Suite 1950, Parkway Towers, Nashville, Tennessee 37243.
STUDENT LOANS

Federal Perkins Loan. A low interest loan (currently 5%) for students with exceptional financial need, as determined by the school. For undergraduate students, priority is given to Federal Pell Grant eligible students. The loan will be issued through the Financial Aid Office, disbursed and repaid to the Student Loan Department in the University of Tennessee, Knoxville Bursar's Office.

Eligibility for the Federal Perkins Loan is determined when the student applies for federal aid using the Free Application for Federal Student Aid. Students will be notified, at the time of award, of the maximum loan eligibility available for undergraduate study or graduate/professional study during an academic year. The total debt a student can accumulate in undergraduate study is $20,000 and in graduate/professional study (including undergraduate loans) is $40,000. Minimum payment is currently $40 per month.

Loan repayment and interest accrual is deferred as long as the borrower remains in at least half-time attendance at an accredited institution of higher education. The borrower has a grace period of nine (9) months after graduation, withdrawal, or less than half-time attendance. Certain circumstances may allow a borrower to defer payments or cancel a portion of the loan. Deferments and cancellations must be applied for through the Student Loan Department in the University of Tennessee Bursar's Office. The above regulations and provisions of the Federal Perkins Loan Program are correct as of March 2001 and are subject to change by federal legislation or regulation.

The University of Tennessee Student Loan. Student loans from University sources are available to currently enrolled students with a 2.0 or higher cumulative grade point average. A loan of an annual maximum of 1 and 1/2 times the amount of fees paid per term can be extended. 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 received. 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 (6) months following graduation, withdrawal, or when the student ceases to carry at least half-time attendance. Minimum monthly installments will be $30 or 1/26th of the amount borrowed, whichever is greater. The borrower may choose to pay, without penalty, all or any part of the loan plus interest before entering the normal repayment period. The above regulations and provisions are correct as of March 2001 and are subject to change by action of the Board of Trustees.

Federal Stafford Loan Program. This is a low interest loan made by a lender such as a bank, credit union, or savings and loan association. These loans are insured by a Guaranty agency in each state and reinsured by the Federal Government.

To receive a Federal Stafford Loan, a student must apply for federal aid with the Free Application for Federal Student Aid. The student must be in good standing with the University and must be enrolled or admitted in at least a half-time degree program. Federal Stafford loans are available to students on need based eligibility and non-need based circumstances. Students determined eligible for the Subsidized, or need-based, Stafford Loan program will have interest subsidies paid by the federal government to the lending institution while the borrower is in school. Unsubsidized (non-need based) Stafford loans are available to students regardless of need. Interest will accrue while the borrower of a unsubsidized Stafford loan is in school. The student has the option to pay this interest on a monthly or quarterly basis, or allow it to accrue and capitalize.

Two disbursements of the loan will be made to the borrower at the time of enrollment and middle of the loan period. Some first year undergraduate students who are first time Stafford Loan borrowers will not receive the first loan disbursement until 30 days after the day the program of study begins. Some first time borrowers must receive Entrance Interview Loan Counseling at the Financial Aid Office before receiving the first disbursement of loan funds. Charges of up to 3% will be deducted from the loan disbursements for federal government and bank loan costs. A student may borrow up to a total outstanding debt of $23,000 as a dependent undergraduate and $46,000 as independent undergraduate. For graduate or professional studies a student may borrow up to a total debt of $138,500 ($65,500 in subsidized Federal Stafford Loan and $73,000 in Unsubsidized Federal Stafford Loan).

Loan repayment amounts will be determined by the lending institution, and will begin no earlier than 6 months after graduation, withdrawal, or less than half-time enrollment. Certain circumstances may allow a borrower to defer payment or cancel a portion of a loan if requested by the borrower through the lending institution. The above regulations and provisions of the Stafford Loan Program are correct as of March 2001 and are subject to change by federal legislation or regulation.

PLUS Program. Federal PLUS loans are available to parents of dependent students enrolled at least half-time in a degree seeking program. This low interest loan program is available to students in good standing with the University. A PLUS disbursed on or after July 1, 1993 will have a variable interest rate which is determined each June (check with your lending institution for the current interest rate). Charges of up to 3% will also be deducted from the loan disbursements for federal government and bank loan costs.

A PLUS loan may be requested by the parent borrower for up to the student's cost of education minus any estimated financial aid received. Funds will be disbursed to the school, made co-payable to the parent borrower and the school. PLUS loans are subject to credit checks at the lending institution. Repayment of principal and interest begins sixty (60) days after the final loan disbursement. Certain circumstances may allow the lending institution to defer payment or cancel a portion of a loan if requested by the borrower. The above regulations and provisions of the PLUS program is correct as of March 2001 and are subject to change by federal legislation or regulation.

STUDENT EMPLOYMENT

Many students are employed part-time during their student years in order to supplement financial aid or other sources of support while at the University. Such employment offers valuable aid and develops good working skills. However, the more time spent in employment the less there is available for preparing for classes and involvement in campus life, two of the most important factors contributing to academic success. For those who find employment while classes are in session it is necessary, the Financial Aid Office administers Federal Work Study. Career Services administers the Student Employment Service.

Federal Work-Study. The federal work program provides jobs for students who have financial need and who must earn a part of their educational expenses. Eligible students are placed in jobs on campus where they can work a maximum of 20 hours per week. Jobs are available in a wide variety of academic departments and other campus units. The rate of pay is above federal minimum wage.

Student Employment Service operates as a central referral agency for all UT students who are eligible U.S. residents. It coordinates listings of part-time employment from both University and private employers with the requests of students seeking employment. Part-time jobs average from 15 to 20 hours per week.
ADMISSION TO THE UNIVERSITY OF TENNESSEE

As the state’s largest and most comprehensive university, the University of Tennessee 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 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 are designed to serve students bringing with them a variety of academic backgrounds and experience. Honors courses and sections and special programs challenge a student who previously has demonstrated outstanding overall academic attainment or skills in a particular subject area. However, experience has shown that other students 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 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. Others who have completed a program of study or have received a degree may desire to expand their knowledge or prepare for a different vocation and may re-enroll or transfer previous credits to UT. Previous indication of sound academic preparation is expected of any applicant.

REQUIREMENTS FOR UNDERGRADUATE ADMISSION

Anyone interested in attending UT as an undergraduate student should contact the Admissions Office. Return of a complete application form and transcripts to the Admissions Office results in the formation of an admissions file for each applicant. When a file is complete, an admission decision is made, and the applicant is notified by mail.

PRIORITY FILING DATES

COMPLETED APPLICATIONS AND NECESSARY DOCUMENTS SHOULD BE POSTMARKED BY THE FOLLOWING DATES:

November 1—Competitive Scholarship filing date for freshman applicants.

Competitive Scholarships include Oldham Scholars, Whittle Scholars, Manning Scholars, Bonham Scholars, Holt Scholars, Neyland Scholars, Roddy Scholars, Tennessee Scholars, and McClanahan Scholars.

November 1—Early Action priority filing date for freshman applicants who desire early notification of their admission status. UT will offer admission to students in this group by mid-January, with the remainder being considered for admission in the February 1 applicant pool. Early Action does not require an early commitment from the applicant; however, Competitive Scholarship recipients must respond to offers of scholarships by April 1. An extension may be granted upon written request; such requests will not jeopardize a student’s status for admission or financial aid.

February 1—Application priority filing date for all freshman students applying for summer and fall terms. This is the priority postmark date for completed freshman admission application, application fee, and required documents. All students who meet the February 1 admissions date will be considered for the following academic scholarships provided they also submit the Entering Freshman Academic Scholarship Application:

- Guaranteed Scholarships (Bicentennial, African American Achievers, Trustees, Presidential). Students who meet the criteria for guaranteed scholarships do not need to submit the scholarship application. Students who meet the criteria will be automatically awarded the guaranteed scholarships. Students may submit additional grades and ACT and/or SAT scores until August 1 to improve their academic standing for guaranteed scholarship consideration.

- College and Departmental Scholarships except McClanahan Scholars.

No later than April 1, students in this pool will receive notification of their admission status—either admitted, denied, or placed on a wait list.

Spring Semester/Summer Semester: Completed application materials and supporting documents for first-time freshman, transfer, and readmission students must be received in the Office of Admissions by the following dates:

November 1 for Spring semester freshman transfers; February 1 for Summer semester freshman; and April 1 for Summer semester transfers.

FRESHMAN ADMISSION

The University of Tennessee seeks to admit a freshman class that reflects the mission of the state’s leading public teaching and research university; represents the diversity of the state of Tennessee; and incorporates enrollment guidelines established by the Board of Trustees.

Each fall, UT enrolls a freshman class of approximately 3,800. The Fall 2000 entering class had a middle 50th percentile of an ACT range of 21 to 26 and a high school GPA range of 3.0 to 3.8.

Freshman decisions are based on the following elements:

1. Completion of core academic subjects comprising the 14 units required or admission:
   - 4 units of English;
   - 2 units of algebra;
   - 1 unit of geometry, trigonometry, advanced math, or calculus;
   - 2 units natural science, including at least 1 unit of biology, chemistry, or physics;
• 1 unit of American History;
• 1 unit of European history, world history, or world geography;
• 2 units of a single foreign language; and
• 1 unit of visual or performing arts.
2. GPA in core academic subjects, weighted by UT to reflect honors, Advanced Placement (AP), International Baccalaureate (IB), and college dual enrollment.
3. Standardized test score (SAT or ACT).
4. Other relevant factors, including a student statement, extracurricular or leadership activities, background, and rank in class.

Freshman applicants may access the University of Tennessee website at www.utk.edu to apply online. Applications may also be requested by contacting the Admissions Office at (865) 974-2184.

Items Necessary for an Admission Decision
1. Completed application;
2. Official high school transcript on file in the Undergraduate Admissions Office;
3. Official ACT or SAT score (UT’s ACT code = 4026; UT’s SAT code = 1843);
4. Payment of a $25.00 nonrefundable application fee.
5. Failure to respond to the question “Have you ever been arrested or convicted of a crime other than a minor traffic violation?” or providing false information may result in denial of admission or readmission or the revision of admission or readmission.

FRESHMAN APPLICATION PRIORITY FILING DATES
Completed application and necessary documents should be postmarked by the following dates:

FALL SEMESTER
Early Action Priority Filing Date is November 1, 2002. This date is intended for freshmen who desire early notification of their admissions; and wish to be considered for our most competitive scholarships which include McClanahan Scholars, Oldham Scholars, Whittle Scholars, Manning Scholars, Bonham Scholars, Holt Scholars, Neyland Scholars, Roddy Scholars, and McClanahan Scholars. Students who apply by the Early Action priority filing date will be notified by mid-January of an admission decision. Students not offered admission in the Early Action pool will be automatically considered for admission in the February 1 applicant pool.

October ACT/SAT scores will be considered for admission and scholarships if received by December 1, 2002, provided an application and necessary documents postmarked by November 1 are on file. To ensure receipt, students should request at the time of testing that official scores be sent to the University of Tennessee. UT’s ACT code number is 4026; UT’s SAT code number is 1843.

Early Action does not require an early commitment from the applicant; however, competitive scholarship recipients must respond to offers of scholarships by April 1. An extension may be granted upon written request and such requests will not jeopardize a student’s status for admission or financial aid.

Regular Admissions Application Priority Filing Date is February 1, 2003. Many students will be offered admission by February 15; all students will receive either an offer or a notification that their applications continue to be considered by the Admission Committee. By April 1, decisions (offer, wait list, deny) will be mailed to all applicants who have not already been offered admission. If offered admission, the student will receive an official offer letter.

All students who meet the February 1 admissions date will be considered for the following academic scholarships provided they also submit the Entering Freshman Academic Scholarship Application:
• Guaranteed Scholarships (Bicentennial, African-American Achievers, African American Incentive Grant, Trustees, Presidential). Students who meet the criteria for guaranteed scholarships do not need to submit the scholarship application. Students who meet the criteria will be automatically awarded the guaranteed scholarships. Students may submit additional grades, ACT and/or SAT scores until August 1 to improve their academic standing for guaranteed scholarship consideration.
• General and Alumni Scholarships except the Holt.
• College and Departmental Scholarships except McClanahan Scholars.

In addition to the application form, a freshman applicant must:
1. Submit an initial transcript of credits earned through the junior year. Transcripts carried or mailed by the student are acceptable only if contained in a sealed envelope with an official school signature. Once accepted, a student must have an official final transcript with documentation of graduation mailed to the Office of Undergraduate Admissions.
2. Have the score report of the American College Testing program (ACT) or the Scholastic Aptitude Test (SAT) sent to the Admissions Office directly from the high school or testing agency.
3. Pay a nonrefundable application fee of $25.00.
4. Submit any additional items and information requested in the application materials or by the Office of Admissions.

Graduates of Non-Approved High Schools and Home-Schooled Students
Graduates of non-approved high schools or home schools who apply for admission as first-time freshmen at UT must provide an official high school transcript and, if requested, course syllabi; and submit items mentioned in points 2-4 above.

General Education Development (GED)
Students who have achieved a high school diploma through the General Education Development (GED) Test also must have the GED scores sent directly to the Office of Undergraduate Admissions. The GED score is evaluated with other factors, but applicants must have total average GED scores of at least 50 to be considered for admission. Applicants with GED scores are expected to meet high school unit requirements unless they graduated from high school prior to 1983 or unless they qualify as re-entry student applicants who are otherwise academically well-prepared.

Advanced Placement Examinations
Freshmen admitted to UT may receive credit on the basis of performance on one or more of the Advanced Placement Examinations offered each May by the College Entrance Examination Board in 16 subject areas. The tests are usually taken by high school students during their junior or senior year.

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

ADMISSION TO THE COLLEGE OF ARCHITECTURE AND DESIGN
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 university admission should consult with an Architectural advisor to plan a program that will include early required courses. Specific requirements for admission and progression are listed under the School of Architecture; however, all applicants will be required to submit a portfolio for review.

TRANSFER ADMISSION REQUIREMENTS
Transfer students with fewer than 30 earned transferable college-level hours will be considered on the same basis as new freshman applicants. Transfer applicants who have completed all required high school units and 30 or more hours of earned transferable college-level work with a minimum 2.0 GPA, will be admitted.

Anyone interested in attending UT as a transfer student should contact the Office of Undergraduate Admissions to receive an official application or go to the web, www.utk.edu, and click on admissions.

Items Necessary for an Admission Decision
1. Completed application;
2. An official transcript of all work from each college or university attended;
3. Official high school transcript or GED if applicable;
4. Official ACT or SAT score (required only for students with less than 30 hours of transferable work completed);
5. Payment of a $25.00 nonrefundable application fee.
6. Failure to respond to the question “Have you ever been arrested or convicted of a crime other than a minor traffic violation?” or providing false information may result in denial of admission or readmission or the revision of admission or readmission.

GRADUES
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, a transfer applicant must have a minimum of a 2.0 grade point average (on a 4-point scale) overall in
college credit courses considered for transfer credit. For courses repeated, the last attempt is calculated only if repeated at the same institution. Courses not repeated at the same institution will be calculated in the overall GPA for admission. Transfer grade averages are calculated by UT and may differ from averages calculated by other institutions. Following enrollment at the university, only grades earned in coursework at UT will be used in determining continuation standards, graduation requirements, and grade point average.

**COURSE EVALUATION**

Following the applicant’s admission to the University, a transcript evaluation will be initiated by the Office of Admissions to determine whether courses from other institutions are equivalent to courses at UT. (1) which courses from other institutions are equivalent to courses at UT, (2) which will transfer as general elective credit, and (3) which courses, if any, will not transfer. Upon admission, a student may be classified as a freshman, sophomore, junior, or senior, according to the number of hours approved for transfer credit.

The faculty, through the deans and directors of the colleges at UT, has the responsibility for determining guidelines for which courses are accepted for transfer credit. Certain transferable courses are not equivalent to specific UT courses. These courses may be used to meet specific curriculum requirements only with approval of the UT college in which the student’s program is located. Appeals concerning transfer of course credit, whether by institutions or individuals, should be addressed to the dean of the appropriate UT college.

Prospective transfers to UT are encouraged to complete a sequence of related courses rather than transferring a single course from a series. Students at community or junior colleges, particularly within the State of Tennessee, are encouraged to complete the associate degree requirements prior to transferring to UT.

**HIGH SCHOOL UNITS**

Transfer students who graduated from high school prior to 1989 or more semester hours of transferable credit are exempt from high school course unit requirements. Transferring students who graduated from high school prior to 1989 or with 60 or more semester hours of transferable credit are exempt from high school course requirement units with the exception of American History, a graduation requirement. Other transfer applicants with more than one deficiency (outside of Art unit) in high school course unit requirements are not typically admitted to the University. Transferring students with a deficiency who graduated from high school in 1989 or later and who have earned less than 60 semester hours are required to complete the high school unit requirements within the first 30 semester hours at UT.

**ARTICULATION AGREEMENTS**

In addition, the University has special transfer articulation agreements with some Tennessee community colleges, leading to admission with junior standing in particular majors at UT. These transfer programs lead to the awarding of the associate degree by the specified community college and the baccalaureate degree by UT, provided the student successfully completes all the courses required in a particular program and meets the grade point average requirements for that program and meets the grade point average requirements for that agreement. All other academic regulations of the degree-granting institutions must also be satisfied. Not all courses at other institutions will transfer. Specific courses and credit hours of transferable credit are exempt from high school course unit requirements. Transferring students prior to 1989 or with 60 or more semester hours of transferable credit are exempt from high school course requirements. Academic overloads will not be permitted.

**INTERNATIONAL STUDENT APPLICANTS**

All foreign nationals on non-immigrant visas are classified as international students whether they are applying to UT as freshmen or transfer students. In addition to the information below, additional information for international students is available from the Admissions Office or from the Center for International Education.

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

1. A completed application for undergraduate admission;
2. Authenticated copies of all academic records. These records should describe the courses of instruction in terms of years spent in school and types of subject matter covered, with grades earned in each subject.
3. Evidence of English proficiency according to the following requirements for students whose first language is not English.
   a. Any applicant to the undergraduate program whose first language is not English—subject to the exception of transfers from regionally accredited colleges or universities in the United States (see c below)—must present a “Test of English as a Foreign Language” (TOEFL) score of at least 193 (computer based) or 523 (paper based), earned within two years prior to application, before being admitted; final consideration cannot be granted until test results are received by the Director of Admissions from the TOEFL test agency.
   b. The University of Tennessee English Placement Test must be taken prior to registration; this test will determine whether the student needs to take more English and, if so, at what level. The English Placement Test grants no credit. Students assigned to special English courses must enroll the first semester of attendance, stay continuously enrolled in the assigned courses until completion of all requirements, and complete the requirements within the first year of continued enrollment at the University of Tennessee.
   c. An undergraduate student whose first language is not English is exempted from taking the UT English Placement Test and from presenting a TOEFL score of 523 (or 193 on the computer-based TOEFL) provided that the student has satisfied all requirements for freshman composition with a grade of C or better at an accredited college or university in the United States. Freshmen English for Foreign Students does not exempt a student from presenting a TOEFL score of at least 523. A United States citizen or permanent resident may demonstrate English proficiency by submitting a minimum ACT English score of 21 (SAT verbal 510; 430 if taken prior to April, 1995) or TOEFL 193 (computer based) or 523 (paper based).

4. Applicants from certain countries are required to make significant monetary deposit prior to issuance of Form I-20 to secure a student visa.
5. International students must enroll in the health and accident insurance plan provided by UT.
6. For international students, completed application forms and all required supporting credentials must be received in the Office of Admissions no later than the following dates: March 1 for Fall Semester, August 1 for Spring Semester; January 1 for Summer Term.

International students are subject to various enrollment limitation regulations comparable to those affecting U.S. citizens. The Admissions Office will notify any applicant of any applicable regulations in effect at the time of application.

**FEES FOR SPONSORED INTERNATIONAL STUDENTS**

An administrative management fee will be charged to sponsoring agencies of international students whose programs require special administrative or management services beyond those normally provided. Fees are $250 per semester and $100 per summer session.

**VISITING STUDENT APPLICANTS**

A college visiting student is one who is actively enrolled in a program at another accredited institution of higher learning but who desires to enroll temporarily at UT because of the availability of certain course work or because of temporary residence in the Knoxville area.

Visiting students are admitted for one semester only. Students desiring to transfer to UT must file an application for admission as a transfer student. Students desiring to attend UT on an interim basis for one semester only must submit a completed application and $25.00 non-refundable application fee and have an official letter of good standing sent directly to UT Admissions. Applications are subject to review and admission is not guaranteed.

Since academic records will not be available at UT for visiting students, use of UT courses in a visiting student’s degree program is the decision of the home institution. Academic advising will be limited to information about courses in which the student enrolls and may be obtained from the academic departments. Visiting students must have the required background (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 a college for three years or more prior to making application for admission to UT. Freshman re-entry students must have official high school transcript(s) submitted to the Admissions Office from high school. Transfer re-entry students should have high school transcript(s) and transcripts of all previous college work submitted directly from each institution to UT Admissions. ACT/SAT scores are not required for either freshman or transfer re-entry students. (Re-entry applicants with GED scores should refer to the GED section under Freshman Admission.)
Admissions decisions will be made on an individual basis. Exceptions to the admissions criteria may be made for those applicants who demonstrate sufficient preparation.

No applicant who has attended UT will be considered a reenrollment student. Former UT students should follow readmission procedures as described elsewhere in this catalog.

NON-DEGREE STUDENT APPLICANTS

Persons desiring to take courses for credit, but who do not intend to pursue a degree, should apply for non-degree status. The Admissions Office processes all applications, regardless of intended registration location. Non-degree students must show evidence of satisfactory preparation for the courses they wish to take, generally through prior completion of a Bachelor's degree. Ordinarily the high school class of a non-degree student must have graduated, Former University of Tennessee students and most other 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 under International Student Applicants.

UNIVERSITY STUDENTS

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 apply to enroll and receive regular college credit from a Tennessee postsecondary institution if: (1) 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.

Students are encouraged to submit standardized test scores (ACT or SAT). Applications are subject to review and admission is not guaranteed.

FRESHMAN EARLY-ADMISSION STUDENTS

Freshman early-admission students are those who have completed the junior year of high school, have a grade point average of at least 3.50 and have an ACT composite of 29 or above or SAT I of 1280 or above (1180 if taken prior to April, 1995). 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.

OTHER CONDITIONS

The following question appears on the University of Tennessee application for undergraduate admission and readmission: "Have you ever been arrested or convicted for a crime other than a minor traffic violation? If yes, explain briefly." Every candidate for admission or readmission is required to respond accurately and thoroughly to this question. The University reserves the right to deny admission or readmission to candidates who, in its sole discretion, pose an unreasonable risk to the University community. The University also reserves the right to deny admission or readmission to any candidate refusing to provide a thorough and accurate response to this question and all other questions on the Admissions application. Subsequent discovery of false information may result in rescission of admission or readmission.

EXCEPTIONS TO ADMISSIONS REQUIREMENTS

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

READMISSION

Submission of an application for readmission is required for a student previously seeking a degree who has withdrawn from UT, who has been absent from a term other than the summer term, or who has been academically dismissed. A readmission applicant may be asked to appear before the Committee on Readmission. A student who previously attended as a non-degree student and wants to reenter as a degree seeking student must complete an application for undergraduate admission unless they have obtained a degree from the University of Tennessee (main campus).

A student who has attended another college or university since attending UT must have an official transcript sent to the University.

Students dismissed when they last attended the University, left the Academic Review, and those who have registered at another institution of higher education since their last UT enrollment must apply well in advance, generally three to four months prior to the beginning of the term. Submitting an application for readmission does not guarantee admission.

Official transcripts of any transfer work attempted after a student's enrollment at UT must be submitted before a decision on readmission can be made. For specific deadline dates, students should consult the Office of Admissions, 320 Student Services Building.

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 (with prior permission of their college dean) without being readmitted.

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 an application for classification as an "In-State" student for fee and admission purposes. The deadline for submission of the completed classification application and supporting documentation is on or before the last day of regular registration of that semester. Notice of classification is sent back 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 Tennessee 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 clear and convincing evidence of Tennessee domicile with proof that the move to Tennessee was not primarily for obtaining educational opportunities for themselves, dependents, or spouse.

Domicile residents are those persons who moved to Tennessee to establish a home and have a means of supporting themselves, their families, and their residence. 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.

Scholarship recipients and children of alumni are treated as in-state residents for the purpose of applying admissions criteria. However, such students will be required to pay out-of-state fees and tuition unless they can meet the in-state residency requirements stated above.
Paragraph 3. RULES FOR DETERMINATION OF STATUS.

1. Every person having his or her domicile in this State shall be classified "in-state" for fee and tuition purposes and for admission purposes.

2. Every person not having his or her domicile in this State shall be classified "out-of-state" for said purposes.

3. The domicile of an unemancipated person is that of his or her parent. Unemancipated students of divorced parents shall be classified "in-state" when one parent, regardless of custodial status, is domiciled in Tennessee.

Paragraph 4. OUT-OF-STATE STUDENTS WHO ARE NOT REQUIRED TO PAY OUT-OF-STATE TUITION

1. An unemancipated, currently enrolled student shall be reclassified out-of-state should his or her parent, having theretofore been domiciled in the State, remove from the State. However, such student shall not be required to pay out-of-state tuition nor be treated as an out-of-state student for admission purposes so long as he or she is admitted to a TBR institutional undergraduate Honors Programs shall be classified out-of-state but shall not be required to pay out-of-state tuition.

8. The spouse of a student classified as "in-state" shall also be classified "in-state."

9. Students not domiciled in Tennessee but who are selected to receive an in-state classification and who are admitted to a TBR institutional undergraduate Honors Programs shall be classified out-of-state but shall not be required to pay out-of-state tuition.

10. A person whose domicile is in Mississippi County, Arkansas, or either Pulaski County or Person County, Missouri, and who is admitted to Dyersburg State Community College, shall be classified out-of-state but shall not be required to pay out-of-state tuition.

11. A person who is not domiciled in Tennessee, but has a bona fide place of residence in a county which is adjacent to the Tennessee state line and which is also within a 30 mile radius (as determined by the THEC) of a city containing a two-year TBR institution and who is admitted to a TBR institutional undergraduate Honors Program, shall be classified out-of-state but shall not be required to pay out-of-state tuition. The two-year institution may admit only up to three percent (3%) of the full-time equivalent attendance of the institution without out-of-state tuition. (T.C.A. 49-8-102).

Paragraph 5. PRESUMPTION. Unless the contrary appears from clear and convincing evidence, it shall be presumed that an emancipated person does not acquire domicile in this State while enrolled as a full-time student at any public or private higher educational institution in the State, as such status is defined by such institution.

Paragraph 6. EVIDENCE TO BE CONSIDERED FOR ESTABLISHMENT OF Domicile.

If a person asserts that he or she has established domicile in this State, he or she has the burden of proving that he or she has done so. Such a person is entitled to provide to the public higher educational institution by which he seeks to be classified or reclassified in-state any and all evidence which he or she believes will sustain his or her burden of proof. Said institution will consider any and all evidence provided to it concerning such claim of domicile but will not treat any particular type or item of such evidence as conclusive evidence that domicile has or has not been established.

Paragraph 7. APPEAL.

The classification officer of each public higher educational institution shall be responsible for initially classifying students "in-state" or "out-of-state." Any and all classification procedures shall be established by each such institution by which a student may appeal his or her initial classification.

Paragraph 8. EFFECTIVE DATE FOR RECLASSIFICATION.

If a student classified out-of-state applies for in-state classification and is subsequently so classified his or her in-state classification shall be effective as of the date on which reclassification was requested. However, out-of-state tuition will be charged for any quarter or semester 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 quarter or semester.
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.

POLICY ON A DRUG-FREE CAMPUS AND WORKPLACE
In support of the Drug-Free Workplace Act of 1988 (Public Law 100-680) and the Drug-Free Schools and Communities Act of 1989, The University of Tennessee is notifying all students, faculty, and staff of the following University policy approved by the UT Board of Trustees on 21 June 1990.

It is the policy of The University of Tennessee to maintain a safe and healthful environment for its students and employees. Therefore, University policy prohibits the unlawful use, manufacture, possession, distribution, or dispensing of drugs (“controlled substances” as defined in the Controlled Substances Act, 21 U.S.C. § 812) and alcohol on University property or during University activities.

Violation of this policy is grounds for disciplinary action—up to and including immediate discharge for an employee and permanent dismissal for a student. Federal and state laws provide additional penalties for such unlawful activities, including fines and imprisonment (21 U.S.C. § 841 et seq.; T.C.A. 39-6-401 et. seq.)

Local ordinances also provide various penalties for drug and alcohol-related offenses. The University is bound to take all appropriate actions against violators, which may include referral for legal prosecution or requiring the individual to participate satisfactorily in an approved drug use/alcohol abuse assistance or rehabilitation program.

Aside from any University policy considerations, the use of illicit drugs and/or the abuse of alcohol may be harmful to your health. Some of the health risks associated with such use/abuse are listed: ALCOHOL ABUSE HEALTH RISKS: liver damage—cirrhosis, alcholotic hepatitis; Heart disease—enlarged heart, congestive heart failure; Ulcers and gastritis; Malnutrition; Cancer—of the mouth, esophagus, stomach, liver; Brain damage—memory loss, hallucinations, psychosis; Damage to fetus if pregnant mother drinks; Death—50% of fatal auto accidents involve alcohol; 31% of suicides are alcoholics.

DRUG USE HEALTH RISKS: overdosing—psychosis, convulsions, coma, death; Long-term use—organ damage, mental illness, malnutrition, death; Casual use—heart attack, stroke, brain damage, death; Needles—infecions, hepatitis, AIDS, death; If a pregnant mother uses drugs, her baby can be born addicted or die.

Individuals who are paid by The University of Tennessee from federal grants or contracts must notify the University of any criminal drug statute conviction for a violation occurring in the workplace within five days after such conviction. The employee, required to inform the granting or contracting agency of such violation within ten days of the University’s receipt of notification.

Employees and their families needing treatment information should contact their campus Student Affairs Office, student health center, or counseling center.

CREDIT HOURS, GRADES AND GRADE POINT AVERAGE
The basic unit of credit at the University of Tennessee 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 by the number of hours the student has attempted at UT, not including hours for which grades of I, N, NC, P, S, W, and WP have been received.

UNDERGRADUATE GRADES

<table>
<thead>
<tr>
<th>Grade</th>
<th>Performance Level</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>
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</tr>
<tr>
<td>F</td>
<td>Failure</td>
<td>0</td>
</tr>
<tr>
<td>WF</td>
<td>Withdrawn Failing</td>
<td>0</td>
</tr>
</tbody>
</table>

GRADES OF INCOMPLETE
Under extraordinary circumstances and at the discretion of the instructor, the grade of “I” (Incomplete) may be awarded to students who do not complete a course for reasons beyond their control. In addition, a grade of “IW” may be assigned if a student cannot fulfill the requirements for a course because of an inability to communicate in writing. (See Writting Deficiency for more information about the “IW” grade.) The “I” grade is awarded only when there is reasonable expectation that upon completion of the course work, a grade of “D” or better would be earned. The “I” grade is not issued in lieu of the grade “F” or “FX.” The terms for the removal of the “I,” including the time limit for removal of the “I,” is decided by the instructor. It is the responsibility of the student receiving an “I” to arrange with the instructor whatever action is needed to remove the grade at the earliest possible date, and in any event, within one year of the assignment of Incomplete. Students may not remove an “I” grade by re-enrolling in the course. 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 “FX” and count as a failure in the compilation of the grade point average. A student need not be enrolled at the University to remove a grade of incomplete.

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 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 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. 93112; 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 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 (football). 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 requires assignment of an individual student number for internal identification of each student’s record. The University began using the social security number as an internal identification of each student's record. 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 admittance. The social security number will be assigned instead. For prompt service about their own records, students and alumni must give their student identification number. Student identification numbers, whether a social security number or an assigned number, are used administratively within the University only and are not given to third parties without expressed consent of the student concerned.
GRADES THAT DO NOT INFLUENCE GRADE POINT AVERAGE

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

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

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

W (withdrawal) is assigned in courses when a student has officially withdrawn from the University. W is also assigned in courses when a student withholds from a course between the eleventh and forty first calendar day of classes. Regulations concerning withdrawal from courses or from the University appear in a following section of this catalog, entitled "Changes in Registration."

WP (withdrawal passing) is assigned in courses when a student withdraws from a course after the forty second calendar day of classes and is passing the course at the time of withdrawal.

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 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, and 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 the first three repeated lower-division courses (100-200 level), only the last grade earned in the repeated courses will be counted in computing the grade point average. If the same course is repeated more than once, the additional repeats count as part of the three total. For all courses repeated after the first three, all grades will be included when computing the grade point average. All grades for all courses remain on the transcript.

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. A grade of WP counts as one of two times a course may be repeated. Exceptions to the number of times a course may be repeated will be allowed only with prior written permission of the student's faculty advisor. Each course is counted only once in determining credit hours presented for graduation.

GENERAL REGULATIONS

ACADEMIC ADVISING AT UT

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 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, 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 sophomore advising; major advisors within the college, working closely with the advising center, guide advanced students. At all levels, campus-wide guidelines for good advising are supplemented by specific college standards, guidelines, and evaluations. Prior to advanced registration, during each main term of the academic year (i.e., during Spring and Fall), each student has the obligation to consult an advisor for a substantial conference.

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

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

Part-time students, particularly those registering through Evening School, should establish contact with an advisor in the college with which they are associated or in which they have expressed an interest. Assistance to students with academic problems or questions is provided by course professors, advisors, department heads, and college deans or advising centers. Numerous other sources of academic, career, and personal counseling are available on the University campus and are available to admitted students. These are described in this catalog under "Student Affairs and Services."

ACCELERATED PROGRAM

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

ADVANCED MILITARY SERVICE AND AIR FORCE AEROSPACE STUDIES

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

CLASS ATTENDANCE AND ELIGIBILITY

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

It is the prerogative of the individual instructor to set the attendance requirements for a particular class. This means, for example, that an instructor in Freshman English may state in a syllabus how many absences are allowed before a student receives a grade of No Credit.

CLASSIFICATION

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

To be considered a full-time undergraduate student in any semester, a student must be enrolled in 12 semester hours, including the full summer term. Six hours for each separate term of the summer session are required for full-time classification. Audit hours are not considered in the computation.

CLASSIFICATION OF STUDENTS BY SEMESTER HOURS PASSED

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Architecture</th>
<th>All Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>0-31.9</td>
<td>0-29.9</td>
</tr>
<tr>
<td>Second</td>
<td>32-63.9</td>
<td>30-59.9</td>
</tr>
<tr>
<td>Third</td>
<td>64-95.9</td>
<td>60-89.9</td>
</tr>
<tr>
<td>Fourth</td>
<td>96-127.9</td>
<td>90-up</td>
</tr>
</tbody>
</table>

Fifth | 128 - up |

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 State Testing and Evaluation Center. The Center supplies information on test dates and procedures and 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 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 students who intend to take correspondence courses must have the approval of the dean of the college or school in which they are enrolled prior to registering for any college-credit correspondence course. Degree credit will not be granted for correspondence courses taken at an institution other than the University of Tennessee by a UT student if an equivalent correspondence course is available from the University of Tennessee Department of Independent Study (DIS).

Correspondence courses are open to students who have been dropped from the University for academic reasons only with the prior permission of the dean of the college or school in which they were enrolled. A senior may take only six hours of the last year’s work (the last 30 semester hours) by correspondence, and this must be taken with the University of Tennessee. If the student is a senior transferring, no work may be taken by correspondence.

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

COURSE NUMBERS AND LEVELS
Each course offered by the University is identified by the name of the department offering the course and a three-digit course number. These numbers indicate course level, as follows:

<table>
<thead>
<tr>
<th>Course Numbers</th>
<th>Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>000-099</td>
<td>Non-credit; preparatory</td>
</tr>
<tr>
<td>100-299</td>
<td>Lower division—primarily for freshmen and sophomores</td>
</tr>
<tr>
<td>300-499</td>
<td>Upper division—primarily for juniors and seniors; when taken for graduate credit, the letter “G” will precede the course credit hours on the grade report</td>
</tr>
<tr>
<td>500-599G</td>
<td>Graduate; sometimes available for undergraduate credit; when taken for undergraduate credit, the letter “U” will precede the course credit hours on the grade report</td>
</tr>
<tr>
<td>600-699</td>
<td>Advanced graduate; open to graduate students only</td>
</tr>
<tr>
<td>800-899</td>
<td>Law; occasionally open to other qualified students. Veterinary medicine</td>
</tr>
<tr>
<td>900-999</td>
<td>Veterinary medicine</td>
</tr>
</tbody>
</table>

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

DEVIAION 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) of the last non-departmental exam(s) on that day must reschedule the student’s exam 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 classes.

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

GRADE APPEAL PROCEDURE

APPEALS TO THE UNDERGRADUATE COUNCIL
The Undergraduate Council hears appeals concerning grades only after grievances have been duly processed, without resolution, through appropriate procedures at the department and college levels. The Council does not review grievances concerning allegations of misconduct or academic dishonesty. Procedures for consideration of such matters are published in Hilltopics under “Student Rights and Responsibilities.”

In the appeals process, the Undergraduate Council has authority to deny the appeal, grant the appeal and request the instructor change the grade, or assign a grade of “pass” for the course.

Students should begin the appeal process as soon as possible. No appeal may be filed later than 90 days after the final grade has been issued.

COMPOSITION OF THE APPEALS COMMITTEE
Members of the Appeals Committee are appointed by the chairperson of the Undergraduate Council. The committee consists of at least five members, one of whom is named chairperson.

GROUNDS FOR APPEAL
Students may appeal grades on the basis of one or more of four allowable grounds:
1. A clearly unfair decision (such as lack of consideration of circumstances clearly beyond the control of the student, e.g., a death in the family, illness or accident).
2. Unacceptable instruction/evaluation procedures (such as deviation from stated policies on grading criteria, incomplete, late paper, examinations, or class attendance);
3. Inability of instructor to deal with course responsibilities; or
4. An exam setting which makes concentration extremely difficult.

THE APPEALS PROCEDURE

1. The student should first consult with the instructor and if agreement cannot be reached, the student may appeal to the department head. If the student believes the grade assignment was based on criteria other than academic, such as race, gender, religious beliefs, national origin, age or handicap, then the student should make an appeal in writing to the Office of Affirmative Action with a copy to the department head.
2. If the student appeals to the department head after attempts to resolve the matter with the instructor have failed, it is the responsibility of the department head to determine the circumstances surrounding the assignment of the grade. If the department head has reason to believe that none of the four (4) academic conditions specified above apply, then the department head should encourage the student to accept the assigned grade. If the department head has reason to believe that one or more of the four conditions do apply, then instructor should be encouraged by the department head to reconsider the grade. If the instructor elects not to change the grade, then the department head will appoint a committee of at least three faculty members to review the matter. Such committee will be charged with making a timely recommendation to the department head concerning the student’s grade. The student must submit a written appeal for the committee’s consideration or for any appeal made beyond the departmental level. When the departmental committee procedure is used, if the committee’s recommendation is that the student’s grade should be higher than the one assigned and the instructor still elects not to assign the recommended higher grade, the department head will assign the grade of “pass,” or, at the student’s option, he/she may accept the existing grade. In such a case, all other restrictions to use of the grade to satisfy graduation requirements are waived. If the student wishes to pursue appeal further, he or she may appeal in writing to the Dean of the college in which the department is located.

If the issue is still unresolved, the student may initiate the formal Undergraduate Council appeals procedure:

1. The student may forward to the Dean of Undergraduate Affairs and Chair of the Undergraduate Council a statement requesting a review of the student’s complaint concerning his or her grade. The appeal must be written and must be based upon one or more of the four allowable grounds. The student must explain in detail why the appeal is based upon these grounds.
2. The Dean of Undergraduate Academic
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 acknowledge his/her adherence to the Honor Statement by writing “Pledged” and signing each graded class assignment and examination.

Students are also responsible for any acts of plagiarisim. Plagiarism is using the intellectual property of someone else without giving proper credit. The undocumented use of someone else’s words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a serious offense, subject to disciplinary action that may include failure in a course and/or dismissal from University.

Specific examples of plagiarism are:
- copying without proper documentation (quotations marks and a citation) written or spoken words, phrases, or sentences from any source;
- summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge);
- borrowing facts, statistics, graphs, pictorial representations, or similar expressions from another source without acknowledging the source (unless such information is recognized as common knowledge);
- collaborating on a graded assignment without instructor’s approval;
- submitting work, either in whole or part, created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).

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.

THE STATEMENT
An essential feature of the University of Tennessee 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 give nor receive assistance in academic work, thus affirming my own personal commitment to honor and integrity.

HONORS 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 be chosen. There is no limit to the number of credits that may be earned in these courses except in the senior readings courses not requiring regular class attendance. These courses may not total more than six credit hours toward graduation. In the fields of science that offer four 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 will remain open except in the most severe weather conditions. The Provost 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 may notify their immediate supervisor. Employees will have the option of changing their time off to annual leave or leave without pay; or, with approval, 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 conditions. It is the individual student’s responsibility to take the initiative to make up any missed class work, and it is the instructor’s responsibility to provide a reasonable opportunity for students to complete assignments or examinations 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 departments the decisions as to which
courses, if any, cannot be passed by proficiency examinations. Proficiency examination credit is available only for UT 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 Bursar.

Subject to the governing 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 may choose to take the grade on the examination (A, B+, B, C+, or C) or take an S. An S gives credit for the course but does not affect the grade point average. If a grade of D or F is made on a proficiency examination, the department is expected to note the attempt but no record of the examination is made on the student’s transcript. The maximum credit for a student through proficiency examination and the use of proficiency examinations to remove failing grades (also the grade of I) are determined by the department offering the proficiency examination.

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

PROGRAM ASSESSMENT AND IMPROVEMENT THROUGH STUDENT EVALUATION

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

SENIOR GENERAL EDUCATION TEST

The Tennessee Higher Education Commission requires that each public institution for higher learning evaluate the general education skills of the entering freshmen. Each year a percentage of the seniors are selected to take the test. The test results enable the University of Tennessee to evaluate the University’s general education program and to qualify for needed funding from the state. Students are informed in their senior year if they have been selected to take the test.

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 requirements 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 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. A maximum of 9 hours of graduate credit can be obtained in this status. Some departments do not permit seniors to register for graduate courses without prior permission (See Majors and Degree Programs chart for information on restricted programs).

Courses taken for graduate credit may not be used toward both the baccalaureate and a graduate degree.

SPECIAL REQUIREMENTS FOR STUDENT-ATHLETES

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

TEACHER CERTIFICATION

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

UNIVERSITY STUDENTS

Many students are undecided about their major when they enter UT. Undecided students are designated University Students and are advised by Arts and Sciences Advising Services. While it is proper to explore alternative choices, students should also pursue a course of study that culminates in graduation. For this reason, there is a limit to the length of time students may remain as University Students. At the completion of 45 hours, University Students who have entered UT as freshmen must associate with a college or officially declare a major prior to the end of the next term of enrollment. Students who transfer from another college or university may enroll as University students. However, transfer students may remain as University Students no longer than through the completion of 15 semester hours if the total number of hours transferred is 30 or more. UT students who fail to progress in a given major, college, or school and are undecided about an alternative course of study may continue at UT as University Students for a maximum of 15 semester hours.

WRITING DEFICIENCY

If a student cannot fulfill the requirements for a course because of an inability to communicate in writing, the instructor will give the student an “IW” to designate “incomplete due to writing.” Any student who receives an “IW” should contact the Writing Center Director. The instructor of the course determines when the student has fulfilled the requirements and sends any student work requiring revision to the Writing Center director. The Writing Center director determines when the requirement has been fulfilled. Students who have passed a proficiency examination and who wish to have the grade recorded may choose to take the grade on the examination (A, B+, B, C+, or C) or take an S. An S gives credit for the course but does not affect the grade point average. If a grade of D or F is made on a proficiency examination, the department is expected to note the attempt but no record of the examination is made on the student’s transcript. The maximum credit for a student through proficiency examination and the use of proficiency examinations to remove failing grades (also the grade of I) are determined by the department offering the proficiency examination.

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REGISTRATION

The Student Orientation Department sends admitted freshmen and transfer students information about orientation and registration and the dates. Graduate students are instructed when to register upon receipt of their Admission Status. Former students who have been absent from UT other than the summer term and students who have withdrawn from the previous semester will receive registration information with their letter of readmission. Evening School students should contact the University Evening School for registration times.

REQUIREMENTS FOR REGISTRATION OF ADMITTED STUDENTS

Medical History. Though a physical examination is not required, a Medical History Questionnaire is sent to all admitted students and must be completed by the student, parent, or other responsible party who is familiar with the student’s medical history. Such information will facilitate University physicians in providing continuing health care. This form must be returned to the Student Health 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 Director of Student Orientation. Orientation programs are designed to help new students become acquainted with opportunities and services at the University and to provide information needed for registration. Students who wish to attend the Evening School should contact the University Evening School for information about registration and orientation.

FIRST CLASS MEETING

Students who fail to attend the first class or (laboratory) meeting without prior arrangements with the department concerned may lose their space in call to other students. Students should not assume that they will be officially dropped from the class; it is always the responsibility of the student to drop courses not attended. Otherwise, the student is liable for a grade of “F” in the course and for payment of appropriate fees.
MAXIMUM HOURS PER TERM
Undergraduate students may enroll for a maximum of 19 credit hours each semester. Enrollment in more than 19 hours must be approved by the dean of the student’s college or school.

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 for those courses that extend through the entire session. 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 requirements or restrictions. Auditors receive no credit and the audited course will not be recorded on the transcript. The student’s name will appear on the class roll to inform the instructor that the student is properly enrolled as auditor. Auditors are required to register and pay fees. Prior to the add deadline, a change from credit to audit or from audit to credit may be made by completing the change of credit portion of the Undergraduate Change of Registration Form and having it processed in 209 Student Services Building. After the add deadline, the signature of the dean or designee (see Timetable of Classes) is needed in order to change credit. Once the drop deadline is passed, a change will not be allowed.

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 may be required to add a course after classes begin. Students may also, as departmental policies permit, change a section of a course through the add deadline.

Students may drop courses until the 10th calendar day from the start of classes with no notation on the academic record. From the 11th calendar day until the 42nd calendar day, students may drop courses which will receive the notation of “W” (Withdrawn). The “W” grade is not computed in the grade point average. Courses may be dropped through the telephone or web (www.cpo.utk.edu) registration systems. After the 42nd calendar day and to the 84th day of classes, courses may be dropped and will be assigned a “WP” (Withdrawn Passing) or a “WF” (Withdrawn Failing). Instructor’s signature is required. The form, once signed, should be taken to the Office of the University Registrar for processing. The “WF” is calculated in the grade point average as an F. After the 84th day, no drops are permitted.

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

Failure to add a course is not an official withdrawal and will result in the assignment of an F grade.

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.

WITHDRAWING FROM THE UNIVERSITY
Undergraduate day students who need to leave the University before a term is finished must apply for withdrawal in the Office of the University Registrar, 209 Student Services Building. Evening School students’ withdrawals are accomplished at that office. Information on dropping a single course is provided in the section entitled “Changes in Registration.” Requests for withdrawal are routinely approved when the student applies by the deadline listed in the Timetable of Classes or on the web. The word “withdrawn” will be posted on the transcript.

It is the responsibility of a student who has registered for classes to attend them or, if that is impossible, to apply for withdrawal. A student will receive final grades unless the student follows procedures for withdrawal from the University.

A student who simply stops participating in classes, or fails to attend class, without officially withdrawing will be assigned the grade of “F” in each course. Students who do officially withdraw must apply for readmission in advance of their next term of anticipated enrollment, except for withdrawal from summer term.

Enrolled students are liable for payment of fees. Any refunds that may be due upon a student’s withdrawal are issued by the Bursar’s Office.

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
The Academic Second Opportunity is designed to assist the student who was not successful in progressing toward a degree during a previous attendance at UT but is now performing satisfactory work. Granting it is an acknowledgment by the University that the student’s earlier work is not consistent with his or her academic potential but that the work earned since return is. This policy is not intended to allow students to progress directly into a major; exceptions to progression standards must be made at the college level.

An undergraduate student may petition for Academic Second Opportunity upon meeting the following requirements:

1. the student has re-enrolled following an absence from UT of at least three full calendar years;
2. the student’s previous academic record at the University was unsatisfactory (normally, below a C average);
3. since readmission, the student has completed 15 or more graded hours (correspondence coursework may not be included in the 15 hours), earning a 2.5 GPA or above.

Decisions on granting Academic Second Opportunity are made by committee. If the student’s petition is approved, all previous academic work will remain on the permanent record, but the grades for such work will not be used in computing the grade point average or in determining academic standing. Previous credits earned with a grade of C or better will continue to meet major, distribution, and graduation requirements.

To graduate, a student granted Academic Second Opportunity must complete at least 30 hours at UT following readmission. To meet minimum qualifications for graduation with honors, the student must earn at least 60 semester hours of letter grades (A-F) following readmission. Academic Second Opportunity may be granted only once. If hours earned during the previous attendance have already been applied toward the completion of an awarded degree from a four-year institution, Academic Second Opportunity will not be granted. Registration at another college or university since the previous UT enrollment will not prevent a student from qualifying.

Petition must be made no later than the academic term prior to the one when the degree will be granted. Students should see the University Registrar website (http://web.utk.edu/•registrar) or contact their college for deadlines for specific terms. To initiate the petitioning process, students should meet with a designated advisor in their colleges.

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

Students will be placed in Academic Review when either their cumulative grade point average falls below the minimum acceptable level of 2.00 for one semester, or when their semester grade point average falls below the minimum acceptable level of 2.00 for two consecutive semesters regardless of their cumulative GPA. During that semester, and any other semesters in review, a student must participate in a special advising program in his or her college. If, while in review, a student does not maintain a 2.00 grade point average for hours attempted each term, the student may be released from his or her college or be released and dismissed from the University. A student released from his or her college with a cumulative grade point average of 2.00 or higher may seek admission to an alternate college and major. A student granted Academic Second Opportunity must complete at least 30 hours with a grade of C or better to be considered for readmission to the University.

Students who were conditionally admitted are not granted Academic Second Opportunity. A student who has beenconditionally admitted must meet the regular University standards of retention during the first term, or any subsequent term before attaining good standing.
Sciences. A student dismissed from the University may apply for readmission to the University after a minimum of one calendar year away from the University. Readmission is not automatic.

GENERAL REQUIREMENTS FOR A BACHELOR’S DEGREE

To receive a bachelor’s degree from the University of Tennessee, 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 a bachelor’s degree is reviewed and approved for meeting the degree requirements by the Office of the University Registrar.

1. Complete satisfactorily all requirements of the curriculum for which the student is enrolled, as described in the portion of this catalog devoted to each 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 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 Office of the University Registrar.

2. Achieve a grade point average of at least 2.00 on all work attempted at the University of Tennessee. (Students bringing transfer work to UT before Fall 1985 must also have a combined average of at least 2.0 on all UT work and the work transferred in and posted before Fall, 1985.)

3. Complete 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. 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 University Registrar.

5. 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 221-222 (or 227-228). 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.

6. 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.

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

8. File an application for a degree with the Office of the University Registrar, Room 209 Student Services Building. Application deadlines are printed in the Timetable or web (www.cpo.utk.edu) for each term. This deadline is imperative in order that all necessary processing can take place toward the degree.


10. Students who wish to participate in their graduating class Commencement Ceremony will need to place a Cap and Gown order with the University Center Book and Supply Store. Orders placed after the deadline date established by the Book and Supply Store will be subject to a late fee.

DEAN’S LIST

A public announcement is made of students passing a semester’s work Summa cum laude (3.80 through 4.00), Magna cum laude (3.65 through 3.79), and Cum laude (3.50 through 3.64). To be eligible, students must complete at least 12 hours, not counting work taken on a satisfactory/no credit basis.

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. Students must have earned at least 60 hours at UT 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 UT and the transfer work brought in prior to that date, or the average earned at UT, 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.

In addition, University Honors are conferred upon graduating students who have completed the University Honors Program.
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.

English Composition (2 courses)
Courses used to meet this requirement should develop the student’s ability in analytic and expository writing through the study of literature and writing applications. This requirement would normally be satisfied by completion of English 101-102 or equivalents, or by demonstration of proficiency.

Mathematical Sciences (2 courses)
Courses used to meet this requirement should develop the student’s ability to analyze and solve quantitative and logical problems.

Humanities and The Arts (2 courses)
Courses used to meet this requirement may concentrate either on critical analysis or practice of the arts. These might include the interpretation and analysis of works in one or more of the arts; consideration of significant philosophical, ethical, or religious text and issues; or participation in some area of the visual, spatial, musical, theatrical, rhetorical, or written arts.

Historical Studies (2 courses)
Courses used to meet this requirement should develop the student’s appreciation of continuity and change over time. Such courses would examine the connections and interactions between different aspects of the human experience through attention to significant political, social, economic, intellectual, and cultural developments in a chronological, balanced, and integrated framework.

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.
### MAJORS, MINORS AND CONCENTRATIONS

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<th>DEPARTMENT (UNIT)</th>
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<th>CONCENTRATION WITHIN THE MAJOR</th>
<th>DEGREE</th>
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<td>Food Engineering</td>
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1 Minor available.
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<td>Woodwind, Brass, and Percussion Instruments</td>
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<sup>1</sup> Minor available.

<sup>2</sup> Minor available in Applied Music or Music History and Literature.

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<th>CONCENTRATION WITHIN THE MAJOR</th>
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<td></td>
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<td>Criminal Justice</td>
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<tr>
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<td>Bachelor of Arts</td>
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<td>College Scholars Program</td>
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<td>Arts and Sciences (Intercollegiate with the College of Business Administration)</td>
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**College of Business Administration**

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<th>Accounting and Business Law</th>
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**College of Education**

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<td>Educational Psychology</td>
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<sup>1</sup> Minor available.
<sup>2</sup> Minor available for students in other colleges.
<sup>3</sup> Minor available in Engineering Communication and Performance.
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<th>CONCENTRATION WITHIN THE MAJOR</th>
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<td>Chemical Engineering</td>
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<td>Civil and Environmental Engineering</td>
<td>Civil Engineering</td>
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<td>Electrical and Computer Engineering</td>
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<td>Bachelor of Science in Electrical Engineering&lt;br&gt;Bachelor of Science in Computer Engineering</td>
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<td>Bachelor of Science in Engineering Physics</td>
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<td>Industrial Engineering</td>
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<td>Materials Science and Engineering</td>
<td>Materials Science and Engineering</td>
<td>Bachelor of Science in Materials Science and Engineering</td>
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<td>Nuclear Engineering&lt;br&gt;Radiological Engineering</td>
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<td>College of Human Ecology</td>
<td>Child and Family Studies</td>
<td>Child Development&lt;br&gt;Family Studies</td>
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<td>Hotel and Restaurant Administration&lt;br&gt;Recreation and Tourism Management&lt;br&gt;Retail and Consumer Sciences</td>
<td>Bachelor of Science in Service Management&lt;br&gt;Bachelor of Science in Human Ecology&lt;br&gt;Bachelor of Science in Service Management</td>
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<td></td>
<td>Nutrition</td>
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<td>Bachelor of Science in Social Work</td>
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<td>School of Information Sciences</td>
<td>University Honors</td>
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<tr>
<td></td>
<td>University Studies</td>
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</table>
The College of Agricultural Sciences and Natural Resources (CASNR) traces its history to 1869 when the University was designated as Tennessee's Federal Land-Grant Institution. Under terms of the Federal Land-Grant Act, the University was enabled for the first time to offer instruction in agriculture. This later was expanded to include research for the development of new knowledge and extension for dissemination of such knowledge to the people of Tennessee. Over time the College expanded its curricula from traditional agriculture to include natural resources and agribusiness.

The Agricultural Experiment Station and the Agricultural Extension Service were organized and assigned responsibility for research and extension functions, respectively. In 1975, the College of Veterinary Medicine was established. These three units and the College now constitute the University of Tennessee Institute of Agriculture. Thus, the College of Agricultural Sciences and Natural Resources is an academic unit of the University of Tennessee, and an important part of the University System of Tennessee.

Curricula in Agriculture and Natural Resources

The College offers a broad range of curricula leading to the degrees of:

- Bachelor of Science in Agriculture (with majors in agricultural economics and business, agricultural education, and food science and technology);
- Bachelor of Science in Animal Science (with concentrations in production and business, science/technology, science/technology—pre-veterinary medicine, pre-veterinary medicine program 3+1);
- Bachelor of Science in Biosystems Engineering (with concentration in food engineering);
- Bachelor of Science in Environmental and Soil Sciences (with concentrations in soil science, environmental science);
- Bachelor of Science in Forestry (with concentrations in forest resources management and wildland recreation);
- Bachelor of Science in Plant Sciences and Landscape Systems (with concentrations in business management, horticulture and agronomy, landscape design, public horticulture, and turfgrass management); and
- Bachelor of Science in Wildlife Fisheries Science.

The professional degree program in Biosystems Engineering receives strong support from the College of Engineering and is fully accredited by the Accreditation Board of Engineering and Technology. The forest resources management and wildland recreation concentrations are fully accredited by the Society of American Foresters. The Food Science and Technology program maintains the standards as established by the Institute of Food Technologists. Agricultural education meets state of Tennessee teacher education standards.

A pre-veterinary medicine curriculum 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. The preprofessional program in Food Science and Technology allows students to be awarded a B.S. degree in agriculture with a major in Food Science after three years and the successful completion of the first year at UT-Memphis, dental, medical or pharmacy programs, or at the UT College of Veterinary Medicine.

Specific courses required for each baccalaureate degree program 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 and natural resources instruction; other courses are included to provide a university liberal education. In all curricula, there is the opportunity to select elective courses appropriate to the educational objectives of the individual students. The choice of electives in each curriculum should be made with the guidance of the advisor.

All academic and general requirements of the University as stated in the front section of this catalog must be met by students enrolled in CASNR programs, 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 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, following university guidelines. 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 agriculture and natural resources coursework 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 and Natural Resources

Master of Science Programs

Programs of graduate study leading to the Master of Science degree are offered in all departments in the College of Agricultural Sciences and Natural Resources.

Doctoral Programs

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

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

Selection of Curriculum

Students who have decided upon their area of study may choose the curriculum most adaptable to their needs when they register as freshmen. 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. Undecided students will be assigned a special advisor to assist them in exploring CASNR programs and to guide them in the planning of appropriate courses of study for the freshman year. When they choose a curriculum, an advisor will be assigned from the appropriate department.

A foundation for advanced study beyond the baccalaureate degree may be established in any curriculum if appropriate electives are included. Courses may be elected in any of the curricula leading to the degree of Bachelor of Science in Agriculture, in preparation for employment with the Agricultural Extension Service. Contact the Office of the Dean, Agricultural Extension Service, for recommended coursework.

A very careful choice of electives enables a student with an excellent academic record to complete a double or triple major by satisfying all the requirements in 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. It is the student’s responsibility to keep advisors informed about each major and/or minor they are pursuing.

Optional Minors

Students may have a single or multiple minors in any of the UT colleges recorded on their transcripts without regard to course overlap among majors and minors. A minor in a department of the CASNR 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 the UT campus in Knoxville. Specific requirements are listed by each department offering a minor. Minors offered in the CASNR are open to any 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:

- Communicating through Writing (3 courses that include two composition courses and one course designated as “writing intensive” (W) in the undergraduate catalog.)
- Communication (1 course from specified list)
- Quantitative Reasoning (2 courses, 6 hours minimum, from two math or statistics courses from approved list)
- Social Sciences (2 courses, 6 hours minimum, from approved list)
- Biological Sciences (2 courses, 6 hours minimum, College of Agricultural Sciences and Natural Resources courses included)
- Physical Sciences (2 courses, 6 hours minimum from Chemistry, Physics or Geology)
- Computer Applications (ANR 290 or equivalent)
- Major Courses (24) (These courses are specified within each major)

For a total of 124 hours minimum.

Independent Study

Independent study, special topics courses, and seminars offered in each department provide exceptional students the opportunity to explore in greater depth subject matter of unusual significance to agriculture and natural resources. 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 natural resources in the study of a common problem provides an exciting experience.

Students may also earn academic credit for faculty-guided international study. Students should consult with their faculty advisors.

CASNR Honors Research and Creative Achievements Program

The CASNR Honors Research and Creative Achievements Program is designed to allow students to expand and improve their critical thinking and analytical skills while pursuing the baccalaureate degree in the college. Students in this program will complete an honors project, related to research, teaching or extension, under the guidance of a faculty member, and report that work in both written and oral format in a one-hour course, ANR 498. The Program Objectives are:

- To increase the scope of educational attainment by providing a program with greater breadth and depth,
- To provide special recognition for outstanding scholastic achievement, and
- To foster a sustained interest in advanced education, research and creative achievement.

To be eligible, a student must be a junior, senior or second semester junior transfer student with a minimum grade point average of 3.25. Additionally, once a student is admitted to the program, they must maintain a GPA of 3.25 or above. The eligible student will be invited by the College to participate in the program the first semester they are eligible, and once per academic year thereafter. The student must apply for the program, and be approved by a College Honors Committee. This application includes details of the proposed research, teaching or extension project. Upon admission, the student can enroll in ANR 497, Honors Project (repeatable for a maximum of 6 hours) or departmental independent study credit. The student would enroll during the semester(s) that he/she is actively working on the project. Some departments may elect to allow some or all of this credit to count toward graduation requirements. Upon completion of their work, the student must enroll in ANR 498, Honors Presentations (1). The student will prepare a written report and give an oral presentation to the Committee and whomever else is interested.

More detailed information is available from the CASNR Dean’s office.

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 CASNR from another institution or from another college at UT should contact the specific department of the curriculum they wish to follow and assign to an appropriate advisor. If the student is unsure of the specific curriculum, he/she should contact the Dean’s office. Requests for substitutions or special examinations should be submitted for consideration during the first semester of study in the selected curriculum.
AGRICULTURAL ECONOMICS

Professors:
D.L. McLemore (Head), Ph.D. Clemson; M.B. Badenhop (Emeritus), Ph.D. Purdue; J.R. Brooker, Ph.D. Florida; C.L. Cleland (Emeritus), Ph.D. Wisconsin; T.L. Cross, Ph.D. Oregon State; D.B. Eastwood, Ph.D. Tufts; B.C. English, Ph.D. Iowa State; C.D. Garland, Ph.D. Tennessee; D.G. Gerloff, Ph.D. Texas A&M; C.R. Hall, Ph.D. Mississippi State; K.L. Jensen, Ph.D. Oklahoma State; L.H. Keller (Emeritus), Ph.D. Kentucky; T.H. Kildt (Associate Dean), Ph.D. Kentucky; F.O. Leuthold (Emeritus), Ph.D. Wisconsin; J.A. Martin (Emeritus), Ph.D. Minnesota; B.R. McManus (Emeritus), Ph.D. Purdue; S.D. Mundy (Emeritus), Ph.D. Tennessee; R.H. Orr, Ph.D. Illinois; W.M. Park, Ph.D. Virginia Tech; B.H. Pentecost (Emeritus), J.D. Tennessee; E.L. Rawls, Ph.D. Virginia Tech; D.E. Ray, Ph.D. Iowa State; J.B. Riley, Ph.D. Oklahoma State University, R.K. Roberts, Ph.D. Iowa State; C.F. Smith, Ph.D. Tennessee; T.J. Whately (Emeritus), Ph.D. Purdue; H. Williamson, Ph.D. Missouri.

Associate Professor:
D.A. Barefield, Ph.D. Texas A&M; J.A. Larson, Ph.D. Oklahoma State.

Assistant Professor:
E.F. Bazen, Ph.D. Kentucky; C.D. Clark, Ph.D. Vanderbilt; D.G. De La Torre Ugarte, Ph.D. Oklahoma State; K.H. Tiller, Ph.D. Tennessee.

AGRICULTURAL ECONOMICS AND BUSINESS CURRICULUM

Advisors:
Professors Brooker, McLemore, Park, and Riley.

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 communication.

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 officers. The curriculum also provides the necessary background for graduate work in agricultural economics.

Minor consists of 19 credit hours including Economics 201, Agricultural Economics 212, 342, 350, 412 and a 3-hour elective in Agricultural Economics.

AGRICULTURAL ECONOMICS AND BUSINESS: CONCENTRATION IN AGRICULTURAL EQUIPMENT SYSTEMS MANAGEMENT

Technology is changing rapidly in agricultural equipment and the industry is in need of professionals who have developed a high degree of technical expertise in addition to having the ability to apply sound business and economic principles to the management of a business. The Agricultural Equipment Systems Management Concentration is a unique interdisciplinary program that combines courses from the Agricultural Economics and Business Program and the Biosystems Engineering Technology Program. Graduates will find career opportunities in the agricultural machinery industry as dealership managers as well as with agribusiness firms in operations management.

Students enrolling in the Agricultural Equipment Systems Management Concentration may apply for participation in the John Deere Dealership Management Program. This unique program represents a partnership between John Deere and the University of Tennessee for the southern region of the United States. Students participating in the John Deere Dealership Management Program will have a dealership manager as a mentor, spend two summer internships in a dealership, and will be considered for additional scholarship assistance.

AGRICULTURAL ECONOMICS AND BUSINESS: CONCENTRATION IN AGRICULTURAL EQUIPMENT SYSTEMS MANAGEMENT

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<td>Agricultural and Natural Resources 290</td>
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<td>1 Biological Science Electives</td>
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<td>2 History Electives</td>
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Total: 127 hours

AGRICULTURAL ECONOMICS AND BUSINESS MAJOR

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<td>2 History Electives</td>
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<tr>
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<td>English 101, 102</td>
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<td></td>
<td>Accounting 201, 202</td>
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<td></td>
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<td></td>
<td>Animal Science 280 or 381</td>
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<td>Economics 201</td>
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<td></td>
<td>Physical Science Electives</td>
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<td>Environmental and Soil Sciences 210</td>
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<td>Statistics 201</td>
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<td>Junior</td>
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<td>Agricultural Economics 310, 320, 342, 350, 412</td>
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<td></td>
<td>English 295 or 360 or Journalism 201</td>
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<td>2Nondepartmental Agricultural Electives</td>
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<td></td>
<td>Rural Sociology 380</td>
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<td></td>
<td>Speech 210 or 240</td>
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<td>Agricultural Economics 410</td>
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<td>Agricultural and Rural Sociology Electives</td>
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<tr>
<td></td>
<td>Economics 313</td>
<td>3</td>
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<td></td>
<td>Humanities Elective</td>
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<tr>
<td></td>
<td>Electives</td>
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DIRECTED ELECTIVES LIST:

AGRICULTURAL ECONOMICS AND BUSINESS MAJOR

<table>
<thead>
<tr>
<th>History</th>
<th>Credits</th>
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<tbody>
<tr>
<td>History</td>
<td>221-222, 241-242, 261-262, 265-256</td>
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<thead>
<tr>
<th>Humanities</th>
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<tr>
<td>Art 172-173</td>
<td>English 201-202, 231-232</td>
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<tr>
<td>Music General 110</td>
<td>Philosophy 110, 111, 130, 240, 342; Religious Studies 101, 102</td>
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<tr>
<td>Theatre 100</td>
<td>Nondepartmental Agricultural Electives</td>
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<tr>
<td>Animal Science 280; 381</td>
<td>Entomology and Plant Pathology 313, 321</td>
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<td>Food Science and Technology 140</td>
<td>Forestry, Wildlife and Fisheries 211, 250</td>
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<tr>
<td>Ornamental Horticulture and Landscape Design 110</td>
<td>Environmental and Soil Sciences 210</td>
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<tr>
<td>Integrated Plant Systems 230</td>
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</tbody>
</table>
AGRICULTURAL AND EXTENSION EDUCATION

Professors:

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 training 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 to prepare persons to assume educational and leadership roles in many phases of the agricultural industry, including agribusiness, schools, agencies, and farming and ranching. Emphasis is on preparing students to teach agricultural education or serve as an educator with the Agricultural Extension Service. Students may choose to concentrate either in the teacher education (certification) option or the professional services option.

The teacher education option is designed to prepare students to meet teacher certification requirements for agricultural education. Teacher Certification is given through the College of Education. Students must file for admission to Teacher Education in the College of Education. (See Admission to Teacher Education and Student Teaching section.)

Students who choose the professional services option may substitute additional technical agriculture and/or internship hours equivalent to the number of hours of student teaching required in the teacher education option. With advisor approval additional hours, required specifically for certification, may also be substituted with courses in the humanities, social sciences or technical agriculture areas. This option provides a broad-based curriculum 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.

**ANIMAL SCIENCE**

Professors:
K.R. Robbins (Head), Ph.D. Illinois; K.M. Barth (Emeritus), 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; G.E. Conaster, M.S. Kentucky; B.H. Erickson (Emeritus), Ph.D. Kansas State; W.W. Gill, Ph.D. Kentucky; H.C. Goan, Ph.D. Michigan State; J.D. Godkin, Ph.D. Massachusetts; J.M. Grizzle (Emeritus), Ph.D. Iowa State; H.G. Kattesh, Ph.D. Virginia Tech; F.D. Kirkpatrick, Ph.D. Tennesee; C.D. Lane, Ph.D. Tennessee; E.R. Lidvall (Emeritus), M.S. Tennessee; F.B. Masincupp (Emeritus), Ph.D. Kansas State; J.B. McLaren (Emeritus), Ph.D. Auburn; D.G. Meadows, Ph.D. Texas A&M; J.K. Miller (Emeritus), Ph.D. Virginia; M.J. Montgomery (Emeritus), Ph.D. Wisconsin; J.B. Neal, Ph.D. Tennessee; S.P. Oliver, Ph.D. Ohio State; D.O. Richardson (Emeritus), Ph.D. Ohio State; G.W. Rogers, Ph.D. North Carolina State; A. Saxton, Ph.D. North Carolina State; H.V. Shirley (Emeritus), Ph.D. Illinois; R.L. Tugwell (Emeritus), Ph.D. Kansas State.

**Associate Professors:**
W.R. Backus (Emeritus), Ph.D. Tennessee; J.M. Grizzle, Ph.D. Florida; Frederick Harper, Ph.D. Rutgers; R.N. Heitmann, Ph.D. Maine; A.F. Mathew, Ph.D. Purdue; F. N. Schrick, Ph.D. Clemson; M.B. Smith, Ph.D. Oklahoma State; K.J. Stalder, Ph.D. Iowa State; J.C. Waller, Ph.D. Nebraska.

**Assistant Professors:**
J.L. Edwards, Ph.D. Florida; G. Pighetti, Ph.D. Penn State; C.J. Richards, Ph.D. Kentucky; J.D. Smalling (Emeritus), Ph.D. Texas A&M.

**Instructor:**
W.G. Upchurch, M.S. Tennessee.

**Advisors:**
Professors Godkin and Oliver. Associate Professors Grizzle, Heitmann, Kattesh, Mathew, Schrick, Smith, and Waller. Assistant Professors Pighetti and Richards.

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

**A Minor in Animal Science** consists of 3 credits from 260 (Animal Industry and Market Evaluation) or 280 (Farm Animal Management Practices); 4 credits from 330 (Animal Nutrition, Feeds, and Ration Formulation); 3 credits from 381 (Animal Production Systems) or one of the 480 series plus 8 credits from the following list: 220, 320, 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: CONCENTRATION IN PRODUCTION/BUSINESS**

**Hours Credit**

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>Animal Science 160</td>
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<tr>
<td>Biology 130-140 or 101-102</td>
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<tr>
<td>English 101-102</td>
<td>3</td>
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<tr>
<td>Math 123-125, 141-142 or 151-152</td>
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<tr>
<td>Chemistry 100-110</td>
<td>3</td>
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<td>Speech 210</td>
<td>3</td>
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<tr>
<td>Agriculture and Natural Resources 101</td>
<td>3</td>
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<tr>
<td>Biology 101, 102</td>
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<tr>
<td>English 101, 102</td>
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<td>Mathematics 119, 123</td>
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<td>Economics 201</td>
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<tr>
<td>Animal Science 260 or 280</td>
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<td>Agriculture and Natural Resources 210</td>
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<td>Agricultural Economics 212</td>
<td>4</td>
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<tr>
<td>Plant and Soil Sciences 210</td>
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<tr>
<td>Plant and Soil Sciences 230</td>
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<tr>
<td>Biosystems Engineering Technology 202</td>
<td>4</td>
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<tr>
<td>Food Science and Technology 269</td>
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<td>Agricultural and Extension Education 201</td>
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<tr>
<td>Entomology and Plant Pathology 321</td>
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<td>Animal Science 330</td>
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<td>Humanities Elective</td>
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<tr>
<td>Ornamental Horticulture and Landscape</td>
<td>3</td>
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<tr>
<td>Design 430</td>
<td>3</td>
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<tr>
<td>Agricultural and Extension Education 345, 346</td>
<td>3</td>
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<tr>
<td>Agricultural Economics 342</td>
<td>3</td>
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<tr>
<td>Educational Psychology 210</td>
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<td>Education 400</td>
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<td>Education 401</td>
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<tr>
<td>Health Elective</td>
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<td>History Elective</td>
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<tr>
<td>Agricultural and Extension Education 435, 436</td>
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<tr>
<td>Agricultural and Extension Education 420</td>
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<td>Animal Science 381</td>
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<td>General Elective</td>
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<tr>
<td>Agricultural Electives</td>
<td>5</td>
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<tr>
<td>Total: 132 hours</td>
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</table>

1. The course should contain a writing component.
2. Lists of appropriate electives are available and should be selected in conference with academic advisor.
3. Equivalent hours may be substituted for students not desiring teacher certification.
ANIMAL SCIENCE:
CONCENTRATION IN
SCIENCE/TECHNOLOGY

Freshman
Animal Science 160 .............................................. 3
Biology 130-140 ..................................................... 6
English 101-102 ...................................................... 8
Math 123-125, 141-142 or 151-152 ............................ 8
Chemistry 120-130 ................................................. 8

Sophomore
Animal Science 220, 280 ...................................... 6
Agriculture and Natural Resources 290 ........................ 3
Speech 210 or 240 ................................................... 3
Humanities Writing Intensive Elective ...................... 3
Economics 201 ....................................................... 4
Physical Science and Math Restricted Elective 300 .... 6
Biological Science Restricted Elective ..................... 3

Junior
Animal Science 320, 330, 340, 380, 395 ................. 13
Biological Science Restricted Elective .................... 3
History Elective ..................................................... 3

Senior
Animal Science 495 ............................................. 1
Animal Science 481, 482, 483, 484, 485, or 489 .... 4

Total: 124 hours

ANIMAL SCIENCE—
PRE-VETERINARY MEDICINE PROGRAM (3+1)

This program allows students to be awarded a B.S. degree 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 Composition 101-102 (3,3)—6 hours
   b. Humanities and Social Sciences—18 hours
   c. Elements of Physics 221-222 (4,4)—8 hours
   d. General Chemistry 120-130 (4,4)—8 hours
   e. Organic Chemistry 350-360 and Laboratory 369 (3,3,2)—8 hours
   f. Cellular and Comparative Biochemistry 410 (4)—4 hours
   g. General Biology 130-140 (4,4)—8 hours
   h. Biology 240—4 hours or Animal Science 340—4 hours
   i. Animal Science Elective—2 or 3 hours
   j. The last 30 hours of the three-year pre-veterinary curriculum must have been taken at UT.

2. At least 12 hours of upper division (300 and 400 level courses) of technical agriculture courses must be taken at UT.

3. 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. Mathematics 123-125 or 141-142 or 151-152
   b. Animal Science 101—1 hour
   c. Agriculture and Natural Resources 101—3 hours
   d. Animal Science 220—3 hours
   e. Animal Science 260—3 hours
   f. Animal Science 320—3 hours
   g. Animal Science 330—4 hours

Total: 96 hours

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

http://bioengr.ag.utk.edu

Professors:
R.E. Yoder (Head), Ph.D. Colorado State, P.E.; J.T. Ammons, Ph.D. West Virginia; P.D. Ayers, Ph.D. North Carolina State, P.E.; F.F. Bell (Emeritus), Ph.D. Iowa State; M.J. Buschermohle, Ph.D. Clemson; H.P. Denton, Ph.D. North Carolina State; J.E. Foss (Emeritus), Ph.D. Minnesota; Z.A. Henry (Emeritus), Ph.D. North Carolina State; P.E.; D.H. Luttrell (Emeritus), Ph.D. Iowa State; J.J. McDow (Emeritus), Ph.D. Michigan State, P.E.; C.R. Mote (Assistant Dean, Tennessee Agricultural Experiment Station), Ph.D. Ohio State, P.E.; J.I. Sewell (Emeritus), Ph.D. North Carolina State, P.E.; C.H. Shelton (Emeritus), M.S. Virginia Polytechnic Institute; M.E. Springer (Emeritus), Ph.D., California (Berkeley); F.D. Tompkins (Interim Dean, College of Engineering), Ph.D. Tennessee, P.E.; D.D. Tyler, Ph.D. Kentucky; L.R. Wilhelms (Interim Associate Dean, College of Engineering), Ph.D. Tennessee, P.E.; J.B. Wills, M.S. Tennessee; D.C. Yoder, Ph.D. Purdue.

Associate Professors:

Assistant Professors:
J.R. Buchanan, Ph.D. Tennessee; J. Lee, Ph.D. Iowa State; J. S. Tyner, Ph.D. Oklahoma State; F. R. Walker, Ph.D. North Carolina State.

PROGRAMS AVAILABLE
The Department of Biosystems Engineering and Environmental Science offers two undergraduate degree programs: Bachelor of Science in Biosystems Engineering and Bachelor of Science in Environmental and Soil Sciences. The Biosystems Engineering program is a four-year ABET-accredited engineering program emphasizing engineering applications to biological systems. The Environmental and Soil Sciences program is a strong science-based program for students interested in the environmental sciences. Minors in either Environmental and Soil Sciences or in Biosystems Engineering Technology are also available. More detailed descriptions of each program are included with the curriculum material that follows.

BIOSYSTEMS ENGINEERING

Advisors:

The College of Agricultural Sciences and Natural Resources, in cooperation with the College of Engineering, offers a four-year curriculum leading to the degree of Bachelor of Science in Biosystems Engineering. The curriculum is accredited by the Engineering Commission of the Accreditation Board for Engineering and Technology (ABET). Overall goals of the program are emphasized in the Vision, Educational Objectives, and Program Outcomes statements listed below. Program outcomes are detailed in the showcase curricula and the individual course description provided.

Career opportunities for graduates include the design, the development, or the management of practices that minimize soil erosion and conserve water resources; biological waste treatment systems; safer machinery systems with lower environmental impact; or improved food and bio-processing systems. Employment opportunities are available in a wide variety of industries, government agencies, research and testing organizations, and educational and non-profit institutions.

The math requirement for freshman admission to the Biosystems Engineering program is 3 1/2 units, including trigonometry and geometry. Otherwise, the general admission requirements of the University apply.

The curriculum provides instruction in the analytical and design skills needed to solve engineering problems related to biological and agricultural systems. Comprehensive design of systems and their components is emphasized in the senior year. In addition to the standard Biosystems Engineering curriculum, a concentration in Food Engineering is also available. The degree program has provisions for elective courses to be taken in specified subject areas. Students should outline a plan for all such electives not later than their second year of study. Proper scheduling of courses is very important, since prerequisite requirements must be met. Thus, students must consult with their advisors each semester to review their scheduling plan.

Students majoring in biosystems engineering are eligible to participate in the Engineering Cooperative Scholarship program and other student activities in the College of Engineering. Biosystems Engineering majors interested in the Cooperative Engineering Scholarship program should consult with their faculty advisor or the head of the Biosystems Engineering and Environmental Science Department (phone 865 974-7266; e-mail: bees@utk.edu).

Vision:
The Biosystems Engineering Program at the University of Tennessee is committed to linking engineering sciences and mathematics to real-world problems involving natural and man-made biologically-based systems. We strive to educate students to become engineers with the ability to serve humanity by applying engineering knowledge to solve problems facing society. This education is accomplished by providing a strong grounding in engineering fundamentals and incorporating hands-on, real-world design scenarios throughout the curriculum. Our graduates are technically competent in engineering design. They
• understand the steps in the engineering process;
• can define a problem;
• can gather the information required to solve a problem;
• can critically evaluate information from various sources;
• are creative and can synthesize solutions to a problem;
• can perform engineering analyses;
• can design components, machines, or systems to solve a problem;
• understand the importance of social, environmental, economic, and safety issues;
• appreciate the role of uncertainty and risk in engineering analyses.

Our graduates have the skills needed by professional engineers. Our program strives to instill
• an understanding of the engineering profession;
• the thrill of rewarding engineering accomplishments;
• a knowledge of the responsibilities of a practicing engineer;
• an ability to work effectively in teams of diverse make-up;
• an understanding of the importance of ethical conduct in a professional practice;
• effective oral, written, and graphical communications skills;
• the importance of taking initiative on projects;
• confidence in technical capabilities;
• strong personal time management skills;
• strong project management skills.

Educational Objectives:
Specific educational objectives have been established for the Biosystems Engineering Program. Consistent with the vision outlined above, the program objectives are that graduates have a mastery of:
• the mathematical tools normally required of junior engineers;
• the basic sciences relevant to engineering applications to biological systems;
• the engineering sciences required by their chosen concentration, and application of engineering principles to biological systems;
• the design process, including collection and analysis of information, identification of problems, formulation and selection of a solution, application of the solution, and effective communication of the results;
• teamwork skills, communication skills, and an understanding of professional, social, environmental, safety, and ethical considerations;
• the reasons for and importance of lifelong learning and of developing an appreciation for cultural and social expression beyond the realm of engineering.

Program Outcomes:
To achieve the educational objectives listed above, a series of program outcomes have been adopted. These program outcomes provide specific measures to determine the degree of success in meeting each of the educational objectives. These outcomes are as follows:
• an ability to apply knowledge of mathematics, science, and engineering
BIOSYSTEMS ENGINEERING: CONCENTRATION IN FOOD ENGINEERING

The concentration in Food Engineering emphasizes topics relevant to understanding and engineering food and bioprocessing operations. Students graduating with this emphasis are prepared for engineering positions in a variety of food and other biobased industries.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>Engineering Fundamentals 101, 102</td>
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<tr>
<td>Biosystems Engineering 104</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Mathematics 141, 142</td>
</tr>
<tr>
<td>3 General Education Elective</td>
</tr>
<tr>
<td>Sophomore</td>
</tr>
<tr>
<td>Biosystems Engineering 201, 221, 321</td>
</tr>
<tr>
<td>Mechanical Engineering 231, 321</td>
</tr>
<tr>
<td>Nuclear Engineering 203</td>
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<tr>
<td>Environmental and Soil Sciences 210</td>
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<tr>
<td>Chemistry 130</td>
</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
</tr>
<tr>
<td>Microbiology 210</td>
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<tr>
<td>Junior</td>
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<tr>
<td>Biosystems Engineering 411, 421, 431, 441, 451</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 301</td>
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<tr>
<td>3 General Education Electives (Humanities or Arts Clusters)</td>
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<td>Economics 201</td>
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<tr>
<td>Senior</td>
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<tr>
<td>Biosystems Engineering 401, 402, 411, 431</td>
</tr>
<tr>
<td>English 360</td>
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<tr>
<td>3 General Education Elective</td>
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<tr>
<td>2 General Education Elective</td>
</tr>
<tr>
<td>Food Science and Technology 495</td>
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<tr>
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</tbody>
</table>

1 Or equivalent honors course.
2 If mathematics placement test does not indicate placement into Math 141, please discuss mathematics options with advisor.
3 Select from the appropriate cluster in the College of Engineering listing of General Education Electives. In some instances a single course may meet requirements of more than one cluster. When this occurs, a course from another cluster may be used to meet the total hour requirement. These electives must be approved in advance by advisor to insure that they meet university and ABET criteria.
4 Select from CE 390 Hydraulics or ES 341 Fluid Mechanics.
5 Typically upper division courses in engineering or related areas. Must be approved in advance by advisor.

BIOSYSTEMS ENGINEERING TECHNOLOGY


No baccalaureate degree program is offered in biosystems engineering technology; however, seven undergraduate courses are offered to prepare students in other disciplines to apply elementary principles, techniques, and systems of engineering to the broad industry of agriculture.

A Minor in Biosystems Engineering Technology requires a minimum of 18 semester hours as follows: Biosystems Engineering Technology 202 or 212, 326, and 432, and three of the six courses 414, 422, 442, 452, 462 or 474.

A program leading to the Master of Science degree with a major in biosystems engineering technology is available (see the Graduate Catalog). The graduate program is open to qualifying BS graduates from other disciplines. Academic records of applicants will be reviewed by the departmental graduate committee to determine if prerequisite courses are required to meet program requirements.

ENVIRONMENTAL AND SOIL SCIENCES

Advisors: Essington, Lee, Logan, and D. Yoder.

Many human activities adversely impact soil, water and environmental quality. The Bachelor of Science degree in Environmental and Soil Sciences provides students with a strong grounding in basic sciences and technology to prepare them for careers in environmental and natural resource management. Students in this program study basic natural sciences as well as applied areas such as ecology, soil sciences, and natural resource policy. Students also build expertise with modern technologies such as geographical information systems, global positioning systems, and computer applications in natural resource management. Graduates are prepared to work in a wide variety of interesting and challenging career paths and to work with a broad variety of other professionals to solve complex problems. Examples of potential careers include: soil and environmental specialists and scientists; state and federal regulatory agency work; private consulting in environmental and agricultural areas; and working with non-governmental organizations with interests in agriculture, environment and natural resources. Students receiving this BS degree are also very competitive for placement in graduate programs in environmental and agricultural sciences and technology, as well as law school.

The core program provides a strong grounding in the sciences and technology, while concentrations within the BS degree permit a focus on one of these disciplines. There are two concentrations in this degree program, Soil Environmental Science and Environmental Science. These concentrations are described below.

A minor in Environmental and Soil Sciences consists of 19 credit hours including ESS 210 and 324, BSET 326, and at least 9 elective hours in ESS and/or BSET courses at the 300 level or higher.

ENVIRONMENTAL AND SOIL SCIENCES: CONCENTRATION IN SOIL SCIENCE

This concentration is a rigorous, science-based program for students interested in the field of environmental sciences. The curriculum emphasizes soils and their long-term use and productivity, as well as surface and subsurface water resources. Students will understand natural resource problems and their management, including soil and water conservation issues, land use problems, waste disposal, and reclamation of disturbed lands.
Other areas of interest can be addressed through the appropriate selection of technical electives in the program. Students in this program will gain the practical knowledge necessary to compete for career opportunities in government, environmental consulting firms, public health services, environmental research laboratories, and agricultural production, while also gaining the theoretical training necessary for continuing on for advanced degrees in a number of environmentally related fields.

**Freshman**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Botany 110, 120 or Biology 130, 140</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 120, 130</td>
<td>8</td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 110</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 151, 152</td>
<td>6</td>
</tr>
<tr>
<td>¹Arts and Humanities elective</td>
<td>3</td>
</tr>
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</table>

**Sophomore**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Agriculture and Natural Resources 290</td>
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</tr>
<tr>
<td>Chemistry 350</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201</td>
<td>4</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>4</td>
</tr>
<tr>
<td>Geology 101</td>
<td>4</td>
</tr>
<tr>
<td>Microbiology 210</td>
<td>3</td>
</tr>
<tr>
<td>Physics 221</td>
<td>4</td>
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<tr>
<td>Statistics 201</td>
<td>3</td>
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<td>Speech 210 or 240</td>
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**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Botany 321</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 310 and 319</td>
<td>4</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 301, 304</td>
<td>4</td>
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<tr>
<td>Environmental and Soil Sciences 334 or 353</td>
<td>3</td>
</tr>
<tr>
<td>Biosystems Engineering Technology 326</td>
<td>3</td>
</tr>
<tr>
<td>Philosophy 346</td>
<td>3</td>
</tr>
<tr>
<td>¹Technical Electives</td>
<td>9</td>
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**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Agricultural Economics 470 or Economics 462</td>
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</tr>
<tr>
<td>Sociology 360</td>
<td>3</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 434, 442, 444, 462, 481</td>
<td>15</td>
</tr>
<tr>
<td>¹Technical Electives</td>
<td>9</td>
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<tr>
<td>Unrestricted electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 128 hours

¹Consult the list of approved electives for these courses. If you wish to take a course not on the list, consult your advisor first.

**ELECTIVE LIST FOR ALL CONCENTRATIONS, BS DEGREE IN ENVIRONMENTAL AND SOIL SCIENCES**

**Arts and Humanities Electives**

Any course listed under the College of Arts and Sciences Humanities requirements (Part A., section 3, Lists A, B, and C of Divisional Distribution Requirements)

Art (all courses of instruction—art, ceramics, design/graphic, drawing, education, history, media arts, painting, printmaking, sculpture)

Asian Studies 101, 102

Classics (all courses)

Dance (all courses)

Music (all courses of instruction—education, ensemble, general, history, instrument, jazz, keyboard, performance, technology, theory)

Philosophy 120, 130, 135

Religious Studies (all courses)

Theatre (all courses)

Women’s Studies 210, 215, 320, 330, 332, 382, 383, 422, 433, 483

**History Electives**

Anthropology 120, 130

History (all courses)

Any course listed under the College of Arts and Sciences Non-US History requirements (Part A., section 4 of Divisional Distribution Requirements) or any courses listed under the College of Arts and Sciences Upper Level Distribution Requirements – List A or List B.

**Technical Electives**

Note that some electives have required prerequisites to taking those classes. Those prerequisites are either required in the major or are listed below—individual course descriptions in the catalog for specific prerequisite information.

**Agriculture and Natural Resources**

- Biology 220, 260, 280, 320, 330, 380, 381
- Biochemistry and Cellular and Molecular Biology 301, 401, 402, 410, 471, 481
- Biology 240, 250
- Biosystems Engineering Technology (any course not required for the major)
- Botany 305, 306, 310, 321, 330, 404, 412, 431, 451, 499
- Chemistry 230, 310, 319, 320, 329, 350, 360, 369, 430, 439, 471, 481
- Ecology and Evolutionary Biology 240, 305, 370, 380, 431, 470, 474, 484
- Entomology and Plant Pathology 313, 321
- Environmental and Soil Sciences (any course not required for the major)
- Food Science and Technology 420-429
- Forestry 314, 315, 321
- Forestry, Wildlife and Fisheries 250, 311, 312, 313, 317, 410, 412
- Geography 101-102, 131-132, 310, 334, 410, 411, 412, 413, 415, 434, 436, 439
- Geology 102, 103, 201, 202, 310, 345, 370, 420, 450, 455, 485, 486
- History 346
- Management 301, 321, 431
- Microbiology 310, 319, 410, 411, 470
- Physics 222
- Political Science 300, 330, 340, 430, 431, 440, 442, 470
- Public Health 310
- Sociology 360, 462, 464, 465
- Statistics (any course above 201)
- University Studies 322
- Urban and Regional Planning 401, 401

**ENTOMOLOGY AND PLANT PATHOLOGY**

**Professors:**


**Associate Professors:**


**Advisors:**

- Gerhardt, Lambdin, and Pless.
training in food processing plants and laboratories or federal and state laboratories.

The Minor in Food Science and Technology requires a minimum of 17 hours as follows: 140, 310, 320-329, 340, and one elective course in Food Science and Technology.

FOOD SCIENCE AND TECHNOLOGY: CONCENTRATION IN SCIENCE

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Hours</th>
<th>Credit</th>
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<tbody>
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<td>1 English</td>
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<tr>
<td>2 Math</td>
<td>6</td>
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<tr>
<td>2 Biological Science</td>
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<tr>
<td>Chemistry 120-130</td>
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<td>Agriculture and Natural Resources 290</td>
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</tr>
<tr>
<td>Nutrition 100 or 300</td>
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<td>3</td>
</tr>
<tr>
<td>Sophomore</td>
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<td>12</td>
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<tr>
<td>Food Science and Technology 301</td>
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</tr>
<tr>
<td>Food Science and Technology 410 and 430</td>
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<tr>
<td>Biochemistry and Molecular Biology 310 or 410</td>
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<tr>
<td>Biostatistics 201</td>
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<tr>
<td>Humanities Elective</td>
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<td>3</td>
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<tr>
<td>Food Science and Technology 340</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition 100 or 300</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>Food Science and Technology 420-429</td>
<td>5</td>
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<tr>
<td>Food Science and Technology 445, 460, 490</td>
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<td>Food Science and Technology 410 and 430</td>
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<td>Food Science and Technology 445, 460, 490</td>
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<td>Food Science and Technology 493</td>
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<td>3</td>
</tr>
<tr>
<td>Electives</td>
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<td>6</td>
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<tr>
<td>Senior</td>
<td></td>
<td>12</td>
</tr>
<tr>
<td>Total: 124 hours</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
This curriculum meets the requirements for entrance to the CVM or UT medical, dental or pharmacy schools. After the first successful year in the professional school, the student will be awarded a B.S. in Agriculture with a major in Food Science and Technology.

Should the student not gain admittance after the Junior year, the student could complete the following requirements during the Senior year for a major in Food Science Technology with a Pre-professional concentration.

**Senior**

Food Science Technology 401, 430, 445, 490 and 495 ......................................................... 14

Nutrition 420 ................................................................................. 4

Food Sciences & Technology electives ............................................. 6

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

Total: 124 hours

---

1. Major: 16 hours
2. Math: 8 hours
3. Sciences: 20 hours
4. Social Sciences: 6 hours
5. Humanities: 6 hours
6. Writing intensive course
7. History Elective
8. Oral Communication
9. Elective

6 Writing intensive course
5 Humanities Elective
4 Social Science Electives
6 Plant Sciences & Landscape Systems 471 or Statistics 201
6 History Electives

**FORESTRY, WILDFIRe AND FISHERIES**

Professors:
- G.M. Hopper (Head), Ph.D. Virginia Tech
- J.W. Barrett (Emeritus), Ph.D. Syracuse
- E.R. Buckner (Emeritus), Ph.D. North Carolina State; H.A. Core (Emeritus), Ph.D. Rhode Island
- B.L. Dearden, Ph.D. Colorado State; R.W. Dimmick (Emeritus), Ph.D. University of Nebraska
- T.K. Hill, Sr., Ph.D. Auburn; D.M. Ostermeier, Ph.D. Syracuse; M.R. Pelton, Ph.D. Georgia; T.G. Rials, Ph.D. Virginia
- Tech; S.E. Schlarbaum, Ph.D. Colorado State; G. Schneider (Emeritus), Ph.D. Michigan State; C.A. Speer (Dean), Ph.D. Utah State; R.J. Strange, Ph.D. Oregon State; E. Thor (Emeritus), Ph.D. North Carolina State; J.L. Wilson, Ph.D. Tennessee.

Students must have completed all but three core courses by the end of the semester in which they apply for acceptance into upper division courses. They must complete all core courses before entering upper division courses. They will also need the prerequisites to the individual upper division courses.

**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 10 hours from FWF 100, 312, 313, 412 and 416 and Forestry designated electives. Prerequisites will not be waived.
FOREST RESOURCES
MANAGEMENT CONCENTRATION
The Forest Resources Management Concentration provides an opportunity to obtain an education related to the management of the broad spectrum of woodland 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 and 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 coniferous to hardwoods.

Lumber, pulp, paper, and other wood-using industries cooperate in conducting tours and demonstrating industrial processes.

WILDLAND RECREATION
CONCENTRATION
The Wildland Recreation Concentration is an interdisciplinary degree that prepares students to work in natural resource based recreation settings on private and public lands, including local, state, and national parks, and other state and federal agencies and private or non-profit organizations. Providing outdoor recreational opportunities.

Students prepare for professional positions in the planning, development, interpretation, and management of private and public lands for recreational purposes. Students also learn the basic philosophy and principles associated with the use of leisure time and the relationship of natural resources to the constructive use of leisure time.

Elective credits may be used to obtain specializations in complementary areas such as education, cultural and natural history interpretation, forestry, wildlife, fisheries, communication and public relations, agricultural extension education, ornamental horticulture, and landscape design, business and public administration, and the natural sciences, including ecology, botany, zoology, and geology as well as recreation and leisure studies, such as private/commercial and therapeutic recreation.

Ten weeks of professional internship experience (6 credits) is required during the final 45 hours of credit in the program. The internship is a highly structured field experience guided by specific learning objectives pre-approved by the instructor and the field supervisor. The student receives one credit per two weeks of full-time field experience. Preparations for the internship should be made well in advance of actual placement. Summer employment or volunteer work in a related field prior to the internship is highly encouraged.

APPROVED ELECTIVE COURSES
FOR BOTH FOREST RESOURCES
MANAGEMENT AND WILDLAND
RECREATION CONCENTRATIONS
The two concentrations in the Bachelor of Science require courses in a number of general education areas. Below are specific courses that meet the requirements in each of the areas. Courses listed for social science, humanities, and history are from a University-wide list, while those for communications have been developed within the Department of Forestry, Wildlife and Fisheries. Other courses may satisfy the requirements. If you are interested in an unrelated degree, see the description of each area under general education requirements (page 31 in the 2002-03 UT Undergraduate Catalog) and then discuss it with your advisor.

SOCIAL SCIENCES
American-African Studies 315, 319, 343, 373, 379, 442, 452, 473, 480, 483
American Studies 310, 410, 423
Anthropology 110, 120, 130, 302, 305, 306, 310-321, 360, 361, 363, 373, 410, 412, 413, 462, 463, 495
Botany 305, 306
Business Administration 311
Child and Family Studies 220, 240
Cinema Studies 312
Geology 201, 202
Latin-American Studies 251, 252, 313, 314, 319, 331, 372, 373, 401, 456
Medieval Studies 475
Psychology 110, 210, 300, 310, 320, 330, 360, 370, 415, 424, 434, 440, 470, 480
Religious Studies 202, 302, 319, 373-384
Rural Sociology 380
Speech Communication 466,469
University Honors 347
Urban Studies 321, 323, 441, 454, 464
Women’s Studies 220, 230, 310, 340, 375, 434, 466, 483

HUMANITIES
African and African-American Studies 429
Art (all courses of instruction—art, ceramics, design/graphic, drawing, education,
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.


HOURS CREDIT

Freshman

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>English 101, 102</td>
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<tr>
<td>Mathematics 119</td>
<td>3</td>
</tr>
<tr>
<td>Biology 130-140 or 101-102</td>
<td>8</td>
</tr>
<tr>
<td>Chemistry 120-130 or 100-110</td>
<td>8</td>
</tr>
<tr>
<td>History or Humanities Elective</td>
<td>3</td>
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<tr>
<td>Forestry, Wildlife and Fisheries 100, 211</td>
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Sophomore

<table>
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<tr>
<th>Course Code</th>
<th>Hours Credit</th>
</tr>
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<tbody>
<tr>
<td>Mathematics 125</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 201 or Environmental Systems 471</td>
<td>3</td>
</tr>
<tr>
<td>Agriculture and Natural Resources 290</td>
<td>3</td>
</tr>
<tr>
<td>Speech 210 or 240</td>
<td>3</td>
</tr>
<tr>
<td>Animal Science 350 or Ecology and Evolutionary Biology 350 or Biochemistry and Cellular Molecular Biology 330</td>
<td>3-4</td>
</tr>
<tr>
<td>Environmental and Soil Sciences 210</td>
<td>3</td>
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<tr>
<td>Economics 201</td>
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</tr>
<tr>
<td>Biology 250</td>
<td>4</td>
</tr>
<tr>
<td>History or Humanities Elective</td>
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</tr>
<tr>
<td>Forestry, Wildlife and Fisheries 311</td>
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Junior

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 312, 313, 317</td>
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</tr>
<tr>
<td>Wildlife and Fisheries Science 303, 305, 323, 330, 340, 341, 440, 442</td>
<td>17</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology 470 or 446 or Environmental and Soil Sciences 324</td>
<td>3-4</td>
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<tr>
<td>Science Elective</td>
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Senior

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Forestry, Wildlife and Fisheries 410, 416</td>
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<td>Wildlife and Fisheries Science 443, 444, 445, 490, 491</td>
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</tr>
<tr>
<td>Ecology and Evolutionary Biology 474</td>
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<td>Forestry, Wildlife and Fisheries 412 or Forestry 442</td>
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<td>General Electives</td>
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<tr>
<td>Science Elective</td>
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</tbody>
</table>

Total: 132 hours

*Lists of appropriate courses in Humanities and History are available at the Department of Forestry, Wildlife and Fisheries Office. Students are encouraged to take some of the history and humanities courses at the 300 and 400 level. 3 hours of the humanities or history electives must be a writing intensive course.

APPROVED ELECTIVES

The asterisk (*) indicates a writing emphasis course. Check with your advisor if you have any questions about these electives.

HISTORY

American Studies 310, 456
Anthropology 120, 310*, 360*, 361, 363*, 462*
Economics 415*
Foreign Languages 431

History (all courses - see catalog for writing emphasis courses)
Italian 311, 312
Management 311
Religious Studies 101*, 321*, 322*, 352*

HUMANITIES

African and African-American Studies 429*
Art (all courses of instruction—art, ceramics, design/graphic, drawing, education, history, media arts, painting, printmaking, sculpture)
Asian Languages (all courses except 199—see catalog for writing emphasis courses)
Asian Studies 101*, 102*
Classics (all courses—see catalog for writing emphasis courses)
Comparative Literature 202*, 203*
Dance (all courses—see catalog for writing emphasis courses)
English 201-351 and 401-454, 480, 482 (see catalog for writing emphasis courses)
French (all courses except 199—see catalog for writing emphasis courses)
German (all courses except 199—see catalog for writing emphasis courses)
Greek (all courses—see catalog for writing emphasis courses)
Hebrew (all courses—see catalog for writing emphasis courses)
Italian (all courses except 199—see catalog for writing emphasis courses)
Latin (all courses—see catalog for writing emphasis courses)
Medieval Studies (all courses—see catalog for writing emphasis courses)
Music (all courses of instruction—education, ensemble, general, history, instrument, jazz, keyboard, performance, technology, theory, voice—see catalog for writing emphasis courses)
Philosophy (all courses—see catalog for writing emphasis courses)
Persian (all courses—see catalog for writing emphasis courses)
Portuguese (all courses except 199—see catalog for writing emphasis courses)
Russian (all courses except 199—see catalog for writing emphasis courses)
Spanish (all courses except 199—see catalog for writing emphasis courses)
Theatre (all courses—see catalog for writing emphasis courses)

HISTORY

American Studies 456
Anthropology 361
Architecture 211, 212, 406,412, 413, 415
Art History 162, 183, 403, 411, 415, 419, 425, 431, 441, 442, 451, 452, 453, 454, 461, 463
Asian Studies 101, 102
Classics 381, 382
Dance 480,490
English 301, 302
History (all courses)
Latin-American Studies 360, 361
Medieval Studies 312, 313
Military Sciences 430
Music History 115, 120, 210-220, 310
Philosophy 120, 210, 312
Religious Studies 101, 310, 330
Theatre 411, 412
Women's Studies 432, 453

COMMUNICATIONS

English 263, 355, 360, 363-365, 455, 460, 462, 463, 464
Journalism 201, 310, 412,414,450,451, 456
Spanish Communications 210*, 220,420*, 270, 310, 320, 440, 420

*All concentrations require 210 or 240; taking both would satisfy the speech requirement and the communications elective
** Writing emphasis course.
Pennsylvania State; C.R. Graves (Emeritus), M.S. Tennessee; R.M. Hayes, Ph.D. Illinois; D.W. Lockwood, Ph.D. Purdue; G.L. McDaniel, Ph.D. Iowa State; J.H. Reynolds (Emeritus), Ph.D. Wisconsin; A.D. Rutledge (Emeritus), Ph.D. Tennessee; T.J. Samples, Ph.D., Oklahoma State; C.E. Sams, Ph.D. Michigan State; D.W. Sams (Emeritus), Ph.D. Minnesota; P.P. Shelby (Emeritus), M.S. Tennessee; C.N. Stewart, Ph.D. (Racheff Chair) Virginia Tech; D.R. West, Ph.D. Nebraska; D.B. Williams (Emeritus), Ph.D. Pennsylvania State.

Associate Professors:

Assistant Professors:

Advisors:
Coffey, Hamilton, McDaniel, Menendez, Morgan, Sams, and Sorochn.

The Department of Plant Sciences and Landscape Systems (PSLS) of the University of Tennessee provides the academic instruction to undergraduate and graduate students. Experienced instructors who are committed to the success of their students staff the department. Advisors give students sound advice in the selection of career specialties, elective courses, and provide students the best education possible. Professors want their students to be successful and enjoy positive student-teacher relationships. They keep track of job openings and assist students during the job selection process. Since most PSLS teachers are also research scientists, undergraduate students interested in advanced studies are directed into appropriate courses necessary for admission to graduate school. Students are also encouraged to work with faculty researchers in a variety of laboratory, greenhouse, or field experiments.

The department offers a major leading to a Bachelor of Science degree in Plant Sciences and Landscape Systems with five concentrations: Business Management, Horticulture and Agronomy, Landscape Design, Public Horticulture, and Turfgrass Management. Each concentration offers a different approach to address the breadth of opportunities available to PSLS undergraduate students. A minimum of 124 credit hours including internship is required for each concentration. Full-time summer internships are available at selected local, regional, and national companies or institutions. Part-time summer or semester internships are available from PSLS, other university departments and laboratories and local commercial firms. For more information about undergraduate and other departmental programs, please contact our website at: http://ohld.ag.utk.edu/psls/

CAREER SPECIALTIES

Students in the Landscape Design and the Public Horticulture concentrations have various career paths open to them. Opportunities exist within landscape construction and maintenance (installation and maintenance of residential and commercial landscapes), and public horticulture (the promotion of horticulture to enhance people’s education and enjoyment of plants). Students select courses to meet the challenges of the different areas of ornamental horticulture by working closely with their academic advisers. Internships at various horticultural enterprises provide students the opportunity to put theory into practice and screen possible job options. Positions that graduate hold are numerous and include the following: owners, supervisors and employees of landscape construction; design and/or maintenance businesses for residential, recreational and commercial properties; owners, designers, salespersons or managers with interior landscaping firms; directors of nursery operations; managers, education program director, high school or college teachers and employees of botanic gardens and arboreta; federal, state, county, city and municipal horticulturists; county extension workers in horticulture, estate manager, and employees of tree care firms; and garden writers. A percentage of undergraduate students go on to graduate studies.

The Business Management and Turfgrass Management concentrations of the various concentrations are designed to graduate students. Opportunities exist within floriculture (the field of growing and marketing flowers and plants), turfgrass management (growing and managing turfgrasses used for golf courses, parks, athletic fields, and residential and commercial lawns), wholesale nursery production (the production of trees, shrubs and other woody ornamental plants used by the landscape industry or sold through retail outlets), retail horticulture (the marketing; merchandising and sale of vegetables, fruit, or ornamental plants and gardening accessories directed to the consumer), and agronomic crops production and consulting. Positions that graduates hold are numerous and include the following: owner, manager, salesperson or employee of garden centers, farm supply, or other retail outlets; golf course superintendents and assistant superintendents; sales positions with turfgrass equipment firms, supply firms, chemical companies and seed companies; owners, supervisors or growers of turfgrass sod, nursery or floral crop operations, and agronomic and field-produce crop management and consulting.

The Horticulture and Agronomy concentration provides a solid background in science while preparing students to apply this knowledge. The graduate must have knowledge of the basic chemical, physical and biological sciences and be educated in communication and computer; the student may be broadly trained or may specialize in a specific phase of the subject. This concentration is especially designed to qualify students for professional certification and to prepare students for graduate study. Through the appropriate selection of technical and general electives, students can qualify for certification as a crop scientist, agronomist, or horticulturist.

Students can also prepare themselves for graduate study in crop ecology and physiology, crop breeding and genetics, and weed science. Careful selection of departmental courses and related courses as well as electives in consultation with the student’s academic advisor will prepare graduates for a career of their choice in the Plant Science area, whether it be Agronomic or Horticultural in nature.

A minor in Integrated Plant Systems shall consist of 18 hours of courses in Plant Sciences and Landscape Systems including IPS 230, IPS 334, and a minimum of 12 credit hours at the upper division. Prerequisites, if any, to these courses will not be waived, but must be included in addition to the total of 18 hours. PSLS 471 will not be accepted as a course to meet minor requirements.

A minor in Ornamental Horticulture and Landscape Design shall consist of 18 hours of courses in Ornamental Horticulture and Landscape Design: OHD 110, Introduction to Ornamental Horticulture and one additional lower division course, and a minimum of 12 credit hours at the upper division. Prerequisites, if any, to these courses will not be waived, but must be included in addition to the total of 18 hours.

ENROLLMENT MANAGEMENT PLAN

All students in the Department of Plant Sciences and Landscape Systems must meet certain minimum requirements before registering for upper division PSLS, OHD, or IPS classes. Admittance to each of the departments and concentrations is determined by completion of core courses with a “C” or better for an individual concentration, completion of a minimum of 65 credit hours toward the degree, and a minimum cumulative grade point average (GPA) of 2.25.

To be considered for progression into the upper division of the program, majors must submit an application of intent for progression prior to class registration for the next semester. Their transcript will be reviewed by faculty members for completion of all core courses and meeting the minimum GPA. Students must have completed all but 3 core courses for their concentration by the end of the semester in which they apply for acceptance into upper division courses. They must complete all core courses before entering upper division courses. They will also need the prerequisites to these individual upper division courses.

Once admitted for progression to upper division programs, students must maintain a cumulative GPA of 2.25. Junior and senior majors in PSLS whose cumulative GPA falls below the minimum will not be allowed to register in departmental upper division classes until they again meet the required GPA for progression. This enrollment management plan becomes effective for all students enrolling in PSLS on or after Fall semester, 2014.

CORE COURSES

Majors must have completed the core courses for their respective PSLS concentration. Students must declare a concentration early in their undergraduate program and strictly follow the curriculum described for it. Students who transfer into PSLS from other colleges or programs must meet the same requirements as those entering the department as freshmen. The core courses for the PSLS concentrations are:
**Business Management Concentration:**
two courses in English composition (English 101 and 102 or equivalent); college algebra and calculus (Math 119 and 125 or equivalent); general chemistry (Chemistry 100-110 or 120-130 or equivalent); general botany (Botany 110 and 120 or equivalent); general accounting (Accounting 201 and 202 or equivalent); soil science (ESS 210 or equivalent).

**Horticulture and Agronomy Concentration:**
two courses in English composition (English 101 and 102 or equivalent); college algebra and either precalculus or calculus (Math 119 and 125 or 130) or completion of Math 151 and 152 or equivalent; general chemistry (Chemistry 100-110 or 120-130 or equivalent); general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); crop science (IPS 230 or equivalent).

**Landscape Design:**
two courses in English composition (English 101 and 102 or equivalent); college algebra and finite math or calculus (Math 119 and 123 or 125 or equivalent); general chemistry (Chemistry 100 or 120 or equivalent) and one natural science elective; general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); basic landscape plants (OHLD 220 or equivalent).

**Public Horticulture Concentration:**
two courses in English composition (English 101 and 102 or equivalent); college algebra and finite math or calculus (Math 119 and 123 or 125 or equivalent); general chemistry (Chemistry 100-110 or 120-130 or equivalent); general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); basic ecology (Biology 250 or equivalent); basic landscape plants (OHLD 220 or equivalent).

**Turfgrass Management Concentration:**
two courses in English composition (English 101 and 102 or equivalent); college algebra and finite math or calculus (Math 119 and 123 or 125 or equivalent); general chemistry (Chemistry 100-110 or 120-130 or equivalent); general botany (Botany 110 and 120 or equivalent); soil science (ESS 210 or equivalent); basic landscape plants (OHLD 220 or equivalent); microcomputer applications (ANR 290 or equivalent).

**BUSINESS MANAGEMENT CONCENTRATION**
The Business Management Concentration is fundamental to those interested in starting their own companies. Students receive a minor in either Business Administration or Agricultural Economics and Business allowing easier access to management positions as well as graduate programs such as the Master of Business Administration (MBA) should they want to continue their education in the future.

**Freshman**
- Botany 110-120 .......................................................... 8
- Chemistry 100-110 .................................................. 4
- English 101-102 ....................................................... 6
- Math 119 and (123 or 125) ....................................... 4
- Math 119 and (123 or 125) or Math 151-152 for agronomic track or Math 119 and (123 or 125) for horticulture track ............................................. 6
- Select IPS 230 for agronomy track or OHLD 110 for horticulture track ............................................. 3

**Sophomore**
- Select Microbiology 210 and Biochemistry 240 for agronomy track or select 1 from OHLD 220, 230, 231, 280 or 281 .............................................. 4
- Agriculture and Natural Resources 290 .................. 3
- Speech 210 or 240 ...................................................... 3
- Select 1 from OHLD 350, 360, or IPS 340 for agriculture track or select 1 from OHLD 350, 360, 390, 391, IPS 334 or 340 for horticulture track ............................................. 3
- Environmental and Soil Sciences 210 ......................... 4
- Environmental and Soil Sciences 334 ......................... 3
- Total: 124 hours

**Senior**
- Select IPS 431, 434, 435, and 453 for agronomy track or select 2 from OHLD 410, 430, 451, IPS 431, 433, 434, 440, 445, IPS 440 or PSLS 493 for horticulture track ............................................. 12
- Humanities Elective .................................................. 3
- Total: 124 hours

**LANDSCAPE DESIGN CONCENTRATION**
Landscapers create aesthetic concepts and practical plans for improved outdoor living. Students study fundamental and advanced landscape design, landscape design graphics, computer aided landscape design, surveying, art, socio-economic impact of plants, field botany, professional practices, basic wooden plant identification, landscape construction and maintenance methods. The development of comprehensive design projects helps students prepare for careers in landscape design or advanced studies in landscape architecture. Graduates in design have access to a large segment of the ornamental horticulture commodity areas of employment.

**Freshman**
- Botany 110-120 .......................................................... 8
- Chemistry 100 or 120 .............................................. 4
- English 101-102 ....................................................... 6
- Math 119 and (123 or 125) ....................................... 4
- OHL 110 ................................................................. 3
- Social Science Elective ............................................. 3

**Sophomore**
- OHLD 220, 280 .......................................................... 6
- Agriculture and Natural Resources 290 .................. 3
- Natural Science Elective ............................................. 4
- Environmental and Soil Sciences 210 ......................... 4
- Speech 210 or 240 ...................................................... 3
- Humanities Elective .................................................. 3
- Unrestricted Electives ............................................... 6
- Total: 124 hours

**Junior**
- OHL 350, 380 .............................................................. 6
- Select 2 from OHLD 225, 230, 231, 330, 370, IPS 334, or 340 .............................................. 5-6
- Social Science Elective ............................................. 3
- Environmental and Soil Sciences 210 ......................... 4
- Speech 210 or 240 ...................................................... 3
- Select 1 from OHLD 410, 427, 430, 434, 446, 450, 494, IPS 440 or PSLS 493 .............................................. 6
- Total: 124 hours

**Social Science Elective**
- History Elective ....................................................... 3
- Social Science Elective ............................................. 3
- Unrestricted Electives ............................................... 6
- Total: 124 hours

**Technical Elective**
- History Elective ....................................................... 3
- Social Science Elective ............................................. 3

**Unrestricted Electives**
- History Elective ....................................................... 3
- Social Science Elective ............................................. 3

**Electives**
- Speech 210 or 240 ...................................................... 3
- Select Statistics 201 for Business Minor or Agricultural Economics 212 for Agricultural Economics Minor ............................................. 3
- History Elective ....................................................... 3
- Select from OHLD 326, 330, 350, 360, 370, 380, 390, 391, IPS 334, or 340 .............................. 8-9
- PSLS 492 ................................................................. 3
- Select Business Administration 201 and Management 300 for Business Minor or Agricultural Economics 342 and 350 for Agricultural Economics Minor .............................. 6-7
- Select 2 from Technical Electives ................................ 6
- History Elective ....................................................... 3
- Humanities Elective .................................................. 3
- Select from OHLD 410, 421, 429, 430, 434, 436, 446, 450, 451, 460, 480, 485, 494, IPS 431, 433, 434, 435, 440, PSLS 471, 493 .............................. 5-13
- PSLS 490 ................................................................. 1
- Select Finance and Marketing 300 for Business Minor or Agricultural Economics 412 and an Agricultural Economics elective for Agricultural Economics Minor ............................................. 6
- Writing Elective ......................................................... 3
- Social Science Elective ............................................. 3
- Unrestricted Electives ............................................... 3-11

Lists of appropriate electives are available and should be selected in conference with academic advisor.
PUBLIC HORTICULTURE CONCENTRATION

The public horticulture concentration is intended for students interested in professional careers which promote horticulture and emphasize people and their education and enjoyment of plants. Such careers include director of a botanical garden or park; city or urban horticulturist; extension agent, teacher, educational director, or program coordinator; professional garden writer/editor or publication manager; horticulture therapist; public garden curator; and plant collections manager.

Directed technical electives allow the student to concentrate in an area of their interest while encouraging the development of good people skills. Students are required internship training in the area of their interest.

**Hours Credit**

**Freshman**
- Botany 110-120 ........................................ 8
- Chemistry 100 or 120 .................................. 4
- English 101-120 .......................................... 6
- Math 119 and (123 or 125) ............................. 6
- OHLD 110 ................................................... 3
  1. Natural Science Elective ............................. 4

**Sophomore**
- Select 2 from OHLD 220, 225, 230, 231 or 280 .... 5-6
- Agriculture and Natural Resources 290 .......... 3
- Select 1 from Educational Psychology 210, Public Relations 270; Recreational and Tourism Management 201; Forestry and Fisheries 211, or 250 ...... 3
  1. Social Science Elective ................................. 3-4
- Environmental and Soil Sciences 210 ............. 4
- Speech 210 or 240 ....................................... 3
- Humanities Elective ....................................... 3
- History Elective ............................................ 3

**Junior**
- Select 4 from OHLD 330, 350, 360, 370, 380, 390, 391, IPS 334 or 340 ................. 11-12
- OHLD 326 .................................................. 3
- Select 1 from Philosophy 342, Agriculture and Extension Education 346, or Journalism 310 ...... 3
- Select 2 from Botany 309, 330; Entomology and Plant Pathology 313, 321, 410 ............... 6
- Select 2 from Technical Electives ..................... 6

**Senior**
- Select 4 from OHLD 410, 421, 427, 429, 430, 434, 438, 446, 450, 451, 456, 480, 485, 494, IPS 431, 433, 434, 435, 440, or IPS 493 .... 8-12
- PSLS 490 .................................................. 1
- PSLS 492 .................................................. 3
  1. Social Science Elective ................................. 3
- Writing Elective ........................................... 3
- History Elective ........................................... 3
- Select 2 from Technical Electives ..................... 3

**Total: 124 hours**

1. Lists of appropriate electives are available and should be selected in conference with academic advisor.

TURFGRASS MANAGEMENT CONCENTRATION

The Turfgrass Management Concentration is designed for the student desiring to pursue professions that include growing and managing turfgrasses used for golf courses, parks, athletic fields, sports complexes, and residential and commercial lawns. Careful selection of departmental courses and other electives in consultation with your academic advisor will prepare graduates for the career of their choice.

**Freshman**
- Botany 110-120 ........................................ 8
- Chemistry 100-110 or 120-130 ..................... 8
- English 101-120 ........................................ 6
- Math 119 and (123 or 125) ............................. 6
- OHLD 110 or IPS 230 .................................. 3
  1. Social Science Elective ............................. 3

**Sophomore**
- Select 1 from OHLD 220, 225, 230, 231, or 280 ... 2-3
- Agriculture and Natural Resources 290 .......... 3
- Writing Elective ........................................... 3
- Humanities Elective ....................................... 3
- Social Science Elective ................................... 4
- Environmental and Soil Sciences 210 ............. 4
- Speech 210 or 240 ....................................... 3
- History Elective ............................................ 3
- Unrestricted Electives ................................. 3

**Junior**
- IPS 340 .................................................... 3
- OHLD 370 .................................................. 3
- IPS 334 .................................................... 3
- Select 3 from OHLD 330, 350, 360, 390, or 391 .... 6-9
- PSLS 492 .................................................. 3
- Select 2 from Technical Electives ..................... 6
- History Elective ............................................ 3

**Senior**
- Select 4 from OHLD 410, 421, 430, 450, 451, 460, 494; IPS 431, 433, 434, 435, 453, PSLS 471, 493 ................. 5-12
- IPS 440 .................................................... 4
- PSLS 490 .................................................. 1
- Select 2 from Technical Electives ..................... 6
- Botany 321 ............................................... 4
  1. Humanities Elective ................................. 3
- Unrestricted Electives ................................. 3

**Total: 124 hours**

1. Lists of appropriate electives are available and should be selected in conference with academic advisor.

ADDITIONAL ELECTIVES LIST:

**BUSINESS MANAGEMENT**

**Concentration**

**Technical Electives:**
- Biosystems Engineering Tech. 202, 212, 452, 462
- Environmental and Soil Sciences 324, 334, 462
- Entomology and Plant Pathology 313, 321, 410
- Forestry, Wildlife, and Fisheries 250

**HORTICULTURE AND AGRONOMY**

**Concentration**

**Technical Electives:**
- Agricultural Economics Elective
- Biosystems Engineering Tech. 212, 452, 462
- Botany 310, 421, 431, 451
- Forestry, Wildlife, and Fisheries 250

**LANDSCAPE DESIGN CONCENTRATION**

**Technical Electives:**
- Architecture 111, 180, 211, 232, 421
- Art 101, 103, 191, 295
- Art Drawing 211, 212
- Biology 250
- Biosystems Engineering Technology 202, 212
- Botany 305, 306, 330, 431
- Entomology and Plant Pathology 306, 313, 321, 410
- Environmental and Soil Sciences 324, 334
- Forestry, Wildlife, and Fisheries 211, 250
- Geology 201, 202
- Geography 310, 439
- Urban and Regional Planning 401, 402

**PUBLIC HORTICULTURE CONCENTRATION**

**Technical Electives:**
- Accounting 415
- Botany 431
- Educational Psychology 210
- Forestry 423
- Interior Design 200
- Philosophy 342
- Environmental and Soil Sciences 413, 414, 415
- Public Health 410
- Public Relations 470
- Recreation and Tourism Management 410, 430
- Speech 440

**PUBLIC HORTICULTURE AND LANDSCAPE DESIGN CONCENTRATIONS**

**Natural Science Electives:**
- Chemistry 110, 130
- Geography 131
- Geology 101, 103
Marleen Kay Davis, Dean
Max A. Robinson, Director, School of Architecture
Jon Coddington, Head of Graduate Program in Architecture
Josette Rabun, Coordinator of Interior Design

The College of Architecture and Design is concerned with the design of the physical environment, from the scale of furniture to the scale of the region. The study of the physical environment includes many inter-disciplinary connections which the college tries to promote. Within the University of Tennessee, all students in the College of Architecture and Design are part of a smaller academic community that prides itself on a faculty dedicated to teaching.

The College of Architecture and Design includes three basic programs of study, at the undergraduate and graduate level:

**Bachelor of Architecture**: A professionally accredited five year undergraduate first professional degree program of study.

**Bachelor of Science in Interior Design**: A professionally accredited four year undergraduate program of study.

**Master of Architecture**: A professionally accredited first professional degree for students from any academic background. This three year course of study is described in the Graduate Catalog.

**FACILITIES**

The award winning Art and Architecture Building, completed in 1981, provides one of the finest facilities in the country for architecture students. The building is home to art, architecture, and interior design students who occupy extensive studio space surrounding an open Commons space, filled with natural light. A cafe, supply store, and three auditoriums open onto the Commons as well. Changing art and architecture exhibits are installed in the Ewing Gallery, the Exhibition Wall, the Commons, and the Sculpture Garden. Students in the College have an extensive woodshop and modelmaking shop, darkrooms, experimental construction platform, and presentation spaces. Students also use a digital classroom, a 24/7 computer lab, and an Image Center with extensive printing capabilities. Throughout the design studios, over 100 computer ports are provided for students' laptop computers. The building itself is a model of how architectural space can promote a sense of community among the artists, architects, and interior designers within the larger University community.

Interior Design students work together in design studios, located in the Art and Architecture Building. In their studies, students take advantage of the program's computing facilities, the Resource Library with extensive material samples and product information, and the well equipped wood shop for furniture construction and model building.

**FRESHMAN ADMISSION REQUIREMENTS**

Due to the limited size of the design studios and College resources, admission to the College of Architecture and Design is selective, based on test scores, high school record, student application, and portfolio. The College will typically accept applicants with a total of 60 or above using the formula of the high school grade point average times 10, plus the ACT composite score (or the ACT equivalent of the SAT). The College normally refuses applications with less than a high school GPA of 2.7 or with ACT scores below 23 (or SAT equivalent). In making its decisions, the College also requires a portfolio from applicants (see information below). Applicants will be informed of their status by April 15 of each year.

**REQUIRED PORTFOLIO**

All applicants must submit a portfolio of personally produced graphic or visual work. The purpose of the portfolio is to demonstrate visual talent and abilities.

Aim for quality rather than quantity in selecting work. An ideal number would be eight to ten examples of personal work. All work shall be neatly assembled in an 8 1/2" x 11" portfolio or organized folder/notebook. Submittals not adhering to this size requirement will not be reviewed. As a general recommendation, use high quality (100% rag) paper and high quality drawing pencils (HB or F) or other media. The portfolio must include at least three items:

- a freehand drawing of a stair,
- a freehand drawing of a collection of leaves, and
- a freehand drawing of a bicycle.

The following guidelines have been established to assist applicants in selecting additional samples of personal work for the portfolio:

- Include other examples of drawings, artwork, photography, or anything else which may demonstrate visual abilities. Graphic, architectural or industrial design work may also be included.
- Include work for course assignments (if any) as well as work completed independently.
- Avoid extensive submissions of mechanically drafted drawings or computer drawings, unless these are illustrative of a design project. These must be submitted in an 8 1/2" x 11" format.
- Submission of the original item is not necessary: inexpensively reproduced drawings, photographs, reductions, and photocopies are acceptable. Digital design work must be submitted as a hard copy. (Please, no slides or disks.)
- Label all work with name, date when work was executed, and any other relevant information. If the item was a course assignment, identify the course and summarize the assignment.
- The cover or cover page of the portfolio should include the student name, address, phone number, and the program to which the application is made (Architecture or Interior Design). The 8 1/2" x 11" portfolio should be sent, with the application, to the Office of Admissions. It will be reviewed by members of the College Admissions Committee. In addition, include a self-addressed stamped mailer for the return of the portfolio. Otherwise, portfolios will not be held nor returned.
DEADLINES FOR APPLICATION

Deadlines for application to the College of Architecture and Design coincide with those set forth by the University of Tennessee. For full consideration, all students, including transfer students, must apply by January 15 for the fall semester. Late applications will be reviewed on a space-available basis.

ADVICE TO HIGH SCHOOL STUDENTS

High school students are encouraged to take physics and calculus. Students enrolled in Advanced Placement courses should take the national AP exam. Students are also strongly encouraged to take freehand drawing and/or art courses as a way to develop visual abilities. Extensive drafting, mechanical drawing or architecture courses based on drafting are not recommended.

TRANSFER STUDENTS

It should be noted that due to the strong sequential character of the curriculum, entrance in any semester other than fall may be difficult. A course of summer study is usually offered which would allow transfer students to proceed to the second year course of study for the fall. Transfer students are required to submit a portfolio and to have at least a 2.3 grade point average to be considered. Sophomores and juniors who are interested in applying to the architecture program may want to consider finalizing their bachelors courses of study and applying to the first professional Master of Architecture program in the College. Transfer students should apply by January 15, and should discuss their options with the Director of Student Services.

FINANCIAL CONSIDERATIONS

As the only accredited architecture program in the State of Tennessee, the Architecture program is fortunate to have many generous scholarships funded by alumni and by different components of the construction industry. As a result, numerous awards, prizes, scholarships, traveling stipends, fellowships and internships are available to academically motivated students. Alumni actively support participation in activities, by extensive donations to scholarship and enrichment funds, and by developing intern programs for student employment. A full listing of available scholarships is included in this catalog. The Interior Design Program has a number of generous scholarships funded by alumni and by different components of the construction industry. The University and the College provide many work study opportunities for students to earn supplemental income on campus. Self-disciplined students who are taking a full academic load should plan a work schedule not to exceed twelve hours per week.

In addition to course textbooks, students are expected to purchase supplies and equipment for various design projects. In the second year of both the Architecture and Interior Design programs, students are very strongly recommended to purchase a lap top computer for coursework. Families should factor this into their educational budget.

FOR NON-PROFESSIONAL MAJORS

In order to promote interdisciplinary involvement, students from other disciplines are welcome to take many classes in the College. Arch 111, “Architecture and the Built Environment,” is recommended as a good general introduction. Non-architecture students are also welcome in the architectural history sequence of Arch 211, 212, and 213. Most of the 400 level electives do not have prerequisite levels and are open to upper level students with an interest in the course topic. Arch 425 “Special Topics” varies by semester, but is often of interest to a broad cross section of the University student population. Non-architecture majors should meet with the Director of Student Services in order to register for these upper-level courses. Due to space limitations, design studio courses are open only to architecture students.

ACADEMIC POLICIES

ADVISING

Students must plan their schedule in consultation with an assigned faculty advisor. In addition, entering Architecture students will be assigned to an upper-class student who will serve as a peer advisor. The Director of Student Services is available to answer additional questions and to oversee questions related to admissions, advising, and career placement.

All academic policies of the College of Architecture and Design are summarized in the Student Handbook, published each year by the College.

COURSE LOAD

The average course load in any semester is 17 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/NOCREDIT COURSES

Courses that are a part of the specific requirements of the College 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.

SCHOOL OF ARCHITECTURE

Professors:

Associate Professors:

Assistant Professors:
M. DeKay, M.Arch. University of Oregon; G. Dodds, Ph.D. University of Pennsylvania; B. Klinkhammer, M. Arch, RWTH; E. Stach, M. Arch. RWTH (Aaden); A. Thursoy, M.S. Arch. Columbia; S.M. Ware, M.F.A. Tennessee.

THE STUDY OF ARCHITECTURE

Architecture involves the study and transformation of the built environment, from the scale of furniture to the scale of the city. The goal of an architectural education is to develop a synthetic thought process of critical thinking and creative problem solving. Creative thinkers must address all aspects of the built environment, in its cultural, social, and ethical context.

As a professional discipline, architecture spans both the arts and the sciences. Students must have an understanding of the arts and humanities, as well as a technical understanding of structures and construction. Skills in communication, both visual and verbal, are essential. While knowledge and skills must be developed, the School strongly emphasizes a process of critical thinking and creative activity.

PROFESSIONAL ACCREDITATION

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes two types of degrees: the Bachelor of Architecture and the Master of Architecture. A program may be granted a five-year, three-year, or two-year term of accreditation, depending on its degree of conformance with established educational standards. Masters degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree. The University of Tennessee offers both the five year Bachelor of Architecture and a three year Master of Architecture for students with an unrelated bachelor's degree.

The four year pre-professional degree, where offered, or other "architectural technology" degrees are not accredited by NAAB. The pre-professional degree is useful for those wishing a foundation in the field of architecture, as preparation for either continued education in a professional degree program or for employment options in architecturally related areas.
CURRICULUM

The curriculum for the Bachelor of Architecture degree includes a combination of required and elective courses which offers the student both a solid professional program of study and a sound general education. While the majority of courses are designated as required, students may use the available architecture and general electives to broaden their education and to expand their knowledge in areas of personal interest.

All students studying for a Bachelor of Architecture degree will include the following requirements in their course of study. For any additional specialized requirements, the student should refer to the Student Handbook of the School of Architecture and the student's faculty advisor.

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>First Year</td>
</tr>
<tr>
<td>Architecture 101, 102</td>
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<tr>
<td>Architecture 121, 122</td>
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<tr>
<td>Architecture 171, 172</td>
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<tr>
<td>English 101, 102</td>
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<tr>
<td>Mathematics 125 or Elective</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Second Year</td>
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<tr>
<td>Architecture 212, 213</td>
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<td>Architecture 231</td>
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<td>Architecture 232</td>
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<tr>
<td>Architecture 271, 272</td>
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<tr>
<td>Physics 101, 125, 137, or 161</td>
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<tr>
<td>Electives</td>
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<tr>
<td>Third Year</td>
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<tr>
<td>Architecture 312</td>
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<tr>
<td>Architecture 331, 332</td>
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<td>Architecture 341, 342</td>
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<td>Fifth Year</td>
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<td>Architecture 462</td>
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<td>Architecture 480</td>
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<td>1Design Course Option</td>
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<tr>
<td>2Electives</td>
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</tbody>
</table>

Total: 171 hours

1Students are exempt from Mathematics 125 with a score of 25 or higher on the calculus readiness test.
2Students are exempt from Mathematics 125 with a score of 25 or higher on the calculus readiness test.

PROGRESSION

Students must maintain an overall 2.3 grade point average of 2.3 for one semester. This student will have one semester to raise the overall GPA to a 2.3. If the GPA is not brought up to 2.3, the student will be dropped from the architecture program.

Exceptions to academic policies may be made through petition, reviewed by the school Academic Standards Committee.

Students may advance to second year design (271) with satisfactory completion of the first year program (including math) with a grade point average of 2.3. Students may advance to third year design (371) with the completion of all first and second year courses. For 371 and all subsequent design courses, students must maintain a design grade point average of 2.3. Students must repeat the previous level design course(s) until the average is raised to 2.3. Students may submit a portfolio of design work and petition for an exception.

300 and 400 level electives are open to all students who have the necessary prerequisites.

SPECIAL PROGRAMS

The School of Architecture is committed to providing a variety of meaningful learning opportunities beyond the classroom itself. Lectures, panel discussions, films, symposia, and exhibits are all important components of a lively academic environment. Within the regular course of study, students have an opportunity to explore diverse aspects of architecture related to urbanism, historic preservation, and community service. Since its founding, the School has always sponsored a foreign studies opportunity.

EXHIBITS

The Ewing Gallery, in the Art and Architecture Building, hosts numerous exhibits related to art and architecture. Adjacent to the Commons Space is an Exhibition Hall for more informal exhibits of students, faculty, and visiting artists and architects. In the Commons itself are more spontaneous exhibits of current student work.

FIELD TRIPS

Throughout the year, various field trips are organized by the School. The purpose of the field trips is to expose students to major cities with important architecture and to works of architecture that may not normally be open to the general public.

LECTURES, FILMS, AND VIDEOS

The Robert B. Church Memorial Lecture Series is an annual endowed gift in memory of a former dean of the School. Over the years, the Church lecture series has allowed the School to bring prominent architects to Tennessee. The regular lecture series features architects, artists, theorists, planners, and historians who discuss their work and ideas. Films and videos also introduce students to a wide range of issues related to architecture, art, urbanism, and culture. Every spring, General Shale Corporation hosts a lecture as part of The Annual Architecture Spring Thing (TAAST), a traditional series of events organized by the students.

PUBLICATIONS

Students in the School periodically publish The University of Tennessee Journal of Architecture. The Journal has a different theme each year, but typically includes articles related to current thinking in the field, as well as student work.

SPECIAL TOPIC DESIGN STUDIOS

Since 1981, architecture students at the Urban Design Center in Chattanooga have had the opportunity to contribute to the evolving urban identity of Chattanooga by working with city leaders on various strategic sites for future development in the city. The visionary work of the Urban Design Center is recognized nationally as a wonderful example of how teaching, creative work and community service can be combined as a meaningful learning experience for advanced students.

Interdisciplinary design studios are available to upper class students. A very popular studio of Historic Preservation unites Interior Design students with Architecture students who collaborate together on projects of historical significance for different communities.

In 1997, The University of Tennessee College of Architecture and Design and the University of Arkansas College of Architecture have formed the Memphis Center for Architecture. This is a spring semester course of study for advanced design students in Architecture, Landscape Architecture, and Interior Design. One important goal of this Memphis Center for Architecture is to provide a bridge to the very strong professional community in Memphis, with opportunities for lectures, exhibits, reviews, continuing education, and summer internship arrangements.

During the summer, students may elect to participate in different programs sponsored by the University of Tennessee College of Architecture and Design. Furthermore, students may also participate in summer programs sponsored by other accredited architecture schools.

Students will receive appropriate college credit, which may lead to a career associated within the program.

OPPORTUNITIES FOR FOREIGN STUDY

Students in their fourth year of study may elect to spend one semester studying abroad in a program, organized either by the University of Tennessee or by other accredited architecture programs. Since 1988, the School has had a very successful exchange agreement with the University of Krakow in Poland.

In cooperation with the Danish International Student Committee, a program is regularly offered in Copenhagen which attracts architecture students from around the world. The University of Tennessee is involved in a recently established International Studies at the Bauhaus University in Weimar. The University also has an exchange agreement with the Royal Melbourne Institute of Architecture in Melbourne, Australia, with Chongqing Institute of Architecture and Engineering in Sichuan Province, China, and with the University of Frankfurt in Germany.

During the summer, many different summer programs abroad sponsored by other architecture schools are available to University of Tennessee students for transfer credit. Students are encouraged to seek new educational experiences.
THE PROFESSION'S PARTICIPATION IN THE SCHOOL

As the only accredited architecture program in the state, the School of Architecture tries to maintain a close relationship with the architectural community of the city, state, and region. Professionals regularly come to the school to attend and respond to student presentations, to conduct workshops, to participate in School events, and to interview graduating students. Every spring, the architecture community of Knoxville attends an exhibit of graduating students’ work, where students have the opportunity to discuss their work with practicing architects.

Architecture is a broad field of study, with many diverse ways for individuals to become involved in the profession. The profession itself is diversifying and changing rapidly, due to changing financial structures, increasing specialization, expanding liability, and evolving electronic technology. Students are strongly urged to visit and work in different architectural offices, in order to acquire a better sense of the profession and career commitment.

INTERIOR DESIGN

Professors:
A. DeLong, Ph.D. Pennsylvania State;
J. Rabun, Ph.D. Tennessee.

In 1996, the Interior Design Program moved from the College of Human Ecology to the College of Architecture and Design. The University of Tennessee has a unique opportunity to offer a complementary course of study for both architecture and interior design students. After a unified first year of study, both architecture and interior design students pursue separate professional programs. However, students in both interior design and architecture can pursue electives of mutual interest, as well as participate in an upper level joint studio. In some cases, graduates from the Interior Design program may receive advanced standing in the Master of Architecture program.

THE STUDY OF INTERIOR DESIGN

Students interested in Interior Design are encouraged to learn about the fundamental differences between licensed Interior Designers and interior decorators. Interior Designers are qualified to deal with complex design challenges involving extensive interior construction and technical considerations related to design issues. Interior Designers are able to meet code issues involving fire, electricity, structure, occupancy and materials. Interior Designers are educated to understand how the design of furnishings and interior space can affect a general sense of well being. On the other hand, interior decorators are primarily concerned with finishes and furniture within pre-existing interior spaces. Interior decorators typically work as consultants in the retail environment. Interior Designers may have their own design practice, may work as a part of a design team within an architecture practice, or may work as a design consultant for product manufacturers.

PROFESSIONAL ACCREDITATION

Most states require that an individual intending to become a licensed Interior Designer hold a professionally accredited degree. The University of Tennessee offers a four year Bachelor of Science in Interior Design. This is a professionally (FIDER) accredited interior design degree.

CURRICULUM

The Interior Design curriculum is a rigorous course of study which combines technical courses, design studio courses, humanities, and a wide choice of electives. Through course work and field study experiences, students develop specialized problem solving skills and knowledge for the analysis, planning and design of interior architectural environments. They apply the use of lighting, color, mechanical systems, and furnishings as they design spaces for both residential and commercial settings. Beyond the professional core, students are encouraged to pursue interests related to horticulture, theater design, historic preservation, business, or other personal interests.

PROGRESSION

Upon admission to the University of Tennessee and the College, students may begin the ID major. Progression into third year occurs after completion of ID 272.

For progression into third year, students must meet the following criteria:
1. Cumulative grade point average of 2.3 or greater.
2. Cumulative grade point average in the major of 3.0 or greater in the following ID courses: 141, 171, 200, 221, 271, 231, 261, with no grade below a C.
3. Portfolio Review accepted by faculty.
4. Successful interview following completion of ID 272.

For retention, student must meet the following criteria:
1. Before enrolling in any ID course, a grade of C or better must be made in each prerequisite required ID course.
2. Cumulative grade point average of 2.3 or greater.
3. Grade of I must be removed before registration for next ID course.

For graduation from the Interior Design program, students must meet the following criteria:
1. Grade of C or better in all ID courses.

SPECIAL PROGRAMS

REQUIRED SUMMER INTERNSHIP

All interior design students are required to have a professionally based summer internship. The faculty will help students find appropriate placement, as well as monitor the student’s progress in the internship.

PROFESSIONAL COMMUNITY'S INVOLVEMENT

As the oldest accredited interior design program in the state, the Interior Design program tries to maintain a close relationship with the interior design community of the city, state, and region. Professionals regularly come to the school to attend and respond to student presentations, to conduct workshops, to participate in school events, and to interview graduating students.

FIELD TRIPS

All Interior Design students regularly participate in a variety of field trips to important works of design as well as to Interior Design conventions and product shows.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>First Year</td>
<td></td>
</tr>
<tr>
<td>Architecture 101, 121, 122</td>
<td>7</td>
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<tr>
<td>Architecture 171, 172</td>
<td>7</td>
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<tr>
<td>Interior Design 141, 171</td>
<td>5</td>
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<tr>
<td>Mathematics 119</td>
<td>3</td>
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<tr>
<td>English 101, 102</td>
<td>6</td>
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<tr>
<td>Social Science Elective</td>
<td>3</td>
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<tr>
<td>Second Year</td>
<td></td>
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<tr>
<td>Interior Design 271, 272, 231, 261, 200</td>
<td>20</td>
</tr>
<tr>
<td>Interior Design 221</td>
<td>2</td>
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<tr>
<td>Art 172, 173</td>
<td>6</td>
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<tr>
<td>Physics 161</td>
<td>6</td>
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<tr>
<td>Natural Science</td>
<td>6-7</td>
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<tr>
<td>Third Year</td>
<td></td>
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<tr>
<td>Interior Design 371, 372, 311, 312, 431, 360</td>
<td>24</td>
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<tr>
<td>Architecture 342</td>
<td>4</td>
</tr>
<tr>
<td>TS 220</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
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<tr>
<td>Summer (ID 420)</td>
<td>3</td>
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<tr>
<td>Fourth Year</td>
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<tr>
<td>Interior Design 400, 471, 472, 480</td>
<td>16</td>
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<tr>
<td>Elective (Art)</td>
<td>3</td>
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<tr>
<td>History Elective</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>5</td>
</tr>
<tr>
<td>Electives (Business, Ornamental Horticulture, Theatre, and Urban Studies)</td>
<td>3</td>
</tr>
<tr>
<td>Elective (Professional Elective)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total: 135-136 hours

1 Select 3 hours from Psychology, Sociology, Anthropology, or Economics 201 (if you plan to take Business as an elective). Suggested courses: Anthropology 110, 130; Sociology 110, 120; Psychology 110, 210, 370; Economics 201.
2 Select Physics 161 (required) and one other science, such as Astronomy 151, Botany 110, Biology 101, Chemistry 120, Geology 101.
3 Select any Art, Art Ceramics, Art Design/Graphics, Art Drawing, Art Media/Photography, Art Painting, Art Printmaking, or Art Sculpture.
4 Select any History course.
5 Select from Business, Ornamental Horticulture and Landscape Design, or Theatre. Suggested courses: ornamental Horticulture and Landscape Design 230; Theatre 355, 455, 456; International Business 311; Urban Studies 250, 323 (same as Geography 323); 401 (same as Planning 401), 402 (same as Planning 402).
6 Select from Interior Design or approved Architecture courses.
The College of Arts and Sciences is home to a wide array of academic disciplines and inter-disciplinary programs. Such diverse areas of study as Computer Science and Classics, Anthropology, 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. 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.

Arts and Sciences 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 knowledge becomes essential.

The central purposes of a liberal education include the encouragement of intellectual tolerance, a dedication to the quest for knowledge as a worthwhile goal in and of itself, and the cultivation of a responsible, creative, individual mind. These qualities enable one to develop an ability to reason and to express oneself clearly, an incentive to absorb emerging knowledge, and a competence to confront the uncertainties of human experience. For the student whose interests and talents lead into research, scholarship, and teaching, a liberal education provides an invaluable foundation. For the individual who enters business, industry, the professions, or government service, it furnishes a broadly useful and well-rounded educational background. For all, it offers the opportunity to share in a rich intellectual heritage, in the adventures of the mind, and in the life of the educated imagination. A liberally educated person is identified not so much by specific knowledge as by quality of mind and by creative response to the challenges of the times.

The great universities of the world are so labeled because their faculties have earned the reputation of being renowned scholars. The University of Tennessee has earned such a reputation because of the quality of the research and creative activity of its faculty. The student who studies in the College of Arts and Sciences has joined a community of scholars. To study with such a talented faculty is to experience the best education possible.

The faculty of the College of Arts and Sciences provide to all students a general education and to thousands of students a year a more specialized education in any one of twenty-six disciplines and a dozen or more inter-disciplinary programs. The College's faculty help their students prepare for any and all careers. Faculty research and creative activity 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 Arts and Sciences 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.

### COURSE LOAD

The average course load in the college for any semester is 15-16 credit hours. The University defines full-time undergraduate students as those who register for a minimum of 12 hours. The maximum number of hours which may be taken by Arts and Sciences students is 19, exclusive of elective work in ensemble music and physical education. Exceptions to this rule will require approval by the Director of Student Academic Affairs (220 Ayres).

### LOWER DIVISION—UPPER DIVISION

Courses numbered at the 100 and 200 levels are considered lower division and are normally taken by students in the freshman and sophomore years. Courses numbered 300 and above are upper division and are designed for students at the junior and senior levels.

### SATISFACTORY/NO CREDIT

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

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

2. The maximum number of S/NC elective hours which may be counted toward graduation is 20, exclusive of courses offered only S/NC, physical education courses, and/or satisfactory hours earned by examination, military service, etc.
3. A student who desires to take a course S/NC should indicate that intention at the time of registration. A change from S/NC grading to regular grading or from regular grading to S/NC will not be permitted beyond the add deadline in each semester. (Exception: Students who register for a course S/NC in a restricted area will be required to change to regular grading when the error is discovered.)

4. A transfer student who has more than 20 S/NC or equivalent hours earned prior to admission to the University of Tennessee may count all of these hours toward graduation but may not elect additional S/NC hours.

5. A transfer student with S/NC or equivalent credit earned prior to admission to the University of Tennessee in a course which satisfies a Basic Skills or distribution requirement may count it for that purpose. In the case of a course which satisfies a major or minor requirement, statement (1) applies. The option of taking courses on a S/NC basis is provided to encourage the able student to venture beyond the limits of those courses in which the student does well and, motivated by intellectual curiosity, to explore a subject matter in which performance may be somewhat less outstanding that work in preferred subject fields.

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

OFF-CAMPUS STUDY
Recognizing that learning is not restricted to formal classroom situations, the college provides for students to earn credit toward graduation for approved off-campus study. Such study may be undertaken only with prior approval of the faculty member and the department concerned. It may include certain kinds of work experiences, community involvements, working in political campaigns, etc. Credit per semester will vary from 1-15 hours. Up to credit earned in this way may be applied toward a degree in the college, although individual departments may limit the number of hours which may be applied toward a specific major.

INDEPENDENT STUDY
Certain educational goals may best be met through independent study done by an individual under the direction of a faculty member. Students who wish to do such independent work should obtain the approval of the faculty members and the departments concerned prior to embarking upon their study. Credit per 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 students with approval may enroll for credit. Assistance in identification of and registration in such programs may be obtained through the Programs Abroad Office located in the University’s Center for International Education. A third opportunity is through individualized programs under the foreign study number 491. The nature of this work as well as credit for it should be negotiated by students prior to departure with the appropriate Arts and Sciences departments. Credit will be awarded only after completion of all agreed upon requirements, and may vary from 1-15 hours in any one department. Up to 21 hours of such credit, exclusive of that earned in group programs offered by departments, 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.

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 interdepartmental 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 creative and motivated, and who have the ability to undertake this honors program, the College Scholars Program permits the student maximum freedom to design a curriculum to meet particular interests and goals.

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 sciences.

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, physical therapy, veterinary medicine, or medical technology). Students taking one of the health sciences curricula prior to medical school must apply for specialized training in the chosen area after the third year of Arts and Sciences study and complete the first year of professional study in lieu of satisfying the requirements for the B.S. degree with a major concentration in the college.

Bachelor of Science in Chemistry
(See Department of Chemistry.)

3. BACHELOR OF FINE ARTS
(See School of Art.)

4. BACHELOR OF MUSIC
(See School of Music.)

REQUIREMENTS FOR DEGREES
To earn a Bachelor of Arts or Bachelor of Science degree these requirements must be completed:

1. All University degree requirements as described in the section on “Academic Policies and Regulations: General Requirements for a Bachelor’s Degree.”

2. A minimum of 124 credit hours;

3. At least 42 credit hours in courses numbered 300 or above;

4. Appropriate work to satisfy basic skill and distribution requirements, counting no course in more than one area. (This is not a requirement in the College Scholars Program);

5. Completion of at least one major (24-40 credits at 200 level or above for B.S. major and 24-37 credits at 200 level or above for B.A. majors); up to 6 hours in the major may be used, where listed, to satisfy basic skills or divisional distribution requirements. Courses used for the major may not be used to satisfy upper level distribution requirements.

Students may choose to develop one or more minors (minimum 15 hours at the 200 level and above); and Students may take up to 20 hours of courses graded Satisfactory/No Credit in an area outside the major or minor, basic skills or distribution requirements.

PROGRAMS LEADING TO BACHELOR OF ARTS AND BACHELOR OF SCIENCE DEGREES
The Bachelor of Arts and the Bachelor of Science Degrees share the same program of Basic Skills and Distribution Requirements (except where noted otherwise).

BASIC SKILLS REQUIREMENTS
All students who earn a degree in the College of Arts and Sciences must have demonstrated skill in the use of the English language, the ability to acquire another language, and the ability to use the tools of quantitative analysis or formal logic. The specific requirements are as follows:

1. English Composition
   Skills necessary to write persuasive, logical and coherent essays in English; to read critically texts from a variety of media; to evaluate and cite sources in research; and to be aware of how to write for different audiences and purposes.

   Students may meet this requirement in one of two ways:
   a. By completing six credits in English writing courses, either: (a) English 101 and 102 (English Composition); (b) English 118 (Honors: English Composition) and English 102 (English Composition);
   c. English 131 and 132 (Composition for Non-Native Speakers of English). (Students who obtain a grade of A or
B in 118 may complete their freshman requirement with 102, or with a sophomore literature course in the English Department, or English 355 Rhetoric and Writing. The sophomore literature course may (if so listed) also be used toward the Humanities distribution requirement.

b. By earning a score of 4 or 5 on the College Board Advanced Placement Test in Literature and Composition. (Credit in English 101 is earned with a score of 4 or 5 on the Advanced Placement Test in Language and Composition.)

Placement information: Eligibility for English 118 (Honors: English Composition) will be determined by 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 English courses numbered 200 or higher.

2. Foreign Language
Skills necessary to learn the basic structures and vocabulary of a foreign language; to read, write, understand, and, for modern languages, speak a foreign language; to understand how to learn another language; to better understand one’s own native language; and to complement the study of other cultures or civilizations.

Students may meet this requirement in one of three ways:

a. Completion of the intermediate level sequence of a foreign language. Any one of the following sequences will satisfy the requirement:

- Asian Languages 231-232 Intermediate Chinese I, II
- Asian Languages 251-252 Intermediate Japanese I, II
- Asian Studies 221-222 Intermediate Modern Standard Arabic I, II
- Asian Studies 241-242 Intermediate Modern Hebrew I, II
- Asian Studies 261-262 Intermediate Persian I, II
- French 211-212 Intermediate French or 217-218 Honors: Intermediate French
- German 201-202 Intermediate German
- Greek (Classics) 281 Intermediate Greek: Grammar Review and Readings and 264 Intermediate Readings in Greek
- Italian 211-212 Intermediate Italian
- Latin (Classics) 251 Intermediate Latin: Grammar Review and Readings and 252 Intermediate Latin: Virgil’s Aeneid
- Portuguese 211-212 Intermediate Portuguese
- Russian 201-202 Intermediate Russian
- Spanish 211-212 Intermediate Spanish;

b. Demonstration of competence on a departmental placement or proficiency examination or by AP or CLEP credit.

c. Students whose native language is not English may satisfy the requirement with English 131 and 132 and any two courses from List A: Literature under the Humanities Distribution Requirement.

Placement information: All students who wish to enroll in a French, German, Latin or Spanish course, who have completed at least two years of this language in high school and who have not yet taken a college course in the language must take a UTK placement examination before enrolling. Placement in the appropriate course will be determined by the score on the examination. Examinations will be given during summer orientation and at designated times during the fall, spring and summer. Students who place into 200 level courses will receive six hours of elementary language credit, provided that they do not subsequently enroll and receive credit for any 100 level course in the same language. If they do, elementary placement credit is forfeited and removed from the student’s transcript. Students who place into 300 level courses will receive six hours of intermediate language credit. Under no circumstances may any student earn more than six hours of language placement examination credit. Students who feel they have been inappropriately placed should consult the appropriate language section.

Skills in Mathematics, formal reasoning and computing required for estimation and calculation, understanding logical processes, critical analysis, problem solving and decision making.

Students may meet this requirement by completion of one of the following courses or by selecting two math courses under Natural Science List B:

- Any course in Mathematics numbered 110 or higher
- Computer Science 100: Introduction to Computers and Computing
- Philosophy 130: Critical Thinking or Philosophy 135: Formal Logic.

DISTRIBUTION REQUIREMENTS
All of these requirements are designed to enhance the skills of thinking critically and analytically, and of effective communication and writing through study and use of different kinds of human knowledge. The distribution requirements are in two parts. Part A: Divisional Distribution Requirements, which require students to take courses in the various divisions of the College, and Part B: the Upper-Level Distribution Requirements.

PART A: DIVISIONAL DISTRIBUTION REQUIREMENTS

1. NATURAL SCIENCE
A two-course laboratory sequence and an additional two-course sequence that will introduce students to the increasingly important role of science and technology in all aspects of modern life. This requirement will introduce students to the basic discoveries, knowledge and logical organization of scientific disciplines and to development and testing of hypotheses. Laboratory courses will develop skills in experimental tests of hypotheses; lectures will introduce students to the role of scientific methodology and problem-solving in society.

Students may meet this requirement by completion of a two-course sequence from list (A) and an additional two-course sequence or package from List A or List B.

List A:
- Astronomy 161-162: Introductory Astronomy with Laboratory
- Astronomy 217-218: Honors: Introductory Astronomy
- Biology 101-102: Humankind in a Biotic World
- Biology 130: Biodiversity and 140: Organization and Function of the Cell
- Botany 110-120 General Botany
- Chemistry 100: Principles of Chemistry and 110: Introduction to Organic and Biochemistry
- Chemistry 120-130: General Chemistry
- Geography 131-132: Geography of the Natural Environment
- Geology 101: The Dynamic Earth and either 102: Earth, Life and Time or 103: The Earth’s Environments
- Students who earn an A in 101 or a B or better in 107 may take 108; all other students should complete the sequence with 102 or 103.
- Physics 135-136: Introduction to Physics for Physical Science and Mathematics Majors
- Physics 137-138: Honors: Fundamentals of Physics for Physics Majors
- Physics 221-222: Elements of Physics

List B:
- Anthropology 110: Human Origins and 210: Principles of Biological Anthropology
- Astronomy 151-152: Introductory Astronomy
- Botany 306: Genetics and Society
- Computer Science 100: Introduction to Computer Science and either 140: Data Structures or 160: Computer Organization
- Geology 201: Biodiversity: Past, Present, and Future and 202: Earth as an Ecosystem: Modern Problems and Solutions; or 201 and 203: Geology of National Parks; or 202 and 203
- Mathematics: Any two Mathematics courses numbered 110 or higher
- Microbiology 210: General Microbiology and Biochemistry, Cellular and Molecular Biology 230: Human Physiology
- Physics 101-102: How Things Work
- Statistics 201: Introduction to Statistics and any Mathematics course numbered 110 or higher except Mathematics 115 (If Mathematics 115 is used to satisfy Basic Skills or Natural Science requirements, Statistics 201 may not be selected to meet this requirement.)

2. SOCIAL SCIENCE
Courses that will introduce students to the idea of individuals in societies, to perspectives and methods used by social scientists, and to the uses of these perspectives and methods in thinking about current social, economic and political issues and problems.

Bachelor of Arts students may meet this requirement by completion of four courses selected from the list below. These courses must be from two departments. Bachelor of Science students must complete two courses from at least two departments.

- Anthropology 120: Prehistoric Archaeology
- Anthropology 130: Cultural Anthropology and 362: Principles of Archeology
- Audiology and Speech Pathology 320: Speech and Language Development
- Botany 305: Socio-Economic Impact of Plants
- Economics 201: Introductory Economics
- A Survey Course; 207: Honors Introductory Economics
- Philosophy 130: Biodiversity and 140: Organization and Function of the Cell
- Botany 110-120 General Botany
- Chemistry 100: Principles of Chemistry and 110: Introduction to Organic and Biochemistry
American Studies 310); 290: Introduction to American Music (Same as African and African-American Studies 310); 290: Introduction to World Music
Speech Communication 100: Introduction to Speech Communication; 220: Interpersonal Communication; 260: Communication and Society; 330: Group Communication
Women's Studies 220: Women in Society; Women's Studies 375 Gender in Society
3. HUMANITIES
Courses that will provide skills to appreciate and interpret literary, philosophical, or religious texts, and to participate as an appreciative observer or artist in a discipline within the visual, spatial, musical, theatrical, or written arts.
Bachelor of Arts students may meet this requirement by completion of three courses, of which at least one must be selected from List A and one from List B. Bachelor of Science students must complete a minimum of 6 credits from the courses listed; not more than 3 credits may be taken from List C. All courses except those involving practice of the arts are writing-emphasis courses.
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.
List A: Literature
Asian Languages 311: Chinese Literature in English Translation; 312: Chinese Literature in English Translation; 313: Japanese Literature in English Translation; 314: Japanese Literature in English Translation
Classics 253: Greek Literature in English Translation
Comparative Literature 202: Crosscultural Perspectives in World Literature; 203: Crosscultural Perspectives in World Literature
Italian 401: Dante and Medieval Culture; 402: Petrarca and Boccaccio
Medieval Studies 261: Medieval Culture: Readings from the Early Middle Ages, 500-1000; 262: Medieval Culture: Readings from the Later Middle Ages, 1000-1500
Religious Studies 312: Religious Aspects of Biblical and Classical Literature; 313: Religious Aspects of Modern Literature
Russian 221: Rebels, Dreamers, and Fools: The Outcast in 19th Century Russian Literature; 222: Heaven or Hell: Utopias and Dystopias in 20th Century Russian Literature
Spanish 291: Spanish Literature in English Translation
List B: Philosophical and Religious Thought
Classics 201: Introduction to Classical Civilization; 221: Early Greek Mythology; 222: Classical Greek and Roman Mythology
Philosophy 110: The Human Condition: Values and Reality; 111: The Human Condition: Knowledge and Reality; 240: Ethics; 342: Business Ethics; 344: Professional Responsibility (Same as Religious Studies 344); 345: Bioethics (Same as Religious Studies 345); 346: Environmental Ethics; 380: The Concept of Woman (Same as Women's Studies 380); 382: Philosophy of Feminism (Same as Women's Studies 382)
Religious Studies 101: World Religions in History; 102: The Comparison of World Religions; 321: Native American Religions; 322: Christian Thought
List C: Study or Practice of the Arts
Architecture 111: Architecture and the Built Environment
Art 191: Introduction to Studio Art: Various Media
Classics 232: Archaeology and Art of Ancient Greece; 233: Archaeology and Art of Etruria and Rome
English 263: Introduction to Creative Writing
Music History 110: Introduction to Music in Western Culture; 115: Music in the United States; 120: History of Rock Music
Music Theory 100: Fundamentals of Music Philosophy 190: Aesthetics; 353: Philosophy and Literature
Speech Communication 280: Introduction to Oral Interpretation
Theatre 100: Introduction to Theatre; 220: Acting
Women's Studies 330: Women in Music (Same as Music History 330)
4. NON-U.S. HISTORY
A course sequence to enhance appreciation of the diversity of the world's societies, their cultures, and histories. This requirement will develop understanding of how the past shapes individuals and communities in practical decisions and in understanding of self and world; will contribute to skills in explaining change and continuity of human society and the interpretation of people, events and trends in context of the ideas, values, social and political conditions that affect them.
Students must meet this requirement by completion of one of the following courses. All courses are writing-emphasis courses.
Asian Studies 101-102: Asian Civilization
History 241-242: Development of Western Civilization; 247-248: Honors: Development of Western Civilization; 261-262: A History of World Civilization
Latin American Studies 251-252: Introduction to Latin American Studies.
Medieval Studies 201-202: Medieval Civilization
PART B: UPPER LEVEL DISTRIBUTION REQUIREMENTS
Courses that use skills and knowledge acquired in the Basic Skills and Divisional Distribution areas to understand and analyze a highly interdependent world system and to make informed comparisons among contemporary cultures. These courses develop understanding of U.S. society, of national and international diversity, and of critical issues of the modern world.
Bachelor of Arts students may meet this requirement by completion of two courses from one of the lists below and a third course from either of the other lists. Bachelor of Science students must complete two courses from two of the three lists. All courses are writing-emphasis courses.
List A: United States Studies
African-American Studies 310: Introduction to African Studies
Ecology and Evolutionary Biology 305: Evolution and Society (Same as Anthropology 305)
Economics 413: Macroeconomic Fluctuations; 435: Industrial Organization Analysis; 462: Economics of Resources and Environmental Policy; 471: Public Finance; Optimal Government Functions and Expenditure Analysis; 472: Public Finance: Taxation and Intergovernmental Relations
English 331: Race and Ethnicity in American Literature; 332: Women in American Literature (Same as Women's Studies 332); 333: Black American Literature and Aesthetics; 334: Film and American Culture (Same as American Studies 334)
Geography 361: Regional Geography of the United States and Canada; 363: Geogra-
phy of the American South; 365: Geography of Appalachia; 423: Geography of American Popular Culture (Same as American Studies 423); 425: Historical Geography of the United States; 441: Urban Geography of the United States; 443: Rural Geography of the United States

Geology 381: Minerals and Energy Resources

History 351: The American Revolution; 441: The American West; 442: Indian-White Relations in United States History; 446: History of American Culture; 451: United States Military History, 1754 to the Present; 453: Women in American History (Same as Women’s Studies 453); 454: Cities and Urbanization in American History; 459: Jefferson’s America

Music History 350; History of Jazz (Same as African and African-American Studies 350)

Philosophy 390: Philosophical Foundations of Democracy

Political Science 311: Contemporary Issues in American Public Policy; 312: Popular Culture and American Politics (Same as American Studies 312 and Cinema Studies 312); 330: Latin American and Caribbean Society (Same as Legal Studies 330); 374: American Political Thought

Psychology 434: Psychology and Gender (Same as Women’s Studies 434).


Sociology 331: Introduction to Sociology (Same as Women’s Studies 331)

Women’s Studies 310: Emergence of the Modern American Woman; 340: Women, Politics, and the Law

List B: Foreign Studies

NOTE: This list is subdivided by geographic area and topic. If Western Civilization (History 241-242) or Medieval Civilization (Medieval Studies 201-202) is used to satisfy the non-United States History divisional requirement, courses from the European concentration may not be used to satisfy this requirement.

In addition to the courses listed here this requirement may be satisfied by literature courses taught in Chinese, French, German, Greek, Hebrew, Italian, Japanese, Latin, Portuguese, Russian, Sanskrit, or Spanish. Literature courses in English translation will not meet this requirement.

Africa


Geography 379: Geography of Africa (Same as African and African-American Studies 379)

History 371: African History (Same as African and African-American Studies 371); 372: African History (Same as African and African-American Studies 372); 381: History of South Africa (Same as African and African-American Studies 381)

Political Science 452: Black African Politics (Same as African and African-American Studies 452)

Religious Studies 373: African Religions (Same as African and African-American Studies 373 and Anthropology 373)

Asia

Art History 411: Art of South and Southeast Asia; 415: Art of China; 419: Art of Japan History 362: History of East Asia; 363: History of East Asia; 364: History of China; 365: History of 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; 474: Modern and Contemporary South Asian Religion

Europe

Anthropology 462: Early European Pre-history

Art History 425: Early Christian and Byzantine Art to 1350; 431: Medieval Art of the West, 800-1400; 441: Northern European Painting, 1350-1600; 442: Art of Northern Europe, 1600-1675; 451: Art of Italy, 1250-1450; 452: Art of Italy, 1450-1575; 453: Art of Southern Europe, 1575-1700; 454: Renaissance and Baroque Theory; 475: History of 19th Century Painting and Sculpture in Europe; 476: History of 20th Century Painting and Sculpture in Europe

Classics 331: Archaeology of the Aegean Bronze Age and Early Greece; 334: Cities and Sanctuaries of the Greek and Roman World; 381: Greek Civilization; 382: Roman Civilization; 383: Women in the Greek and Roman World (Same as Women’s Studies 383)

English 301: British Culture to 1660; 302: British Culture: 1660 to Present; 401: Medieval Literature

French 420: French Cinema; 431: Highlights of French Civilization; 432: Contemporary French Literature

Geography 371: Geography of Europe German 323: German Film; 350: German-Jewish Topics in Literature and Culture; 363: Modern German Culture

History 319: Modern Europe, 1750-1914; 320: Contemporary Europe, 1900-present; 323: Deviance and Persecution in the Christian West; 1100-1700; 429: Medieval Intellectual History; 432: Women in European History (Same as Women’s Studies 432); 490: Internship in the Center for the Study of War and Society

Italian 414: Italian Cultural Studies; 421: Topics in Italian Literature and Cinema

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 Russia and Eastern Europe

Russian 325: Russian Film; 371: Martyrs, Mobs, and Madmen in Russian Culture; 988-1861; 372: Eros, Death and Resurrection and Modern Russian Culture

Latin America

Anthropology 313: Peoples and Cultures of Mesoamerica (Same as Latin American Studies 313); 316: Caribean and Atlantic Societies (Same as African and African-American Studies 319 and Latin American Studies 319)

Economics 424: Political Economy of the World

Geography 372: Geography of Middle America (Same as Latin American Studies 372); 373 : Geography of South America (Same as Latin American Studies 373)


Political Science 355: Latin American Government and Politics

Spanish 331: Introduction to Hispanic Culture (Same as Latin American Studies 331); 401: Cultural Plurality and Institutional Changes in Latin America (Same as Latin American Studies 401); 489: Topics in Hispanic Civilization

Middle East

Anthropology 463: Rise of Complex Civilizations

History 366: History and Archaeology of Mesoamerica; 369: History of the Middle East (Same as Judaic Studies 369); 370: History of the Middle East (Same as Judaic Studies 370); 383: History of Jewish Civilization I (Same as Judaic Studies 383); 384: History of Jewish Civilization II (Same as Judaic Studies 384)

Religious Studies 311: Ancient Hebraic Religious Traditions (Same as Judaic Studies 311); 332: Classical Islam; 333: Islam in the Modern World; 381: Introduction to Judaism (Same as Judaic Studies 381); 385: Contemporary Jewish Thought (Same as Judaic Studies 385); 405: Modern Jewish Thought (Same as Judaic Studies 405)

Critical Issues in Foreign Studies

Economics 323: Economic Development (Third World)

Geography 345: Population and Environment; 351: The Global Economy

History 374: A History of Imperialism Since 1850; 375: Revolutions in Historical Perspectives; 395: The Crusaders and Medieval Christian-Muslim Relations; 484: Studies in Jewish History (Same as Judaic Studies 484)

Political Science 350: Political Change in Developing Areas; 365: Introduction to International Relations

Religious Studies 371: Eastern Religions and Western Thought

Sociology 442: Comparative Patterns of Poverty and Development; 446: The Modern World System

Women’s Studies 360: Women in Cross-Cultural Perspective

C. Capstone Courses

These courses are offered within major fields and are designed to provide an integrative experience to broaden comprehension of
the major field, to enhance understanding of how the field has and continues to influence society, and to draw attention to ethical considerations applicable to the field. As writing emphasis courses the capstones promote development of written communication skills used by the major field. It is recommended that this option be satisfied during the senior year.

NOTE: If used to satisfy the major requirement, these courses may not be used to satisfy the distribution requirement.

Audiology and Speech Pathology 499: Senior Seminar in Communication Sciences and Disorders
Biochemistry and Cellular and Molecular Biology 409: Perspectives in BCMB; 420: Advanced Topics in BCMB
Botany 471: Senior Seminar
Chemistry 495: Topics in the Development of Chemistry
Computer Science 411: Senior Thesis I;
412: Senior Thesis II
Ecology and Evolutionary Biology 409: Perspectives in Ecology and Evolutionary Biology
Economics 499: Analysis of Economic Problems
English 499: Senior Seminar
French 440: Capstone Experience in French Geography 499: Proseminar in Geography Geology 440: Field Geology; 475: Physical and Chemical Systems of the Earth
History 482: Colloquium in History
Human Services 430: Working Within the System
Mathematics 411: Mathematical Modeling;
400: History of Mathematics
Microbiology 495: Senior Seminar
Music History 460: Music Aesthetics
Physics 401: Background of Physics;
402: Forefront of Physics
Psychology 430: Health Psychology;
496: Senior Seminar; Great Ideas in Psychology
Urban Studies 460: Senior Seminar

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 divisional 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 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, Audiol-

ogy, Biological Sciences, Chemistry, Classics, Computer Science, Economics, English, French, Geography, Geology, German, History, Interdisciplinary Programs, Italian, Mathematics, Music, Philosophy, Physics, Political Science, Psychology, Religious Studies, Russian, Sociology, Spanish, Speech Pathology, Statistics, and Theatre.

2. Optional Multiple Majors
After the general requirements of basic skills, distribution and a major have been satisfied, additional majors may be recorded on the transcript without regard to course overlap among majors or among the additional majors and Basic Skills and Distribution requirements. Students developing multiple majors must declare this intent at the time of application for graduation. Once a student has graduated, the establishment of additional majors becomes subject to University second degree requirements.

Students who satisfy the requirements of a degree in a college other than Arts and Sciences may also major inside the College of Arts and Sciences with the approval of the degree granting unit. These students need complete only the major requirements, not the Basic Skills or Distribution requirements for Arts and Sciences degrees. The Arts and Sciences 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 Arts and Sciences may also minor inside the College of Arts and Sciences 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 Astronomy, 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 Arts and Sciences. At least six of the 15 credit hours required for a minor must be completed at the University of Tennessee.

Business Minor for Non-Business Students
Requirements include the following courses: Accounting 201-202, Business Administration 201, Economics 201, Statistics 201, Finance 301, Marketing 300, and Management 300. All upper division (300 level or above) course work must be taken at UT, Knoxville. 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. The Arts and 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 arts;
4. An off-campus semester.

Only the student's 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 those in the Basic Program. The point at which the individualization takes place is in the area of concentration. 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), and at least two-thirds of the courses must be selected from disciplines within the College of Arts and Sciences. 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 Arts and Sciences Advising Services.

COLLEGE SCHOLARS PROGRAM

A limited number of freshmen and sophomores, 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; continued 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 (mentor) 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 not 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 minors officially recognized.

Further information and applications may be obtained from Arts and Sciences Advising Services.

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 or Science degree for students preparing for the study of dentistry. Both programs are based upon the curriculum outlined below. In the three-year program the student must complete at least 93 credit hours while enrolled in the college, and the B.S. degree is granted upon satisfactory completion of the first year of study at UT Health Science Center, 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 completing their fourth year at UT Health Science Center, Memphis, and the B.S. degree is granted upon satisfactory completion of the first 30 hours of credit in residence at the University of Tennessee before entering UT Health Science Center, 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.

<table>
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<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>English 101-102 or equivalent</td>
<td>6</td>
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<tr>
<td>Biology 130, 140</td>
<td>8</td>
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<tr>
<td>Chemistry 120-130</td>
<td>8</td>
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<tr>
<td>Electives</td>
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| Sophomore | |
| Chemistry 350, 360, 369 | 8 |
| Physics 211-222 | 8 |
| Divisional Distribution: Humanities | 3 |
| Divisional Distribution: Non-U.S. History | 6 |
| Electives | 3 |

| Junior | |
| Divisional Distribution: Humanities | 3 |
| Divisional Distribution Social Sciences | 6 |
| Upper Level Distribution (A) U.S. Studies | 6 |
| (B) Foreign Studies or (C) Capstone Experience | 6 |
| Electives | 6 |

Total: 93 hours

PRE-MEDICAL PROGRAM

The college offers a three-year program leading to a B.S. degree or 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 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 Health Science Center, 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 Health Science Center, Memphis. Students in either the three- or four-year program must complete the last 30 hours of credit in residence at UT Health Science Center, Memphis.

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

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<tr>
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<tr>
<td>Biology 130-140</td>
<td>8</td>
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<tr>
<td>Chemistry 120-130</td>
<td>8</td>
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<tr>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

| Sophomore | |
| Chemistry 350, 360, 369 | 8 |
| Physics 211-222 | 8 |
| Divisional Distribution: Humanities | 3 |
| Divisional Distribution: Non-U.S. History | 6 |
| Electives | 3 |

| Junior | |
| Divisional Distribution: Humanities | 3 |
| Divisional Distribution Social Sciences | 6 |

Total: 124 minimum hours

PRE-PHARMACY PROGRAMS

The college offers three programs preparing students for the study of pharmacy at UT Health Science Center, Memphis. The Doctor of Pharmacy (Pharm.D.) degree is conferred by the College of Pharmacy upon completion of four years of professional study at Memphis following any of the three programs. Bulletin describing the three pre-pharmacy programs in detail may be obtained from Arts and Sciences Advising Services, 220 Ayres Hall.

The two-year program prepares students to be admitted to the College of Pharmacy upon completion of 60 hours of a prescribed course of study in the College of Arts and Sciences. Further information may be obtained from Arts and Sciences Advising Services, 220 Ayres Hall.

The three-year program leading to a B.S. degree and the four-year program leading to either a B.A. or B.S. degree from the University of Tennessee as well as to the professional degree in pharmacy from UT Health Science Center, Memphis, are based upon the program outlined below. In the three-year program, the student must complete at least 93 credit hours while enrolled in the College of Arts and Sciences, and the B.S. degree is granted upon satisfactory completion of the first year of study in Memphis. In the four-year program the B.A. or B.S. degree is granted upon completion of 124 or more credit hours while enrolled in the college, including a major

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</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

| Sophomore | |
| Chemistry 350, 360, 369 | 8 |
| Physics 211-222 | 8 |
| Divisional Distribution: Humanities | 3 |
| Divisional Distribution: Non-U.S. History | 6 |
| Electives | 3 |

| Junior | |
| Divisional Distribution: Humanities | 3 |
| Divisional Distribution Social Sciences | 6 |
of 24 or more hours in addition to the courses outlined below. The requirement for a major is waived for those taking their fourth year at UT Health Science Center, Memphis. Students in either the three- or four-year program must complete the last 30 hours of credit in residence at the University of Tennessee before enrolling in the College of Pharmacy.

**Freshman**

- **English 101-102:** 6
- **Chemistry 120-130:** 8
- **Basic Skills Foreign Language (Intermediate Level Sequence):** 6
- **Mathematics:** 6-8
- **Divisional Distribution: Non U.S. History:** 6
- **Sophomore:**
  - **Biology 130-140:** 8
  - **Chemistry 350, 360, 369:** 8
  - **Speech Communication 210, 220, or 240:** 3
  - **Divisional Distribution: Humanities:** 3
  - **Divisional Distribution: Social Sciences:** 3
  - **Electives:** 3

**Junior**

- **Statistics 201:** 3
- **Physics 221-222:** 8
- **Divisional Distribution: Humanities:** 6
- **Divisional Distribution: Social Sciences:** 3
- **Upper Level Distribution (A) U.S. Studies:** 3
  - **(B) Foreign Studies:** 3
  - **(C) Unique Experience:** 6
- **Electives:** 13

**Senior**

Completion of major program and BA/B.S. requirements or completion of one year at UT Health Science Center, Memphis

- **Freshman**
  - **English 101-102:** 6
  - **Chemistry 120-130:** 8
  - **Basic Skills Foreign Language (Intermediate Level Sequence):** 6
  - **Mathematics:** 6-8
  - **Divisional Distribution: Non U.S. History:** 6
  - **Sophomore**
    - **Biological and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
    - **Physics 221-222:** 8
    - **Foreign Language (Intermediate Level Sequence):** 6
    - **Humanities:** 6
    - **Non-U.S. History:** 6

**Total:** 32 hours

**Sophomore**

- **Biochemistry and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 6
- **Mathematics:** 3
- **Psychology 110:** 3

**Total:** 31-32 hours

**Junior**

- **Humanities:** 3
- **Social Sciences:** 3
- **Upper Level Distribution:** 3
- **Psychology 220 or 300:** 3
- **Statistics 201:** 3
- **Electives:** 16

**Total:** 31 hours

**Senior**

Completion of major program and BA/B.S. requirements or completion of one year at UT Health Science Center in Memphis

- **Freshman**
  - **Biological and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
  - **Physics 221-222:** 8
  - **Upper Level Distribution:** 3
  - **Psychology 220 or 300:** 3
  - **Statistics 201:** 3
  - **Electives:** 16

**Total:** 31 hours

**Sophomore**

- **Biological and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
- **Physics 221-222:** 8
- **Upper Level Distribution:** 3
- **Psychology 220 or 300:** 3
- **Statistics 201:** 3
- **Electives:** 16

**Total:** 31 hours

**Senior**

Completion of major program and BA/B.S. requirements or completion of one year at UT Health Science Center in Memphis

- **Freshman**
  - **Biological and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
  - **Physics 221-222:** 8
  - **Upper Level Distribution:** 3
  - **Psychology 220 or 300:** 3
  - **Statistics 201:** 3
  - **Electives:** 16

**Total:** 31 hours

**Pre-Physical Therapy Program**

The following program is designed for students who wish to pursue an Arts and Sciences degree while preparing for the study of Physical Therapy. Students in this program must complete at least 93 hours credit while enrolled in the College of Arts and Sciences, must satisfy the Basic Skills and Distribution requirements, and must complete the last 30 hours in residence at UT Knoxville before enrolling in the College of Allied Health Sciences at the UT Health Science Center in Memphis, Tennessee. A departmental major is not required. Upon successful completion of the first year of the professional physical therapy curriculum, the Bachelor of Science degree will be conferred by the College of Arts and Sciences.

**Note:** Admission to the College of Allied Health Sciences is at the discretion of the Admissions Committee of that College. Admission to and successful completion of this program does not assure admission to the College of Allied Health Sciences.

**Freshman**

- **English 101-102:** 6
- **Mathematics:** 6-8
- **Divisional Distribution: Social Sciences:** 6
- **Sophomore**
  - **Biological and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
  - **Physics 221-222:** 8
  - **Foreign Language (Intermediate Level Sequence):** 6
  - **Humanities:** 6
  - **Psychology 110:** 3

**Total:** 31-32 hours

**Sophomore**

- **Biochemistry and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 6
- **Mathematics:** 3
- **Psychology 110:** 3

**Total:** 31 hours

**Senior**

Completion of major program and BA/B.S. requirements or completion of one year at UT Health Science Center in Memphis

- **Freshman**
  - **Biological and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
  - **Physics 221-222:** 8
  - **Upper Level Distribution:** 3
  - **Psychology 220 or 300:** 3
  - **Statistics 201:** 3
  - **Electives:** 16

**Total:** 31 hours

**Sophomore**

- **Biochemistry and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
- **Physics 221-222:** 8
- **Upper Level Distribution:** 3
- **Psychology 220 or 300:** 3
- **Statistics 201:** 3
- **Electives:** 16

**Total:** 31 hours

**Junior**

Completion of major program and BA/B.S. requirements or completion of one year at UT Health Science Center in Memphis

- **Freshman**
  - **Biological and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
  - **Physics 221-222:** 8
  - **Upper Level Distribution:** 3
  - **Psychology 220 or 300:** 3
  - **Statistics 201:** 3
  - **Electives:** 16

**Total:** 31 hours

**Sophomore**

- **Biochemistry and Cellular and Molecular Biology 230, Ecology and Evolutionary Biology 240:** 9
- **Physics 221-222:** 8
- **Upper Level Distribution:** 3
- **Psychology 220 or 300:** 3
- **Statistics 201:** 3
- **Electives:** 16

**Total:** 31 hours

**Senior**

Completion of Nuclear Medicine Technology Program at UT-MC (12 month program) or completion of major program and BA or BS requirements.

**Total:** 124 minimum hours
PRE-TEACHING SCIENCE AND MATHEMATICS OPTIONS: 
BACHELOR OF SCIENCE

1. Environmental Science
   This concentration should develop the knowledge and understanding of the environ-
mental sciences appropriate to the needs of the teacher in grades K-8. The prerequisite 
courses assure that the student has an ade-
quate background in the biological, chemi-
cal, and physical sciences to proceed to 
upper division courses in either of the chosen 
areas of concentration. The two tracks be-
yond the core stress the two major emphases of the ecological sciences—the biological 
and the physical-chemical. The student choosing 
to emphasize the biological track should be 
prepared to teach courses in biological sci-
tence through the middle school years. 
The student choosing to emphasize the physical-
chemical track should be prepared to teach 
general and earth science through the middle 
chool years.

   Prerequisite courses: NB: One mathematic-
s and one science sequence or two science 
quences (14-16 hours) may be used to 
satisfy general education requirements.

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>115, 123 (3,3) or</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mathematics 123, 125 (3,3)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

   2. Chemistry 120, 130 (4,4)

   3. Biology 130, 140 (4,4) or Botany 110-120 (4,4)

   4. Geology 101-102 (4,4) or Geography 131-132 (4,4) or Physics 221-222 (4,4)

   Core courses: (11 hours)
   1. Biology 240: General Genetics (4)
   2. Biology 250: General Ecology (4)
   3. Geology 203: Geology of National Parks (3)

   Beyond the core curriculum, the student must choose 18 hours from the two tracks 
listed below: 15 hours from one track and 3 hours from the other track.

A. Biological Sciences Track
   Botany 305: Socio-Economic Impact of Plants (3); Botany 310: Plant Morphology (4); 
   Botany 330: Field Botany (3); Botany 431: Plant Ecology (3); Ecology and 
   Evolutionary Biology 350: Comparative Vertebrate Biology (4); Ecology and 
   Evolutionary Biology 360: Comparative Invertebrate Biology (4); Ecology and 
   Evolutionary Biology: 380 General Entomology (3); Ecology and Evolutionary 
   Biology 102: Practicum in Ecology and Evolutionary Biology (2); Ecology and 
   Evolutionary Biology 450-459: Comparative Animal Behavior and Lab (3,3); 
   Ecology and Evolutionary Biology 470: Aquatic Ecology (3); Ecology and 
   Evolutionary Biology 474: Ichthyology (3); Introduction to Microbiology and Lab (3,1); 
   +Microbiology 470: Microbial Ecology (3).

   +Course has prerequisite other than courses 
   prerequisite to this major. See catalog for details.

B. Physical-Chemical Sciences Track
   Biochemistry and Cellular and Molecular Biology 310; Physical Chemistry 4; 
   Chemistry 350-360-368: Organic Chemistry and Lab (3,3,2); Ecology and 
   Evolutionary Biology 446: Introduction to Oceanography (4); Geography 334: 
   Meteorology (3); Geography 433: The Land-Surface System (3); Geography 434: 
   Climatology (3); Geography 436: Water Resources (3); Geology 450: Process 
   Geomorphology (3); +Geology 455: Basic Environmental Geology; Geology 485: 
   Principles of Geohydrology (3).

   +Course has prerequisite other than courses 
   prerequisite to this major. See catalog for details.

Total (core + track concentration) = 29 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 and cellular 
and molecular biology, biology, botany, ecology and evolutionary biology, microbiology, 
psychology) and in physical science (chemistry, geography, geology, physics) is designed 
to fulfill the state competencies for I General Science and Physical Science and II Biology.

   Prerequisite courses: NB: One mathematic-
s and one science sequence or two science 
quences (14-16 hours) may be used to 
satisfy general education requirements.

<table>
<thead>
<tr>
<th>Mathematics</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>115, 123 (3,3) or</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Mathematics 123, 125 (3,3)</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

   2. Chemistry 120, 130 (4,4)

   3. Biology 130, 140 (4,4) or Botany 110-120 (4,4)

   4. One sequence from among the following: 
   Astronomy 161-162 (4,4) or Geography 131-132 (4,4) or Geology 101-102 (4,4) or Physics 221-222 Elements of Physics

   Core courses (14 hours):
   1. Biology 240: General Genetics (4); Biology 250: General Ecology (4)
   2. Two of the following three courses:
      Geology 201: Biodiversity: Past, Present, and Future (3); Geology 202: Earth as an Ecosystem: Modern Problems and Solutions (3); Geology 203: Geology of National Parks (3)

   Beyond the core curriculum, the student must take 18 hours from the two tracks listed 
below: 15 hours from one track and 3 hours from the other track. At least 15 of the 18 
hours must be at the 300 or 400 level.

A. Biological Sciences
   +Anthropology 210: Principles of Biological Anthropology (3); +Anthropology 464: Principles 10: Physiological Anthropology (3); +Anthropology 480: Human Osteology (3); +Anthropology 490: Primate Evolution (3); +Anthropology 495: Human Paleontology (3); Anthropology 496: Biology of Human Variability (3); +Biochemistry and Cellular and Molecular Biology 230: Human
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 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 courses:** (32 hours)

1. Mathematics 141-142 (4,4)
2. Chemistry 120, 130 (4,4)
3. Biology 130, 140 (4,4) or Botany 110-120 (4,4)
4. One sequence from among the following: Astronomy 161-162 (4,4) or Geography 131-132 (4,4) or Geology 101-102 (4,4) or Physics 221-222 (4,4)

NB: One mathematics and one science sequence or two science sequences (14-16 hours) may be used to satisfy general education requirements.

**Core courses:** (17 hours)

1. Biology 240: General Genetics (4)
2. Biology 250: General Ecology (4) or Biochemistry and Cellular and Molecular Biology 230: Human Physiology (5), and Ecology and Evolutionary Biology 240: Human Anatomy (4)
3. Choose two of the following three courses: Geology 201: Biodiversity: Past, Present, and Future (3); Geology 202: Earth as an Ecosystem: Modern Problems and Solutions (3); Geology 310: Geology of National Parks (3)
4. Mathematics 300: Introduction to Abstract Mathematics (3) Beyond the core curriculum, the student must take two courses from each of these three areas:

**A. Biological Sciences (6-8 hours)**

1. Botany 305: Socio-Economic Impact of Plants (3); Botany 306: Genetics and Society (3); Botany 309: Botany of Human Affairs (3); Botany 310: Plant Morphology (4); Botany 321: Introductory Plant Physiology (4); Botany 330: Field Botany (3); Ecology and Evolutionary Biology 240: Human Anatomy (4); Ecology and Evolutionary Biology 350: Comparative Vertebrate Biology (4); Ecology and Evolutionary Biology 360: Comparative Invertebrate Biology (4);

2. *Course has prerequisite other than prerequisite to this major. See catalog for details.

3. *Some of these courses may require additional prerequisites. See catalog for details.

**B. Physical Sciences (6-8 hours)**

1. Chemistry 350-360-369: Organic Chemistry and Lab (3,3,2); Ecology and Evolutionary Biology 446: Introduction to Oceanography (4); Geography 334: Meteorology (3); Geography 433: The Land-Surface System (3); Geography 434: Climatology (3); Geography 436: Water Resources (3); Geography 444: Geography of Resources (3); Geology 310: Mineralogy (3); Geology 320: Paleobiology (3); Geology 330: Igneous and Metamorphic Petrology (3); Geology 340: Stratigraphy and Sedimentation (3); Geology 370: Structural Geology (3); Geology 381: Minerals and Energy Resources: Geologic Constraints and Environmental Impacts (3); Geology 420: Paleoclimatology (4)

4. *Course has prerequisite other than courses prerequisite to this major. See catalog for details.

**C. Mathematics (6 hours)**

1. Mathematics 400: History of Mathematics (3); Mathematics 401: Mathematics and Microcomputers (3); Math 405: Models in Biology (3); Mathematics 460: Geometry (3)

**Total (core + areas A, B, and C) = 35 hours**

**PRE-VETERINARY MEDICINE PROGRAM**

The following program is designed for students who wish to pursue an Arts and Sciences degree while preparing for the study of Veterinary Medicine. Students in this program must complete at least 93 credit hours while enrolled in the College of Arts and Sciences, must satisfy the Basic Skills and Distribution requirements, and must complete at least 30 hours in residence at UT Knoxville before enrolling in the College of Veterinary Medicine. A departmental major is not required. Upon successful completion of the first year (two semesters) of the professional veterinary medicine curriculum, the Bachelor of Science degree will be conferred by the College of Arts and Sciences.

Note: Admission to the College of Veterinary Medicine is at the discretion of the Admissions Committee of that College; admission to and successful completion of this program does not assure admission to the College of Veterinary Medicine.
Freshman

1. English 101-102 .............................................. 6
2. Chemistry 120-130 ........................................... 8
3. Biology 130-140 .............................................. 8
4. Basic Skills (B) Foreign Language (Intermediate Level Sequence) ............... 6
5. Mathematics .................................................... 6

Sophomore

1. Biology 240 ..................................................... 4
2. Chemistry 350, 360, 369 ................................. 8
3. Physics 221-222 .............................................. 8
4. Divisional Distribution: Non-U.S. History ..................... 6
5. Divisional Distribution: Social Sciences ..................... 3

Junior

1. Biochemistry and Cellular and Molecular Biology 410 or 401 and 402 .......... 4-6
2. Divisional Distribution: Social Science ................................... 3
3. Divisional Distribution: Humanities ........................................ 6
4. Upper Level Distribution (A) U.S. Studies, or
   (B) Foreign Studies, or
   (C) Capstone Experience ........................................... 6
5. Electives ................................................................ 7-12

Total: 93 hours

Senior

Completion of major program and B. A./B.S. requirements or completion of one year at UT
College of Veterinary Medicine

Total: 124 minimum hours

1. Or equivalent honors courses.

2. This requirement assumes a student has had enough language background in high school to begin an intermediate language sequence at UT.

3. Math placement depends on high school courses and grades, ACT scores, and BA/BS requirements. Mathematics 130 or a calculus course is a prerequisite for Physics. All students must complete the Math Basic Skills requirement as outlined in the Arts and Sciences curriculum.

4. B.A. students must complete a minimum of 12 credits from at least two areas; B.S. students must complete a minimum of 6 credits from at least two areas for the Social Science requirements.

5. B.A. students must take at least one course from List A: Literature and at least one course from List B: Philosophical and Religious Thought plus one additional course from List A, B, or C. B.S. students must complete a minimum of 6 credits from the three lists; not more than 3 credits may be taken from List C.

6. B.A. students must take at least one course from List A: Literature and at least one course from List B: Philosophical and Religious Thought plus one additional course from List A, B, or C. B.S. students must complete a minimum of 6 credits in one of the three areas and 3 credits from one of the remaining two areas. B.S. students must complete a minimum of 6 credits in two of the three areas.

7. Depending upon course selection, a student may require less than the listed elective hours to reach the minimum total of 93 hours.

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 Arts and Sciences. 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.

AFRICAN AND AFRICAN-AMERICAN STUDIES

See Interdisciplinary Programs.

AMERICAN STUDIES

See Interdisciplinary Programs.

ANTHROPOLOGY

Professors:

W.M. Bass (Emeritus, Alumni Distinguished Service Professor), Ph.D. Pennsylvania; C.H. Faulkner (Distinguished Professor), Ph.D. Indiana; Faye V. Harrison, Ph.D. Stanford; B.J. Howell, Ph.D. Kentucky; R.L. Jantz, Ph.D. Kansas; W.E. Klippel, Ph.D. Missouri; L. Konigsberg, Ph.D. Northwestern; M.H. Logan, Ph.D. Pennsylvania State; P.W. Parmalee (Emeritus), Ph.D. Texas A&M; G.F. Schroedl, Ph.D. Washington State; J.F. Simek (Distinguished Professor), Ph.D. SUNY-Binghamton; M.C. Wheeler (Emerita), Ph.D. Yale.

Associate Professors:

I. Harrison (Emeritus), Ph.D. Syracuse; A. Kramer (Head), Ph.D. Michigan; M. Marks, Ph.D. Tennessee.

Assistant Professor:

M. Ferreira, Ph.D. California (Berkeley); H.N. Qirko, Ph.D. Tennessee.

Research Associate Professor:

J. Chapman (Director, F.H. McClung Museum), Ph.D. North Carolina.

Research Assistant Professor and Curator:

S. Frankenberger, Ph.D. Northwestern.

Research Assistant Professor:

M. Elam, Ph.D. Missouri.

Instructor and Coordinator, Forensic Center

L.M. Jantz, Ph.D. Tennessee.

Adjunct Professor:

R. Dunnell, Ph.D. Yale.

Adjunct Associate Professor:

L.P. Sullivan, Ph.D. Wisconsin-Milwaukee.

PROGRESSION STANDARDS

Progression into the Anthropology major is based on performance in the three prerequisite courses: 110, 120 and 130. Students must maintain a grade point average of at least 3.0 for the three introductory courses, with none of the three grades below a C. Upon satisfactory completion of the prerequisites, the student may apply for progression into the Anthropology major by: (1) completing a formal application for progression in the Anthropology Department and (2) including with that application an academic history demonstrating satisfactory completion of the progression requirements. The Undergraduate Committee of the Anthropology Department will meet regularly to determine the status of these applications. Upon notice to the major, a department advisor will be assigned in consultation with the student.

The anthropology major consists of 450 or 357 and 27 additional hours of upper division course work in Anthropology. This course work shall be distributed as follows:

1. One course from categories (a), (b), (c), and (d); and two courses from category (e).
2. Three remaining hours may be selected from any upper division Anthropology courses.

Students with senior standing are encouraged to substitute appropriate 500 level courses (with permission of the instructor of the course and approval of the Department Head) for any portion of (1) or (2) above. The Department of Anthropology offers honors seminars for juniors and seniors, leading to an honors major. The honors major consists of 357 and 457 plus 24 additional hours of upper division course work in Anthropology distributed as specified above for the major.
To enroll in Anthropology 357, the student must have fulfilled the progression requirements necessary to declare a major in Anthropology and must have an overall GPA of 3.2. To enroll and receive honors credit for Anthropology 457, the student must complete 357 with a grade of B or better, maintain a 3.5 GPA in all Anthropology courses, and maintain a 3.2 GPA overall.

Continuation in the anthropology major requires maintenance of a 2.5 GPA or better in all anthropology courses. Students failing to meet this standard will be notified in writing that they are on probation and their records will be reviewed. Those who continue in probationary status for two consecutive semesters will be dropped from the major.

Anthropology 110, 120, 130 are prerequisites to a minor in Anthropology, consisting of 15 hours of upper division Anthropology courses, chosen in consultation with an Anthropology advisor.

### ART

**Professors:**

**Associate Professors:**

**Assistant Professors:**

### PROGRESSION REQUIREMENTS

The following core courses must be completed before students can progress into the program as art majors and before further art classes may be taken:

- **Art 101**
- **Art 103**
- **Art History 162, 172, 173, or 183 (choose one)**

*See section on transfer students. Students have the right to petition the School in the event of unusual enrollment circumstances.*

Students entering the major must have earned a minimum 3.00 cumulative average in the above courses to be considered for progression into the School of Art. Those applying will progress in rank order of cumulative average as space allows. The overall record will be evaluated for quality and seriousness of purpose. Excessive absences, withdrawals, incompletes or repeated courses may result in denial of progression. Progression into the School of Art does not guarantee progression into a chosen concentration. Progression into a concentration will follow successful completion of a Concentration Portfolio Review.

### B. F. A. IN STUDIO ART

The B.F.A. in Studio Art is a professionally oriented degree especially intended for those students planning careers or graduate study in the visual arts. All students seeking studio degrees (B.A. Studio, B.F.A. Studio and Art Education) must present and pass the appropriate Portfolio REVIEW for their area of study in order to be admitted into advanced courses. Contact specific program area faculty for review of schedules and details. It should not be assumed that a high grade point average in the Studio area will be an automatic admission into a chosen concentration. Progression into the School of Art is not guaranteed for all students.

### REQUIREMENTS

#### PROGRESSION INTO THE SCHOOL OF ART

Students entering the major must have met this standard to continue in the program. Those who continue in probationary status for two consecutive semesters will be dropped from the major.

Anthropology 110, 120, 130 are prerequisites to a minor in Anthropology, consisting of 15 hours of upper division Anthropology courses, chosen in consultation with an Anthropology advisor.

### Studio Electives

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may apply a maximum of 6 hours of approved studio courses from Architecture, Art Education, Broadcasting, Journalism, Computer Science, Human Resource Development, Interior Design or Theatre. Students electing an additional major in Art Education and licensure to teach in schools K-12 may apply 13 hours in undergraduate Art Education courses.

### Concentrations

#### Ceramics:
- Ceramics 222: 3
- Ceramics Portfolio Review 320 (S/NC)
- Ceramics 321, 322 (prerequisite for all 400 level)
- Ceramics courses: 6
- Ceramics 421, 422, 429, 493, or 494: 14
- Approved Concentration Electives: 9 hours from the following:
  - Ceramics 424, 429
  - Drawing 212
  - Sculpture 241, 242, 243, 245, 246
  - Printmaking 262, 263
  - Painting 213, 214, 215
  - Arrowmont Ceramics 420: 9

### Concentrations

#### Ceramics:
- Ceramic 222
- Ceramic 321, 322
- Ceramic Portfolio Review 320
- Ceramic 421, 422, 429, 493, or 494
- Approved Concentration Electives: 9 hours from the following:
  - Ceramic 424, 429
  - Drawing 212
  - Sculpture 241, 242, 243, 245, 246
  - Printmaking 262, 263
  - Painting 213, 214, 215
  - Arrowmont Ceramics 420: 9

### Concentrations

#### Painting:
- Painting 214 (may be repeated)
- Approved Concentration Electives: 9 hours from the following:
  - Painting 219/419 (maximum 6 hours)
  - Painting 213, 214, 215, 216
  - Art Media Arts 231
  - Art Printmaking 262, 263

### Concentrations

#### Printmaking:
- Printmaking 290 level course
- Approved Concentration Electives: 9 hours from the following:
  - Printmaking 212 (maximum 6 hours)
  - Printmaking 311
  - Approved Concentration Electives: 9 hours from the following:
  - Printmaking 419 (maximum 6 hours)
  - Printmaking 214, 215
  - Art Media Arts 231
  - Art Drawing 212

### Concentrations

#### Education:
- Art Education and licensure to teach in schools K-12 may apply 13 hours in undergraduate Art Education courses.

### General Curriculum

- English Composition
- Non U.S. History/Social Science
- Natural Science/Mathematics
- Arts and Sciences Non-Art Electives

### Studio Electives

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may apply a maximum of 6 hours of approved studio courses from Architecture, Art Education, Broadcasting, Journalism, Computer Science, Human Resource Development, Interior Design or Theatre. Students electing an additional major in Art Education and licensure to teach in schools K-12 may apply 13 hours in undergraduate Art Education courses.

### Studio Electives

Additional hours in studio courses to be completed in the School of Art or our affiliated facility, Arrowmont School of Arts and Crafts. Students may apply a maximum of 6 hours of approved studio courses from Architecture, Art Education, Broadcasting, Journalism, Computer Science, Human Resource Development, Interior Design or Theatre. Students electing an additional major in Art Education and licensure to teach in schools K-12 may apply 13 hours in undergraduate Art Education courses.
### Studio Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Painting 216 (may be repeated)</td>
<td>3</td>
</tr>
<tr>
<td>Art Printing Portfolio Review 316 (S/NC)</td>
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</tr>
<tr>
<td>Art Printing 315 (for two semesters)</td>
<td>8</td>
</tr>
<tr>
<td>Art Media Arts 231</td>
<td>6</td>
</tr>
<tr>
<td>Art Drawing 212</td>
<td>9</td>
</tr>
<tr>
<td>Sub-Total: 32</td>
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</tr>
<tr>
<td>Total: 127</td>
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</tbody>
</table>

### B.F.A. IN STUDIO ART—MEDIA ARTS CONCENTRATION

#### Basic Requirements

<table>
<thead>
<tr>
<th>Core</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 101, 103</td>
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</tr>
<tr>
<td>Art 295</td>
<td>3</td>
</tr>
<tr>
<td>Art History 172 and 173 and 183 or 162</td>
<td>9</td>
</tr>
<tr>
<td>Art History Electives</td>
<td>6</td>
</tr>
<tr>
<td>Media Arts 231, 235, 236</td>
<td>9</td>
</tr>
<tr>
<td>One course from each of the following 5 areas: Art Drawing, Art Painting, Watercolor, Art Ceramics, Art Sculpture, Art Printmaking</td>
<td>15</td>
</tr>
<tr>
<td>Sub-Total: 46</td>
<td></td>
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</tbody>
</table>

#### Concentration

<table>
<thead>
<tr>
<th>Media Arts 330 (Portfolio Review) (Prerequisite to 300 and 400 level courses) (S/NC)</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art History 403 (History of Photography)</td>
<td>3</td>
</tr>
<tr>
<td>Art Media 433 (History of Modern Art and Film)</td>
<td>3</td>
</tr>
<tr>
<td>Art Media 435 (Cinematography as Art)</td>
<td>6</td>
</tr>
<tr>
<td>Art Media 436 (Video Art)</td>
<td>6</td>
</tr>
<tr>
<td>Art Media 331 (Photography I) or Art Media 341 (Digital Photography I)</td>
<td>4</td>
</tr>
<tr>
<td>Art Media 431 (Photography II) or Art Media 441 (Digital Photography II)</td>
<td>4</td>
</tr>
<tr>
<td>300 and 400 Level Electives in Media Arts</td>
<td>6</td>
</tr>
<tr>
<td>Sub-Total: 32</td>
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</tbody>
</table>

#### Studio Electives

Additional hours in studio courses to be completed in the School of Art or 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, Broadcasting, Journalism, Computer Science, Human Resource Development, Interior Design, or Theatre. Students electing an additional major in Art Education and licensure to teach may apply 13 hours in undergraduate Art Education courses. 15

| Sub-Total: 15                                                                 |   |

### B.F.A. IN STUDIO ART WITH ADDITIONAL COURSES IN ART EDUCATION

Students who wish to obtain licensure to teach art in schools K-12 can pursue the B.F.A. degree in studio with additional courses in Art Education. Up to 13 credit hours of Art Education courses may be used as studio electives. Students who wish to pursue licensure to teach should be aware that General Curriculum requirements are different. For details, see Art Education listings in the College of Education section of this catalog.

### B.F.A. IN GRAPHIC DESIGN

The Graphic Design major is specifically designed to provide the basic visual education for students who wish to pursue careers in graphic design-related fields such as advertising, art direction, three-dimensional design, publications, or electronic media.

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. Transfer students who expect to enroll in 300 (junior 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 42 credit hours, 300 level or above, must be earned prior to graduation.

A minimum of 127 credit hours are required for graduation. Students are advised that courses in Graphic Design must be taken in sequence, and that successful completion of Art 350 (Portfolio Review, S/NC) is prerequisite to all upper division courses.

Students must complete 351 and 356 with a grade of C or better by the end of the second fall semester following successful completion of Portfolio Review (350). If 351 and 356 are not successfully completed in this time, the student must resubmit a portfolio to regain entrance into the junior program.

Resubmission of the portfolio must occur during the scheduled spring portfolio review.

### General Curriculum

#### English Composition

<table>
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<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>6</td>
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#### Social Science

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
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</tbody>
</table>

#### Natural Science/Mathematics

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>12-14</td>
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</table>

#### Arts and Sciences Non-Art Electives

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

| Total: Sub-32 |

#### Sub-Total: 32-33

### Studio Electives

Students must choose a total of 9 hours from a minimum of 2 categories:

1. Art Printmaking; 2. Art Ceramics; 3. Art Sculpture; or 4. Art Media Arts

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>9</td>
</tr>
</tbody>
</table>

| Sub-Total: 9 |

### General Curriculum

#### English Composition

<table>
<thead>
<tr>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>6</td>
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#### Non U.S. History/Social Science

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>6</td>
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</table>

#### Natural Science/Mathematics

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>6</td>
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</table>

#### Arts and Sciences Non-Art Electives

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
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<tbody>
<tr>
<td>13-15</td>
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</table>

| Sub-Total: 13-15 |

### Total Semester Hours: 127 hours

### B.A. MAJORS IN ART HISTORY

#### Hours Credit

<table>
<thead>
<tr>
<th>Prerequisite: Art History 172, 173 and 183</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>or 162 (or their Honors equivalents)</td>
<td>9</td>
</tr>
</tbody>
</table>

Art History courses numbered 300 and above. Students are required to take at least one course in four of the following areas: Medieval/Early Renaissance—Art History 425, 431, 441, 451; Renaissance/Baroque—Art History 442, 452, 453; American—Art History 471, 472, 473, 483, 19th/20th Century—Art History 403, 472, 474, 475, 476, Art Media Arts 433; Asian—Art History 411, 415, 419; 9 Art History elective hours or from courses in the Departments of Classics, Religious Studies, or School of Architecture in consultation with departmental advisor.

<table>
<thead>
<tr>
<th>Art 481 (Museology I: Museums, Purpose, and Function)</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

Art History 376 (Seminar in Art History)                | 3            |

<table>
<thead>
<tr>
<th>Studio courses numbered 200 and above</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

| Total: 39 hours |

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.

### MAJOR IN Studio

#### Hours Credit

<table>
<thead>
<tr>
<th>Prerequisite: Art 101, 103, 295</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>or Art History 162, 172, 173, 183 (any two)</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Additional hours</th>
<th>Hours Credit</th>
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<tr>
<td>9</td>
<td>9</td>
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#### Major

<table>
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<tr>
<th>Studio courses numbered 200 and above, including a minimum of 15 hours in 300-400 level courses</th>
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<tbody>
<tr>
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| Total: 40 hours |

In addition to the general B.A. requirements, the following are required for minors in the School of Art:

### MINOR IN ART HISTORY

#### Hours Credit

<table>
<thead>
<tr>
<th>Prerequisite: Art History 172, 173, 183 (or their Honors equivalents)</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>(or their Honors equivalents)</td>
<td>9</td>
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</tbody>
</table>

Art History courses numbered 200 and above. Students are advised that

| Total: 24 hours |

### Design and Professional Electives

<table>
<thead>
<tr>
<th>Art Graphic Design 254, 256, 259, 354, 396, 405, 453, 454, 459; Art Media Arts 235, 236, 331, 435, 436; Art 491, 492; Advertising 250, 350, 490</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>12</td>
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</table>

| Sub-Total: 12 |

<table>
<thead>
<tr>
<th>General Curriculum: English Composition</th>
<th>Hours Credit</th>
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<tbody>
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</tbody>
</table>

| Non U.S. History/Social Science        | 6            |

| Natural Science/Mathematics            | 6-6          |

| Arts and Sciences Non-Art Electives   | 13-15        |

| Sub-Total: 13-15 |

| Total Semester Hours: 127 hours |

### Coursing in Art Education

Up to 13 credit hours of Art Education courses may be used as studio electives. Students who wish to pursue licensure to teach should be aware that General Curriculum requirements are different. For details, see Art Education listings in the College of Education section of this catalog.
MINOR IN STUDIO

Hours Credit
Prerequisites: Art 101, 103, 295 .................. 7
Art History 172, 173, 183 (any two) ............. 6
Studio courses which include a minimum of 8 additional-division hours.
Concentration may be Ceramics, Drawing, Media Arts, Painting-Watercolor, Printmaking.
Sculpture or a combination from these areas ... 15

Total: 28 hours

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 School of Art in 1978. 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 School 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.

ASTRONOMY

See Physics and Astronomy.

AUDIOLINGUISTIC AND SPEECH PATHOLOGY

Professors:
Ilsa Schwarz (Head), Ph.D. Oregon; C.W. Asp, Ph.D. Ohio State; P.J. Carney, Ph.D. Iowa; S. Handel (Adjunct), Ph.D. Johns Hopkins; D.M. Lipscomb (Adjunct), Ph.D. Washington; I.V. Nabelek (Emeritus), Ph.D. Czech Technical (Prague); H.A. Peterson (Emeritus), Ph.D. Illinois; B. Silverstein (Emeritus), Ph.D. Purdue.

Associate Professors:
S.B. Burchfield, Ph.D. Michigan State; M. Hedrick, Ph.D. Vanderbilt; P. Payne, Ph.D. Tennessee; L. Sivason, Ph.D. Purdue; J. Thein, Ph.D. Iowa.

Assistant Professors:
M. L. Erickson, Ph.D. Southern California; P. Flipsen, Ph.D. Wisconsin; A. Harkrider, Ph.D. Texas; RaMonda Ikard, Ph.D. Wisconsin; Maria Munoz, Ph.D. Texas.

Instructor:
T.R. Singletary, M.S. Colorado State.

Research Professor:
A. K. Nabelek (Emerita), Ph.D. Polish Academy of Sciences, Warsaw, Poland.

Research Coordinator:
Polly Alfonso, M.A. Southwest Missouri State.

Clinical Director:
Ann Michael, Ph.D. Vanderbilt

The Department of Audiology and Speech Pathology offers course work in the scientific study of human communication sciences and disorders. The two undergraduate majors (audiology and speech pathology) are preparatory to graduate work and to professional certification in some aspect of speech, language, and hearing disorders. The master's degree is required for professional certificates and employment positions. Information about the audiology and speech pathology programs may be obtained from the department office, 457 South Stadium Hall, and students are strongly encouraged to consult with the undergraduate advisors in the department as early as possible in their programs. Suggested elective courses for students not majoring in Audiology and Speech Pathology include 300, 302, 303, 305, 306, 320, 433, 435, 461, 473, and 474.

The B.A. Major in Speech Pathology consists of Audiology and Speech Pathology courses 300, 302, 303, 305, 306, 320, 433, 435, 461, 473, and 494; and one course from the following courses: Linguistics 200, 371, 372, 411, 471, or 472.


Applicants for enrollment in clinical practice must submit an application to the departmental Director of Clinical Services. Requirements for enrollment in practicum courses (434 in Speech Pathology or 445 in Audiology) include a minimum cumulative GPA of 2.7 (or 3.0 in the last 30 hours of enrollments), a minimum of “C” in all courses taken within the department, successful completion of 433, and a minimum GPA of 2.75 within the major.

Students who fail to satisfy the above prerequisites for clinical practicum experience may graduate with a degree from the department, but will not be recommended for graduate study at UT. Requests for exceptions to this rule may be submitted to the departmental Admissions Committee.

Additional requirements for professional certification include coursework in audiology/physical sciences, mathematics, and at least six semester hours in behavioral and/or social sciences which pertain to the understanding of normal/abnormal behavior. Students majoring in Audiology and Speech Pathology are strongly encouraged to consult with their advisors before selecting elective courses.

BACTERIOLOGY

See Microbiology.

BIOCHEMISTRY AND CELLULAR AND MOLECULAR BIOLOGY

Professors:
R.M. Bagby, Ph.D. Illinois; J.M. Becker, Ph.D. Cincinnati; J. G. Carlson (Emeritus; Distinguished Professor), Ph.D. Pennsylvania; M.A. Handel (Distinguished Professor), Ph.D. Kansas State; B. Hochman (Emeritus), Ph.D. California; E.E. Howell, Ph.D. Lehigh; K.W. Jeon, Ph.D. London; J.G. Joshi, Ph.D. Poona; D.C. Joy (Distinguished Scientist), Ph.D. Oxford (UK); J.R. Kennedy, Ph.D. Iowa; J.W. Koontz, Ph.D. Kentucky; J.N. Liles (Emeritus), Ph.D. Ohio State; J.A. MacCabe, Ph.D. California (Davis); B.D. McKee (Head), Ph.D. Michigan State; K.J. Monty, Ph.D. Rochester; D. M. Roberts, Ph.D. California (Davis); L.E. Roth (Emeritus), Ph.D. Chicago; T.P. Salo (Emeritus), Ph.D. Michigan; E.H. Serpurs, Ph.D. Hateceppe; C.A. Shivers (Emeritus), Ph.D. Michigan State; H.G. Welch (Emeritus), Ph.D. Florida; G. L. Wilson (Emeritus), Ph.D. Iowa; W.D. Wicks, Ph.D. Harvard.

Associate Professors:
B. Bruce, Ph.D. California (Berkeley); R. Ganguly, Ph.D. Nebraska; J.C. Hall, Ph.D. Illinois; C.B. Peterson, Ph.D. LSU; R.A. Prosser, Ph.D. Illinois.

Assistant Professors:
C. Dealwis, Ph.D. London; R. H. Feinberg (Emeritus), Ph.D. California (Berkeley); E. Fernandez, Ph.D. Loyola; J. Park, Ph.D. Texas.

Research Professors:

Students wishing to emphasize study in this area elect to major in Biology with a concentration in Biochemistry and Cellular and Molecular Biology. See the description of the Biology Major under “Division of Biology” for requirements.

DIVISION OF BIOLOGY

Director:
John Koontz, Ph.D. Biochemistry and Cellular and Molecular Biology.

Basic Faculty:
C.C. Arnundsen, Ph.D. Ecology and Evolutionary Biology; R.M. Bagby, Ph.D. Biochemistry and Cellular and Molecular Biology; J.M. Becker, Ph.D. Microbiology; C.R.B. Boake, Ph.D. Ecology and Evolutionary Biology; D. Brian, Ph.D. Microbiology; B. Bruce, Ph.D. Biochemistry and Cellular and Molecular Biology; D.L. Bunting, Ph.D. Ecology and Evolutionary Biology; M. Butler, Ph.D. Ecology and Evolutionary Biology; J.D. Caponetti, Ph.D. Botany; P.B. Cox, Ph.D. Biology; C. Dealwis, Ph.D. Biochemistry and Cellular and Molecular Biology; H. Delcourt, Ph.D. Ecology and Evolutionary Biology; P. Delcourt, Ph.D. Ecology and Evolutionary Biology; J. Drake, Ph.D. Ecology and Evolutionary Biology; A.C.
The Biological Sciences major offers four concentration areas: Biochemistry and Cellular and Molecular Biology; Ecology and Evolutionary Biology; Microbiology; and Plant Biology concentration areas. Requirements for honors options are listed with the appropriate concentration areas.

### Concentration Area Requirements

#### Biochemistry and Cellular and Molecular Biology (BCMB) Additional prerequisite:
- Computer Science 101

The concentration consists of:
- Chemistry 350-360-369 or 350, 310-319 or Chemistry 310-319 and BCMB 310, 401-402, and at least 18 additional credit hours selected from BCMB courses numbered 300 or above (except BCMB 310 and 410), or from the following courses in other departments:
  - Microbiology 310-319, 410, 411, 420-429, 430, 440, Botany 321, 404; EEB 360, 360, 460. At least two of the 18 credit hours must be selected from the following laboratory courses:
    - BCMB 403, 416, 419, 429 and 452, and Biology 401. At least three of the 18 credit hours must be selected from the following physiology courses:
      - BCMB 440, Botany 321, and Microbiology 310. No more than 9 of the 18 credit hours may be in non-BCMB courses.

### Honors Option

An honors option is offered to students with a cumulative GPA of at least 3.5 in prerequisite courses of 3.5 or above and who have completed BCMB 310-319, BCMB 410-429, and Microbiology 310-319, 320-329, and 12 additional hours of 400-level Microbiology courses. The honors option also requires a substantive research project carried out under the supervision of a BCMB faculty member and a thesis describing the results of that project. The thesis must be approved by the faculty supervisor.

### Ecology and Evolutionary Biology

The concentration consists of:
1. Chemistry 350-360-369 or 350, 310-319 or Chemistry 310-319 and BCMB 310.
2. Quantitative Requirement: One course from (note math prerequisites):
   - Math 231 Differential Equations (3)
   - Math 251 Matrix Algebra I (3)
   - Math 405 Models in Biology (3)
3. Upper Division courses: A total of 24 additional hours is required at the 300 level or above to include at least 15 hours from Ecology and Evolutionary Biology, and at least one course from each of the following four categories:

### Evolution

EEB 460 Evolution

### Ecology

EEB 446 Oceanography
EEB 470 Aquatic Ecology
EEB 484 Conservation Biology
EEB 493 Wofford College's B.S. in Ecology and Evolutionary Biology

### Organismal Biology

EEB 350 Vertebrate Biology
EEB 360 Invertebrate Biology
EEB 380 Entomology
EEB 450 Comparative Animal Behavior
EEB 474 Ichthyology
EEB 461 Special Topics in Organismal Biology

### Botany

BOT 310 Plant Morphology
BOT 330 Field Botany

### Microbiology

MICRO 310/319 Introduction to Microbiology/Introductory Lab

### Physiology

BOT 321 Introduction to Plant Physiology

### Computer Science

BCBM 440 General Physiology
BCBM 415 Neurobiology

### Microbiology

EEB 350 General Microbiology

### Plant Biology

EEB 490, Undergraduate Seminar

### Biology

EEB 460 Evolution

### Environmental Science

EEB 446 Oceanography
EEB 470 Aquatic Ecology

### Conservation Biology

EEB 484 Conservation Biology

### Invertebrate Biology

EEB 493 Wofford College's B.S. in Ecology and Evolutionary Biology

### Comparative Animal Behavior

EEB 474 Ichthyology

### Special Topics

EEB 461 Special Topics in Organismal Biology

### Botany

BOT 310 Plant Morphology

### Field Botany

BOT 330 Field Botany

### Microbiology

MICRO 310/319 Introduction to Microbiology/Introductory Lab

### Physiology

BOT 321 Introduction to Plant Physiology

### General Physiology

BCBM 440 General Physiology

### Neurobiology

BCBM 415 Neurobiology

### Plant Physiology

MICRO 310 General Microbiology

4. The remaining hours for the EEB concentration can include any of the remaining EEB courses on these lists, other Upper Division Ecology and Evolutionary Biology courses, or appropriate Upper Division courses offered by the following departments: Anthropology; Botany; Forestry, Wildlife and Fisheries; Geography; Geology; Microbiology; Plant and Soil Sciences. A list of approved appropriate courses may be obtained from the office of either the Division of Biology or Ecology and Evolutionary Biology or from the Department of Ecology and Evolutionary Biology’s webpage. Other courses, related to the student’s determined interests, may be approved by petition to the department and the Division. Courses applied to the major must include at least 4 hours at the 400-level and one laboratory course.

Requirements for the honors option are as follows:
- (a) fulfill all requirements for the Biological Sciences: Ecology and Evolutionary Biology major;
- (b) maintain a GPA of 3.5 in all the 300-level and above courses from the concentration and an overall GPA of 3.2; (c) pass a minimum of 4 hours in EEB 400, Undergraduate Research, during the junior and senior years; (d) pass EEB 407, Senior Thesis; and (e) pass EEB 490, Undergraduate Seminar.

### Microbiology

The microbiology concentration consists of Chemistry 350-360-369, BCBM 410, Microbiology 310-319, 320-329, and 12 additional hours of 400-level Microbiology courses. An honors option is offered to selected students who have completed the required 300-level Microbiology courses with a minimum grade point average of 3.5 in Microbiology courses and 3.2 for all courses. In addition to these 300-level Microbiology courses, an honors major requires successful completion of 15 additional hours of 400-level Microbiology courses, including 401 and 402.

### Plant Biology

The Plant Biology concentration may be obtained by completing the Biological Sciences prerequisites and Chemistry 350-360-369 or 350, 310-319 or 310-319, BCBM 310, and the following Botany courses: Botany 310 (4) Botany 321 (4)
Botany 330 (3)
Botany 404 or 431 (3) or (4)
Botany 400, 441, or 442 (2)
plus 9 additional hours of other Upper Division courses offered by Botany or other life science departments (except Botany 305, 306, or 309). A list of approved courses from other life science departments is available in the Division of Biology office.

Requirements for an honors option are as follows: a) Maintain a GPA of 3.5 in all the 300-level and above courses from the concentration and an overall GPA of 3.2, b) Pass a minimum of 4 hours of Botany 441-442 (undergraduate research) during the junior and senior year; and c) Write a senior thesis that is acceptable to the student’s committee. Students interested in pursuing an honors option should contact the Botany office for details.

A minor includes the following prerequisites and requirements: Prerequisites are Botany 110-120 or Biology 130-140; and Chemistry 120-130. Requirements are Biology 240 and 250; and at least 8 hours chosen from 300- and 400-level courses in Biochemistry, Cellular and Molecular Biology, Botany; Ecology and Evolutionary Biology; and Microbiology. 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 undergraduate research may be credited.

CHEMISTRY

Professors:
M.J. Sepiakni (Head), Ph.D. Iowa State;
J.L. Adcock, Ph.D. Texas; S.D. Alexandratos, Ph.D. California (Berkeley); D.C. Baker, Ph.D. Ohio State; C.E. Barnes, Ph.D. Stanford; J.E. Bartmess, Ph.D. Northwestern; J.E. Bloor (Emeritus), Ph.D. Manchester (England); W.E. Bull (Emeritus), Ph.D. Illinois; J. Q. Chambers, Ph.D. Kansas; R.N. Compton, Ph.D. Tennessee; K.D. Cook, Ph.D. Wisconsin; J.F. Eastham (Emeritus), Ph.D. California (Berkeley); C.S. Feigler, Ph.D. Colorado; W.H. Fletcher (Emeritus), Ph.D. Minnesota; F.A. Grimm (Emeritus), Ph.D. Cornell; G.A. Guiochon (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Université de Paris (France); G.W. Kabalka (Robert H. Cole Professor, Alumni Distinguished Service Professor), Ph.D. Purdue; D.C. Kleinfelter (Emeritus), Ph.D. Princeton; J.D. Kovac, Ph.D. Yale; J.D. Larese, Ph.D. Wesleyan; M.H. Lietzke (Emeritus), Ph.D. Wisconsin; L.J. Magid, Ph.D. Tennesse; R.M. Magid, Ph.D. Yale; J.W. Mays (Distinguished Scientist, Science Alliance Center of Excellence), Ph.D. Akron; R.M. Pagni, Ph.D. Wisconsin; J.R. Peterson (Emeritus), Ph.D. California (Berkeley); G.K. Schwetli (Alumni Distinguished Service Professor), Ph.D. Illinois; W.A. Van Hook, Ph.D. Johns Hopkins; E.L. Wehry (Emeritus), Ph.D. Purdue; T.F. Williams (Alumni Distinguished Service Professor), Ph.D. London (England); C. Woods, III, Ph.D. North Carolina State; B. Wunderlich (Distinguished Scientist, Emeritus), Ph.D. Northwestern; Z.B. Xue, Ph.D. UCLA.

Associate Professors:
M.D. Dadmun, Ph.D. Massachusetts; R.J. Hinde, Ph.D. Chicago; C.A. Lane (Emeritus), Ph.D. California (Berkeley); F.M. Schell, Ph.D. Indiana.

Assistant Professors:
S.D. Gilman, Ph.D. Penn State; J.L. Musfeldt, Ph.D. Florida; J.C.F. Turner, Ph.D. Oxford; D.G. Young, Ph.D. Ohio State; X.P. Zhang, Ph.D. Pennsylvania.

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 Arts and Sciences Advising Center for assignment of a faculty advisor in the Department of Chemistry. For further information, contact the Head of the Department of Chemistry, 575 Buehler Hall. For information concerning the Cooperative Program in chemistry, see description of the B.S. program below.

CURRICULUM REQUIREMENTS

<table>
<thead>
<tr>
<th>Category</th>
<th>Hours</th>
<th>Credit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chemistry 120-130 or (preferably) 128-138</td>
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<tr>
<td>Mathematics 141-142</td>
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<tr>
<td>English Composition</td>
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<tr>
<td>Sophomore</td>
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<td>Chemistry 230</td>
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<td>Chemistry 350-360</td>
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<td>Chemistry 489</td>
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<td>Mathematics 241 and either 231 or 251</td>
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<td>Physics 135-136 or 137-138</td>
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<td>Distribution</td>
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<td>Chemistry 430</td>
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<td>BCM 410 or 401</td>
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<td>*Chemistry Electives</td>
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<td>Distribution</td>
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<tr>
<td>*Electives</td>
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<tr>
<td>Total: 125-132 hours</td>
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</tbody>
</table>

*Preferably chosen from German, French, Russian or Japanese; the College of Arts and Sciences requires that a student demonstrate intermediate-level competence in whatever foreign language is chosen. The distribution requirements of the College of Arts and Sciences 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 Other Studies). 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 and cellular and molecular biology, mathematics, physics, or chemical, metallurgical, and polymer engineering.

*To be chosen from Chemistry 400, 401, 408, 420, 450, and 490.

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 Arts and Sciences 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 industry. 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.

Prerequisites to the major are Chemistry 120-130 or 128-138 and Mathematics 141-142 or 151-152. Corequisite to the major is Physics 221-222, 135-136, or 137-38. The major consists of Chemistry 240, 310, 319, 350-360, 369, 471-481 or 473-483, 479 and 10 hours of additional work in chemistry at the 200-level or above that includes at least one laboratory course or lecture/labora-
tory course; up to 6 hours of Biochemistry and Cellular and Molecular Biology 410-420 or 401-402 or Geology 460 may be applied to the 10-hour requirement.

For students planning careers in Chemistry, the recommended courses (from the list above) are Mathematics 141-42, Physics 135-136 or 137-138, and Chemistry 473-483; although not required, certain additional courses are strongly suggested for students planning to become chemists: Mathematics 241 and Chemistry 230, 320, 329, and 406. Because professional chemists need a reading knowledge of foreign languages, intermediate level competency should be acquired in German, French, Russian or Japanese. Students who are undecided about their career goals should consult the Head of the Department at the earliest opportunity. Unlike the Bachelor of Science in Chemistry, the regular B.S. degree is not approved by the Committee on Professional Training of the American Chemical Society.

A Minor in Chemistry shall consist of the successful completion of 15 hours of chemistry courses numbered 120 and above including 310, 319 (4 hours) and at least one of the following sequences: 350-360, 369 (8 hours); or 471-481, 479 (8 hours); or 473-483, 479 (8 hours).

Honors B.S. Major
Candidates for an Honors degree in Chemistry must fulfill all of the requirements for either the B.S. in Chemistry or the regular B.S. degree and must also satisfy the following stipulations: they must complete with grades of C or better Mathematics 141-142, Physics 135-136 or 137-138, and Chemistry 473-483, 400, and 408; and they must have an overall university GPA of at least 3.0 with a GPA in chemistry courses of at least 3.3.

Cooperative Program
A cooperative program is available to students who are Chemistry majors. After the freshman year, the student alternates a semester in school with a semester in a job in the chemical industry. The program normally requires five years and involves a total of four work semesters and eight school semesters. Students are required to have at least a 2.5 average to enter and remain in the program. Some opportunity exists for students to enter the program later than the end of the freshman year. Interested students should make application to the head of the department at least one semester in advance of the beginning of the first work period. Further information will be supplied on request.

Placement in General Chemistry Sequences
The sequences which meet all of the requirements of a year of General Chemistry and which serve as prerequisite for upper-division courses are 120-130 and 128-138; chemistry majors are strongly urged to take the latter sequence. Courses 100 and 110 emphasize organic and biochemical chemistry, and may not be used as prerequisite for other chemistry courses. Chemistry 150 and 160 are designed to increase the chemistry literacy and consumer knowledge of students and may not be used as prerequisites for any other chemistry course. 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, 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 personal 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.

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 (Modern Foreign Languages and Literatures).

CLASSICS

Professors:
D.W. Tandy (Head; Distinguished Professor of Humanities), Ph.D. Yale; C.C. Gesell (Lindsay Young Professor), Ph.D. North Carolina (Chapel Hill); S.D. Martin, Ph.D. Michigan; H.C. Rutledge (Emeritus), Ph.D. Ohio State.

Associate Professors:
C.P. Craig, Ph.D. North Carolina (Chapel Hill); J.E. Shelton, Ph.D. Vanderbilt.

Assistant Professor:
E.H. Sutherland, Ph.D. U.C. Berkeley.

Adjunct Professor:
D.W. Jones, Ph.D. Chicago.

Adjunct Assistant Professors:
I.P. Dessel, Ph.D. Arizona; M. Kulikowski, Ph.D. Toronto.

The B.A. Major Concentration in Classical Civilization consists of 27 hours. The required core of the major is Classics 201 plus any 9 hours drawn from the following: Classics 221-222 (3-3), Classics 232-233 (3-3), Classics 253 (3). The remaining 15 hours may be drawn from Greek 261-264, Latin 251-252, or any Classics course numbered above 300, or from History 310, History 311, History 366, or Philosophy 320. Students are encouraged to satisfy the foreign language requirement with Greek or Latin.

A Minor Track in Classical Civilization consists of 18 hours including Classics 201 plus any 6 hours drawn from the following: Classics 221-222; 232-233; 253. The remaining 9 hours may be drawn from Greek 261-264, Latin 251-252, or any Classics course numbered 300 or above, or from History 310, 311, 366, or Philosophy 320.

The B.A. Major Concentration in Greek consists of 27 hours including 18 hours of Greek language courses numbered above 200 plus 9 hours to be drawn from the following: any courses in the Classics Department (other than Greek 121-122, Classics 201, Classics 273) or History 310-311.

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.

Placement Examination
Students who transfer to UT 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:
Robert C. Ward (Head), Ph.D. Virginia; Jack Dongarra, Ph.D. New Mexico; M.A. Langston, Ph.D. Texas A&M; J.H. Poore, Ph.D. Georgia Tech; G.R. Sherman (Emeritus), Ph.D. Purdue; Michael G. Thomason, Ph.D. Duke.

Associate Professors:
M.W. Berry, Ph.D. Illinois; J. Gregor, Ph.D. Aalborg (DK); B.J. MacLennan, Ph.D. Purdue; J.S. Plank, Ph.D. Princeton; Padma Raghavan, Ph.D. Pennsylvania State; M.D. Vose, Ph.D. Texas; B.T. Vander Zanden, Ph.D. Cornell.

Assistant Professors:
D.W. Straight, Ph.D. Texas; R. M. Wolski, Ph.D. U.C. Davis.

Instructor:
J. Wallace Mayo, M.S. Tennessee.
Major Prerequisites to the major include Computer Science 102, 140, 160; Mathematics 141-142; and a two semester laboratory science sequence (Physics 135-136 or Biology or Chemistry or a sequence approved by the Computer Science Department). The major consists of 302, 311, 365, and 380; two of the three courses 340, 360, and 370; Mathematics 241, 251, and 300; English 360, and either an additional 9 hours of upper division Computer Science or an additional 6 hours of upper division Computer Science and Mathematics 231.

It is highly recommended that all Computer Science majors own a personal computer with communications capability.

Minor An undergraduate minor consists of Computer Science 140 and 160, plus 15 hours of 300 and 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 Arts and Sciences as freshmen or sophomores are expected to apply for the major immediately after attempting 12 hours in Computer Science.

Recent progression standards were:
1. Has completed at least the following three courses at UTK with an average of 3.0 or better: CS 102, 140, and 160 for UTK students. Transfer students’ course work will be evaluated individually.
2. Has achieved an average of 2.5 or better in all Computer Science courses taken at UT 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 Science course.
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 the Undergraduate Programs Office and the Computer Science Department office, 203 Claxton West.

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 ideally prior to 75 hours. As a minimum, all students must be admitted to the Computer Science major for at least the last 30 hours of work.

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 UT 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 AND EVOLUTIONARY BIOLOGY

Professors:
T.G. Hambra (Head), Ph.D. Missouri; C.R.B. Boake, Ph.D. Cornell; D.L. Bunting, Ph.D. Oklahoma State; G.M. Burghardt, Ph.D. Chicago; H. Delcourt, Ph.D. Minnesota; P.A. Delcourt, Ph.D. Minnesota; A.C. Echternacht, Ph.D. Kansas; D.A. Etter, Ph.D. Minnesota; N.B. Greenberg, Ph.D. Rutgers; L.J. Gross, Ph.D. Cornell; W.F. Harris, III, Ph.D. Tennessee; J.F. McCormick (Emeritus), Ph.D. Emory; G.F. McCracken, Ph.D. Cornell; M.L. Pan, Ph.D. Pennsylvania; S.E. Riechert, Ph.D. Wisconsin; G.S. Sayler, Ph.D. Idaho; T.W. Schultz, Ph.D. Tennessee; D. Simberloff (Gore Hunger Chair of Excellence), Ph.D. Harvard; G. Stacey, Ph.D. Texas (Austin); G.L. Vaughan (Emeritus), Ph.D. Duke.

Associate Professors:
Amundsen, C.C., Ph.D. Colorado; J.A. Drake, Ph.D. Purdue; D.J. Fox, Ph.D. Johns Hopkins; S. Kraybill, Ph.D. Moscow State; M. Piglucci, Ph.D. Connecticut.

Assistant Professors:
M. Butler, Ph.D. Washington (St. Louis); P. Kover, Ph.D. Indiana; J. Weitzman, Ph.D. Arizona; J. Wolf, Ph.D. Kenucky (Lexington).

Students wishing to emphasize study in this area elect to major in Biology with a concentration in Ecology and Evolutionary Biology. See the description of the Biology Major under “Division of Biology” for requirements.

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 employment, inflation, poverty, wealth, and the benefits and costs of economic growth. Courses offered in the Department of Economics of the College of business Administration provide opportunity for a major or minor in economics in the College of Arts and Sciences.

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, 313, and 499 plus 18 additional hours in upper division economics courses. Majors are encouraged to satisfy List B of the Natural Science Distribution Requirements with one of the mathematics packages Mathematics 115-123, 123-125, or 141-142. Students planning graduate work in Economics should elect Mathematics 141-142.

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.

Honors The Department of Economics offers an honors B.A. degree. Candidates for the honors degree must complete 311, 313, 499, and 18 additional upper division hours, including registering for three hours of 493 Independent Study, which should lead to the writing of an honors thesis. Students interested in the honors degree should contact the department for details.

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

Professors:
D.A. Carroll (Head), Ph.D. North Carolina; P.G. Adams (Young Professor Emeritus), Ph.D. Texas; E.W. Bratton (Emeritus), Ph.D. Illinois; D.R. Cox (Associate Head, Young Professor), Ph.D. Missouri; R.Y. Drake, Jr. (Emeritus), Ph.D. Yale; A.R. Dunn, Ph.D. Washington; A.R. Ensor, Ph.D. Indiana; R.J. Finneran (John C. Hodges Professor), Ph.D. North Carolina; J.H. Fisher (John C. Hodges Professor Emeritus), Ph.D. Pennsylvania; S.B. Garmer, Jr., Ph.D. Princeton; J.E. Gill (Emeritus), Ph.D. North Carolina; D.F. Goslee, Ph.D. Yale; N.M. Goslee (Alumni Distinguished and Young Professor), Ph.D. Yale; T.J.A. Heffernan (Curry Professor), Ph.D. Cambridge; M. Kallet, Ph.D. Rutgers; M. Keene, Ph.D. Texas; R.M. Kelly (Young Professor), Ph.D. Duke; B.J. Leggett (Humanities Professor), Ph.D. Florida; I. Leki, Ph.D. Illinois; M.A. Lofaro, Ph.D. Maryland; C. Maland (Young Professor), Ph.D. Michigan; A.R. Penner (Emeritus), Ph.D. Colorado; J.E. Reese (Emeritus), Ph.D. Kentucky; N.J. Sanders (Young Professor Emeritus), Ph.D. Shakespeare Institute, Stratford-on-Avon; D.J. Schneider (J. Douglas Bruce Professor Emeritus), Ph.D. Northwestern; D.M. Scura (Emeritus), Ph.D. North Carolina; W.R. Shurr (Humanities Professor Emeritus), Ph.D. North Carolina; B.T. Stowe (Emeritus), Ph.D. Northwestern; R.E. Stillman, Ph.D. Pennsylvania; J.B. Trahern, Jr. (Alumni Distinguished Professor), Ph.D. Princeton; T.V. Wheeler (Emeritus), Ph.D. North Carolina; J.M. White (Young Professor Emeritus), M.A. Cambridge; A. Wier (Distinguished Teaching Chair), M.F.A. Bowling Green; N. Wright (Emerita), Ph.D. Yale; J.P. Zomchick, Ph.D. Columbia.

Associate Professors:

Assistant Professors:
Instructors: G. Albrighton, Ph.D. North Dakota; E. Bailey, Central Arkansas; L. Berry, M.A. Tennessee; J. Burton, Ph.D. SUNY; P.A. Tschantz, M.A. New Mexico State.

Prerequisites and Corequisites One two-semester sequence chosen from the following groups: English 201-202 (British Literature); 221-222 (Literature of the Western World); 231-232-233 (American Literature); 221-222 (Literature of the Western World); 251-252-253 (Introduction to literary genres).

Major Requirements The English major consists of ten courses at the 300-400 level in one of the following concentrations:

Creative Writing (1) a two-course sequence in creative writing; (2) three other writing courses; (3) four courses in literature, two of which must be before 1800; and at least one of those before 1800; (4) one course in language, theory, cultural, ethnic, or gender studies. Literature (1) English 376 (Colloquium in Literature), to be taken, if possible, near the beginning of the student’s major program; (2) four courses in literature before 1800, including at least two before 1800; (3) one course in American literature; (4) one course in twentieth-century literature; (5) one course in language, theory, cultural, ethnic, or gender studies; (6) two or more courses from any of the department’s offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Courses may count in more than one category.

Rhetoric and Writing (1) a three-course package in rhetoric and writing; (2) one other course in rhetoric or writing; (3) four courses in literature, two of which must be before 1800, and at least one of those before 1800; (4) one course in language, theory, cultural, ethnic, or gender studies; (5) one course from any of the department’s offerings, including criticism, film, folklore, language, literature, rhetoric, and writing. Technical Communications (1) a three-course package in technical communications; (2) one other course in rhetoric or writing; (3) four courses in literature, two of which must be before 1800, and at least one of those before 1800; (4) one course in language, theory, cultural, ethnic, or gender studies; (5) one course from any of the department’s offerings, including criticism, film, folklore, language, literature, rhetoric, and writing.

See departmental brochure, Undergraduate Study in English, for a list of courses that satisfy the distribution, package, and sequence requirements for the various areas.

Individualized Program The Director of Undergraduate Studies is empowered to approve individualized programs developed by students with their advisors. These programs should be designed to 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, and in American and British 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. An English Minor with Technical Communication Emphasis consists of at least 15 semester hours of English courses chosen from the following: (1) at least three courses in technical communication (chosen from 360, 460, 462, 465, or any special topics course being offered in technical communication); (2) one course in expository writing, argumentative writing, language, rhetoric, or another technical communication course (chosen from 355, 360, 371, 372, 455, 460, 462, 466, 470, 471, 472, 484, 485, 495, 496; and (3) one other 300 or 400 level English course.

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 Modern Foreign Languages and Literatures.

GEOGRAPHY

Professors: C.S. Aiken, Ph.D. Georgia; T.L. Bell, Ph.D. Iowa; R.A. Foresta, Ph.D. Rutgers; E.H. Hammond (Emeritus), Ph.D. California (Berkeley); C.P. Harden, Ph.D. Colorado (Boulder); S.P. Horn, Ph.D. California (Berkeley); S.R. Jumper (Emeritus), Ph.D. Tennessee; R.G. Long (Emeritus), Ph.D. Florida; J.R. Lieth (Head), Northwestern; J.B. Reeder, Ph.D. Louisiana State; T.H. Schmudde (Emeritus), Ph.D. Wisconsin; T.J. Wilbanks (Adjunct), Ph.D. Syracuse.

Associate Professors: T.J. Blasing (Adjunct), Ph.D. Wisconsin; L.W. Brinkman (Emeritus), Jr., Ph.D. Wisconsin; M.A. Brown (Adjunct), Ph.D. Ohio State; M.M. Ripshover (Adjunct), Ph.D. Tennessee; Cheng Liu (Adjunct), Ph.D. Pennsylvania; R. McKown (Adjunct), Ph.D. Oregon; Kenneth Orvis, Ph.D. California (Berkeley); S.L. Shaw, Ph.D. Ohio State.

Assistant Professors: Henri Grissino-Mayer, Ph.D. Arizona; Glen Harrison (Adjunct), Ph.D. Tennessee.

B.A. Major Geography 131 and 132 are prerequisite to a major in Geography, which consists of Geography 310 and 499; either 320, 421, or 423; either 340 or 351; one course from among 410, 411 412, 413 or 415; one course from among 361, 363, 365, 371, 372, 373, 375, or 379; and 9 additional credits, at least 6 of which must be taken at the 400 level. No more than 3 hours of Geography 490 may be counted toward the major.

Students who enter the major with more than 30 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 Minor in Geography consists of 15 semester hours of Geography courses at the 300 level or above. Geography 490, 491, 492, 493 may not be counted toward the minor without departmental permission.

Honors Students who have an overall GPA of 3.2 may elect to participate in an enrichment program that involves the successful completion of Geography 497 and 498. Honors: Senior Thesis under the direction of a faculty mentor. An approved written copy of the thesis must be submitted to the Department of Geography. Interested students should consult their advisor for details about participation.

GEOLOGICAL SCIENCES

Professors: W.M. Dunne (Head), Ph.D. Bristol; T.W. Broadhead, Ph.D. Iowa; D.W. Byerly (Emeritus), Ph.D. Tennessee; S.G. Driese, Ph.D. Wisconsin; R.D. Hatcher (UT Knoxville/ ORNL Distinguished Scientist), Ph.D. Tennessee; O.C. Kopf (Emeritus), Ph.D. Columbia; T.C. Labotka, Ph.D. Caltech; M. L. McKinney, Ph.D. Yale; H.Y. McSween (Distinguished Professor of Science), Ph.D. Harvard; K.C. Misra, Ph.D. Western Ontario; C.I. Mora (Carden Professor), Ph.D. Wisconsin; L.A. Taylor, Ph.D. Lehign; K.R. Walker (Emeritus), Ph.D. Yale.

Associate Professors: G. M. Clark, Ph.D. Pennsylvania State; L.D. McKay, Ph.D. Waterloo; R.T. Williams, Ph.D. VPI.

Assistant Professors: L.C. Kah, Ph.D. Harvard; Edmund Perfect, Ph.D. Cornell; Maria Uhle, Ph.D. Virginia.

Prerequisites to a B.S. Major are Geology 101-102; Chemistry 120-130; Mathemetics 141-142 or 147-148; plus one two-semester sequence and one additional course from Physics 135-136 and Biology 130-140.

Major Requirements Geology 310, 320, 330, 340, 370, and 440 (22 hours); plus 12 additional hours of geology courses at the 400 level. Geology majors must attend the UT field camp or an approved equivalent elsewhere. (For equivalent camps, prior approval by the Department on an individual-case basis is required.)

Minor Requirement Consists of Prerequisites: Geology 101 and 102 or 103. Geology courses: at least 16 hours of courses numbered 300 or higher, excluding 410. A maximum of 3 hours of 493 may be counted toward the minor.

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 of some of the courses necessary to satisfy the Arts and Sciences College Distribution requirements are specified. Required coursework includes: Geology 310, 320, 340, 370, 440, 450, 455, 460, 470 and 485; Mathematics 141, 142, (or equivalent honors courses) and 231 (or substitution of Geology 401 for Math 231); Physics 231; Basic Engineering 101, 121, and 131; Civil Engineering 330, 435 and any one of the following: 390, 440, 530, 532 or Environmental Engineering 535; Environmental and Soil Sciences 210; and Speech Communication 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.

**Hons Ors Students who have completed five 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 3 semester hours beyond the normal requirements 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 595), 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.

**GERMAN**
See Modern Foreign Languages and Literatures.

**GREEK**
See Classics.

**HEBREW**
See Religious Studies.

**HISTORY**

Professors:
P.H. Bergeron (Emeritus), Ph.D. Vanderbilt; D.P. Brummett, Ph.D. Chicago; E.V. Chmielewski (Emeritus), Ph.D. Harvard; W. Cutler, Ph.D. Texas; W.W. Farris, Ph.D. Harvard; J.R. Finger (Emeritus), Ph.D. Washington; A.G. Haas, Ph.D. Chicago; Y.P. Hao (Emeritus), Ph.D. Harvard; R.W. Haskins (Emeritus), Ph.D. California (Berkeley); M.M. Klein (Alumni Distinguished Service Professor, Lindsay Young Professor and Emeritus), Ph.D. Columbia; A. Mayhew (Interim Vice Provost), Ph.D. Texas; H. Moser, Ph.D. Wisconsin; R.J. Norrell (Bermadette Schmitt Professor), Ph.D. Virginia; L.A. Ratner (Emeritus), Ph.D. Cornell; J.G. Utley (Emeritus), Ph.D. Illinois; W.B. Wheeler, Ph.D. Virginia.

Associate Professors:
T.A. Diacon (Head), Ph.D. Wisconsin; J. Applier, Ph.D. California (Riverside); S.V. Ash, Ph.D. Tennessee; S.D. Becker (Emeritus), Ph.D. Case Western Reserve; J.D. Bing (Emeritus), Ph.D. Indiana; R. J. Bast, Ph.D. Arizona; J. Bohstedt, Ph.D. Harvard; O. Bradley, Ph.; T.E. Burman, Ph.D. Toronto; C.G. Fleming, Ph.D. Duke; L. Glover, Ph.D. Kentucky; C.A. Higgs, Ph.D. Yale; V.G. Lulievicu, Ph.D. Pennsylvania; G.K. Piehler, Ph.D. Rutgers; P.J. Pinkney, Ph.D. Vanderbilt.

Assistant Professors:
K. Brosnan, Ph.D. Chicago; J.P. Dessel, Ph.D. Arizona; H. DeWeerdt, Ph.D. Harvard; M. Kuklewski, Ph.D. Toronto; L. Liu, Ph.D. California (San Diego); J. Sahadeo, Ph.D. Illinois; G. White, Ph.D. Temple.

The department’s program is designed to provide students with a knowledge of their cultural traditions and of their world, past and present, and thus to prepare them for the responsibilities of citizenship in today’s complex society. Students take history courses to develop their skills in thinking, reading, writing and speaking; to understand the links between past, present and future; and to assist them in their search for personal identity.

B.A. Major in history should prepare their programs in consultation with a department faculty advisor. A student may not declare a history major until he/she has completed both semesters, with a grade of C+ or better in each. The requirements of Geology 491, 492, or 493 un-der the direction of a faculty member. The results of the research must be formally presented to the Department’s Seminar in History (History 595), 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.

**AFRICAN AND AFRICAN-AMERICAN STUDIES**

Chair: John O. Hodges, Religious Studies.

Associate Professor: Asafa Jalata, Sociology, Ph.D. State University of New York (Binghamton); George White, Jr., Ph.D. Temple.

**Major Concentration** African-American Studies 201-202 are required in the concentration which consists of 24 hours from the African-American Studies curriculum. At least 15 hours must be upper division credits. Majors are required to take AAAS 431, preferably in their senior year. A maximum of 6 hours in AAAS 492 and 493 combined can be applied toward the AAAS major. In planning their program majors must include courses from at least 2 other departments which crosslist courses with African and African-American Studies in addition to the AAAS core course offerings.

**Minor** African-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 AAAS 492 and 493 combined can be applied to the AAAS minor. In planning their programs minors must include courses from at least 2 other departments which crosslist courses with African and African-American Studies in addition to the AAAS core course offerings.

**AMERICAN STUDIES**

Chair: Benita J. Howell, Anthropology.

**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; at least two approved American History courses; 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, in such 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, and nine additional hours from at least two different disciplines.

**ASIAN STUDIES**

**Chair:** Miriam L. Levering, Religious Studies.

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 those 12 hours must come from Subdivision A and 6 from Subdivision 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:** Christine Holmlund, Modern Foreign Languages and Literatures.

The Cinema Studies Minor consists of 15 hours, including Cinema Studies 281; 3 hours chosen from Cinema Studies 235, 236, or Broadcasting 330; and 9 additional hours from any courses in Cinema Studies, courses cross-listed with Cinema Studies, or from the following list of approved courses: Broadcasting 275 Introduction to Broadcasting (3); Broadcasting 330 Audio/Video Production (3); Broadcasting 430 Electronic Field Production (3). It is strongly recommended that Cinema Studies 281 Introduction to Film Studies be taken before any other courses in the minor.

For further information about the minor, consult the chairperson of the Cinema Studies Program. Courses related to Cinema Studies and not listed above may be applied to the minor with the approval of the chair of the program.

**COMPARATIVE LITERATURE**

**Chair:** Carolyn R. Hodges, Modern Foreign Languages and Literatures.

A Major Concentration in Comparative Literature consists of 27 hours including Comparative Literature 202 and 401-402, and 9 hours of literature in a foreign language in courses numbered 300 or above. The remaining 9 hours may 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, Modern Foreign Languages and Literature, and Religious Studies. Certain courses in Philosophy, Theatre, and Interdisciplinary Programs 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 202 and either Comparative Literature 401 or 402, 6 hours of literature in a foreign language in courses numbered 300 or above, and 6 hours of literature courses numbered 300 or 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: English, Modern Foreign Languages and Literatures, Religious Studies. Certain courses in Philosophy, Theatre, and Interdisciplinary Programs 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.

**ENVIRONMENTAL STUDIES**

**Chair:** Michael McKinney, Geological Sciences.

The **Major Concentration** in Environmental Studies provides sound scientific, socioeconomic, and philosophical background for understanding the earth’s environment with an opportunity to minor in one of the many environmentally related curricula offered by the various colleges within the University.

Prerequisites to a B.A. Major in Environmental Studies are: Biology 130-140 or Botany 110-120; Chemistry 120-130; Geology 101; Geography 131; Mathematics 123-125 or 141-142 or 151-152; Economics 201; and Biology 250.

The **Major Concentration** consists of a core and a specialty. The core includes Geology 202 plus: (a) 12 hours from: History 346; Sociology 360; Philosophy 346; Economics 462; Agriculture and Natural Resources 333; Journalism 451; Geology 490; and 3 hours from: Geology 455, Geography 433, Geology 436, or Ecology/Evolution 484; (b) 3 hours from: Geography 334, Geography 434, or Environmental and Soil Sciences 462. The specialty is satisfied by meeting the course requirements listed for a minor in any one of the environmentally related curricula offered by the various colleges of the University with a grade of “C+” or better. The specialty will require 15-18 hours as specified by the chosen department. Curricula that would be suited for an Environmental Studies major include, but are not limited to: Biosystems Engineering and Environmental Science, Plant Sciences and Landscape Systems, Wildlife and Fisheries Science, Forestry, Chemistry, Geography, Geology, Biology, Sociology, Economics, Political Science, Communications, or Business Administration.

**JUDAIC STUDIES**

**Chair:** Gilya Gerda Schmidt, Religious Studies

The **Major Concentration in Judaic Studies** offers a course of study that treats Judaism as a historically evolving and culturally specific enterprise. The concentration explores Jewish culture, religion and heritage through literature, philosophy and history. A multi-disciplinary combination of courses permits critical reflection about topics and issues in a world civilization and cross-cultural context.

A **Major Concentration** consists of at least 27 hours at the 300 level or above, distributed as follows: (a) Religious Studies 381, History 383, and 12 hours from Religious Studies 311, 312, 320, 385, 364, 401, History 370, 374; (b) 9 hours selected from Art History 425, 431, 475, German 350, History 369, 385, 484, Philosophy 322.

Students should contact the program advisor early in planning a Judaic Studies major.

The **Judaic Studies Minor** consists of Religious Studies 381, History 370, and 9 hours selected from the Judaic Studies Major Concentration. It is recommended that students minoring in Judaic Studies discuss their program with a member of the Judaic Studies Committee.

**LANGUAGE AND WORLD BUSINESS**

For a complete list of requirements, see Modern Foreign Languages and Literatures.

**LATIN-AMERICAN STUDIES**

**Chair:** Michael Handelman, Modern Foreign Languages and Literatures.

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 Studies 401 and 402, three hours of either History 380 or 381, 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 in
Students should contact program advisors early in planning a Legal Studies major. It is strongly recommended that Sociology 455 Society and Law, be taken before selecting electives. Other law-related courses consistent with the purposes and objectives of the major may be approved through consultation with the Chair of the Legal Studies Committee.

**LINGUISTICS**

**Chair:** Bethany K. Dumas, English.

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 linguistics. The program of study provides the additional possibilities of focusing the study 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) Completion of a third year of foreign 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: Asian Studies 121-122 (5,5) (Arabic); Asian Studies 131-132 (5,5) (Chinese); Asian Studies 141-142 (4,4) (Hebrew); Asian Studies 151-152 (5,5) (Japanese); Religious Studies 309-310 (3,3) (Hebrew); other non-Indo-European language sequences approved by the Linguistics Committee (required).

**Concentration:** 30 hours distributed as follows: (a) 21 hours composed of Audiology and Speech Pathology 305; English 371, 372, and 471; French, German, Russian or Spanish 425-426; Linguistics 423; and (b) 9 hours of the following, selected in consultation with the Linguistics Committee: Anthropology 413, 496; Culture and Society in Speech Pathology 320, 379; Educational Curriculum and Instruction 457; Special Education and Rehabilitation 522; English/Linguistics 472, 474, 475, 476, 485, 490, 508-509, 680; French 421, 422, 429, 521-522; German 435-436, 571-572; Holistic Teaching/Learning 504; Language, Communication, and Humanities Education 455, 587; Linguistics 400; Philosophy 310, 428; Psychology 400, 450, 480, 482, 543; Spanish 421, 422, 531-532; Speech Communication 300, 320; Theatre 426. Other hours may be substituted in (b) by approval of the Linguistics Committee.

A Minor in Linguistics shall consist of 15 credit hours composed of (1) either English 471 (3) or 3 hours from section (b) of the major, selected in consultation with the Linguistics Committee; and (2) 15 hours as follows: Audiology and Speech Pathology 305 (3); English 371 (3) or 372 (3); French, German, Russian or Spanish 425 (3) or 426 (3); and Linguistics 423 (3).

Note: In addition to the above listed courses for the concentration and the minor there are occasional offerings in the Honors College 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:** Laura L. Howes, English.

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 be from a related pattern (Classics; History; Political Science; 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 and 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.

**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 1668 (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 from a related and Medieval Political Thought (3).

**Category #2** Language and Literature: Classics 435 Medieval Latin (3); English 371 Foundations of the English Language (3); English 401 Medieval Literature (3); English 402 Chaucer (3); French 410 Medieval French Literature (3); Italian 401 Dante and Medieval Culture (3); and Italian 402 Petrarch and Boccaccio (3).

**Category #3** The Arts: Architecture 415 Seminar in Medieval Architecture (3); Art History 425 Early Christian and Byzantine Art to
1350 (3); Art 441 Northern European Painting, 1350-1600 (3); Art History 431 Medieval Art of the West, 800-1450 (3); Art History 451 The Art of Italy, 1250-1400 (3); and Music History 210 History of Music to 1750 (3).

URBAN STUDIES

Chair: James A. Spencer, Urban and Regional Planning

Urban studies involves the interdisciplinary study of cities and their regions. Faculty from Planning, Architecture, Geography, History, Political Science, Sociology, History, Business participate in the program which has variable emphases from the relationship of the individual to the environment, the process of problem solving in an urban context, or the nature of current urban issues.

Prerequisites to the program are Economics 201 or 207, Political Science 101 or 102 or 107, and Sociology 110 or 120. Courses required for the major are Urban Studies 250, 350 and 460, plus 3 hours from each of these groups:

Group 1–History and Theory: Architecture 410, Urban Studies 363, 401, 454

Group 2–Physical Issues and Design: Urban Studies 323, 441, 464

Group 3–Planning and Policy: Planning 446, Urban Studies 321, 402

To complete the 30 hours required for the major, an additional 12 hours should be completed from any of the three groups or from the following list of approved courses: African and African-American Studies 480; Architecture 403, 404, 405; Classics 334; Economics 323, 361, 462; Geography 310, 411, 412, 449; Marketing 310, 320; Political Science 340; Sociology 340, 343, 344, 345, 360, 442, 462; Speech Communication 420; Statistics 201; Urban Studies 450, 481, 482, 493.

A Minor in Urban Studies consists of 18 semester hours, including Urban Studies 250 and 350, plus additional semester hours from Group 1, 2, or 3 above. For more information contact the chairperson of Urban Studies.

WOMEN’S STUDIES

Chair: Cheryl Brown Travis, Psychology

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 Arts and Sciences 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 roles they are playing in society, Women’s Studies can enhance a student’s career preparation and opportunities.

The Major Concentration in Women’s Studies consists of 30 semester hours including one of the images of Women in Literature courses (either 210 or 215). Women in Society (220), Emergence of the Modern American Woman (310), at least three hours of Independent Study (493), and at least one course from each of the three major areas: Women’s Heritage (383, 432, 453, 466, 483), Contemporary Issues (375, 382, 410, 425, 434), and Literature and the Arts (330, 332, 422). At least one course varies, and may be included in any of these areas. Students are encouraged to take at least nine hours in one of these areas.

The Women’s Studies Minor consists of one of the Images of Women in Literature courses (either 210 or 215), Women in Society (220), and an additional 12 hours of upper-division Women’s Studies courses. Approved special topics courses related to Women’s Studies may also be applied toward a major or a minor.

ITALIAN

See Modern Foreign Languages and Literatures.

LATIN

See Classics.

LATIN AMERICAN STUDIES

See Interdisciplinary Programs.

LEGAL STUDIES

See Interdisciplinary Programs.

LINGUISTICS

See Interdisciplinary Programs.

MATHEMATICS

Professors: J.B. Conway (Head), Ph.D. Louisiana State; V. Alexiades, Ph.D. Delaware; D.F. Anderson, Ph.D. Chicago; J.S. Bradley (Emeritus), Ph.D. Iowa; J.A. Carnuth (Emeritus), Ph.D. Louisiana State; C.E. Clark (Emeritus), Ph.D. Louisiana State; R.J. Daverman, Ph.D. Wisconsin; D.E. Dobbs, Ph.D. Cornell; J. Dydaq, Ph.D. Warsaw (Poland); H. Frandsen (Emeritus), Ph.D. Illinois; L.J. Gross, Ph.D. Cornell; T.G. Hallam, Ph.D. Missouri; D.B. Hinton, Ph.D. Tennessee; L.S. Husch, Ph.D. Florida State; K. Johannson, Ph.D. Bielefeld, Germany; G. Samuel Jordan, Ph.D. Wisconsin; Ohaness Karakashian, Ph.D. Harvard; B.A. Kuperschmietd (UTSI), Ph.D. M.I.T.; Suzanne Lenhart, Ph.D. Kentucky, Robert M. McConnell (Emeritus), Ph.D. Duke; Balkam S Rajput, Ph.D. Illinois; H.T. Mathews (Emeritus), Ph.D. Tulane; S. Mulay, Ph.D. Purdue; C. P. Plaut, Ph.D. Maryland; S. Richter, Ph.D. Michigan; K.C. Reddy (Space Institute, Tullahoma), Ph.D. Indian Institute of Technology; J. Rosinski, Ph.D. Wrocław University; P.W. Schaefer, Ph.D. Maryland; S.M. Serbin (Emeritus), Ph.D. Cornell; Henry Simpson, Ph.D. California Institute of Technology; K. Soni (Emeritus), Ph.D. Oregon State; R.P. Soni, Ph.D. Oregon State; F.W. Stallmann (Emeritus), Ph.D. Giessen (Germany); K.R. Stephenson, Ph.D. Wisconsin; C. Sundberg, Ph.D. Wisconsin; M. Thisthley-Hewitt, Ph.D. University of Manchester (England); W.R. Wade, Ph.D. California (Riverside); C.G. Wagner, Ph.D. Duke.

Associate Professors: C. Collins, Ph.D. Minnesota; X. Feng, Ph.D. Purdue; A. Freire, Ph.D. Princeton; S. Gavrilites, Ph.D. Moscow State; Bo Guan, Ph.D. Massachusetts; K. R. Kimble (Space Institute, Tullahoma), Ph.D. Ohio State; Y. Kuo, Ph.D. Cincinnati; B. K. Soni (Space Institute, Tullahoma), Ph.D. Texas; J. Xiong, Ph.D. North Carolina, Chapel Hill.

Assistant Professors: X. Chen, Ph.D. Case Western Reserve; R. Davis, Ph.D. Tennessee; J. Denzler, Ph.D. ETH (Zurich); J. Dwyer, Ph.D. Ireland; Y. Kachi, Ph.D. Tokyo; T. Schulze, Ph.D. Northwestern; G.H. Tordova, Ph.D. Moscow State; P. Tzermias, Ph.D. California (Berkeley).


All entering freshman and all other students who have not completed a college level mathematics course, except students who have received AP calculus credit, must take the UT 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 registration.

B.S. Major The undergraduate Mathematics major is designed to provide a broad introduction to mathematics which serves as preparation for a wide variety of careers. The requirements below, which provide a solid introduction to four of the core components of mathematics, should be regarded as minimal preparation for careers in mathematics or closely related mathematical fields. Students with special interests and talents are encouraged to take as many other mathematics courses as their schedule permits.

Prerequisites to the Major are Mathematics 141-142 (or Honors version: 147-148) and 171 or CS 102.

Major Requirements consists of 37 semester hours of mathematics courses including (1) Math 231, 241 (or 247), 251 (257), 300, and (2) eight additional courses at the 300-400 level (except 399, 400, 401, 405, 411 and 490) satisfying the following conditions:

1. At least one course must be taken from each of the following categories:
   - Algebra: 351, 355-56 (457-58)
   - Analysis: 341, 445-46 (447-48)
   - Numerical Analysis: 371 or CS 370, 471-72
2. At least one 400 level two-semester sequence must be taken from the list above.
3. CS 311 and CS 380 may be used as upper division math electives in part (2).

There are many careers one can pursue with a mathematics major. Sample programs for three different goals are listed below. Additional information is available in the Mathematics Department Office.

**INDUSTRIAL EMPLOYMENT**

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<tr>
<th>Freshman</th>
<th>Hours</th>
<th>Credit</th>
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<tr>
<td>Mathematics 141-142 (or 147-148) and 171</td>
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<td>English Composition</td>
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<td>Foreign Language (beginning level, preferably French, German, or Russian)</td>
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<td>Lab Science Distribution Requirement</td>
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<td><strong>Sophomore</strong></td>
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<td>Mathematics 231, 241 (or 247), 251 (or 257), and 300</td>
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<td>Non-US History Distribution Requirement</td>
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<td>Social Science Distribution Requirement</td>
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<td>Foreign Language (completion of secondary level)</td>
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<td>Mathematics 351, 341, 371</td>
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<td>Humanities Distribution Requirement</td>
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<td>Social Science Distribution Requirement</td>
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<td>Electives</td>
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<td><strong>Senior</strong></td>
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<td>Mathematics 471-472, 423, 475</td>
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<td>Upper Level Distribution Requirement (may include Math 400 or 411)</td>
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<td>Electives (must include at least 7 upper division hours)</td>
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**PREPARATION FOR GRADUATE SCHOOL**

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<td>Social Science Distribution Requirement</td>
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**SECONDARY EDUCATION**

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<tr>
<td>Mathematics 231, 241 (or 247), 251 (or 257), and 300</td>
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**Non-US History Distribution Requirement** | 6
**Social Science Distribution Requirement** | 3
**Foreign Language (completion of secondary level)** | 6-8
**Elective** | 3

**Junior**

| Mathematics 323, 351, 341, 371 | 12 |
| Humanities Distribution Requirement | 6 |
| Social Science Distribution Requirement | 3 |
| Elective | 12 |

**Senior**

| Mathematics 445-446, 460, 421 (or 431) | 12 |
| Upper Level Distribution Requirement (strongly recommended: Math 400) | 6 |
| Education 400, 401, 403 | 7 |
| Education in the Sciences, Math, Research and Technology 304, 352, 355 | 5 |

Total: 124 minimum hours

**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 nine courses (rather than eight) at the 300-400 level and take two 400 level two-semester sequences (rather than one). The grade point average computed on the nine 300-400 level courses mentioned above 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 more than nine courses at the 300-400 level may designate which courses will be used to compute these GPA's.

**MINOR PREREQUISITE TO A MINOR IN MATHEMATICS 141-142 (OR 147-148).**

The minor consists of (1) Math 231, 241, 245, 300, and 302 and (2) two courses at the 300-400 level (except 399, 401, 405, and 490). CS 370 may be substituted for two of those hours. The grade in each of these 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, neuro-science, 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:**
- R.N. Moore (Head), Ph.D. Texas (Austin);
- R.W. Beck (Emeritus), Ph.D. Wisconsin; J.M. Becker, Ph.D. Cincinnati; D. Bemis, Ph.D. Cornell; D.A. Brian, Ph.D. D.V.M. Michigan State; T.C. Montie (Emeritus), Ph.D. Maryland; W.S. Riggby, Ph.D. Yale; B.T. Rouse, Ph.D. Guelph (Canada); B.V.Sc., Bristol (England); Dwayne C. Savage (Emeritus), Ph.D. California (Berkeley);
- G.S. Sayler, Ph.D. Idaho; Gary Stacey, Ph.D. Texas (Austin); D.C. White (Distinguished Scientist), M.D. Tufts, Ph.D. Rockefeller; J.M. Woodward (Emeritus), Ph.D. Kansas.

**Associate Professors:**
- D.L. Hacker, Ph.D. Michigan State; Pam Small, Ph.D. Stanford; H. Zaghouani, Ph.D. University of Paris.

**Assistant Professors:**
- E. Urbach, Ph.D. M.I.T.; S. Wilhelm, Ph.D. University of Western Ontario.

Students wishing to emphasize study in this area elect to major in Biology with a concentration in Microbiology. See the description of the Biology Major under “Division of Biology” for requirements.

**MEDICAL TECHNOLOGY**

Courses in this major are open only to qualified students who have completed the first three years of the Science-Medical Technology Curriculum, described in the College of Arts and Sciences curricula section of this catalog, and who have been approved by the Medical Technology Admissions Committee.

**MODERN FOREIGN LANGUAGES AND LITERATURES**

**Professors:**
- C. R. Hodges (Head), Ph.D. Chicago;
- P.E. Barrette, Ph.D. California (Berkeley);
- P. Brady (Shumway Chair of Excellence), Ph.D. Université de Paris (Sorbonne);
- E.J. Campion, Ph.D. Yale; C.W. Cobb (Emeritus), Ph.D. Tulane; B. Creel, Ph.D. California; S. DiMaria, Ph.D. Wisconsin; J.C. Elliott (Emeritus), M.A. Illinois; J.E. Fallen (Emeritus), Ph.D. Pennsylvania; D.M. Fiene (Emeritus), Ph.D. Indiana; M.H. Handelsman, Ph.D. Florida; W.H. Hefflin (Emeritus), Jr., Ph.D. Florida State; T.B. Irving (Emeritus), Ph.D. Princeton; H. Kratz (Emeritus), Ph.D. Ohio State; K.D. Levy, Ph.D. Kentuck; F.D. Maurino (Emeritus), Ph.D. Columbia; C.J. Mellor, Ph.D. Chicago; J.C. Osborne (Emeritus), Ph.D. Northwestern; C. Pinsky (Emeritus), Ph.D. California (Berkeley); U.C. Rizenfels (Emeritus), Ph.D. Connecticut;
- Óscar Rivera-Rodas, Ph.D. California (Berkeley); J.B. Romeiser, Ph.D. Vanderbilt; A.M. Vasquez-Bigi(Emeritus), Ph.D. Minnesota; A.H. Wallace (Emeritus), Ph.D. North Carolina; Yulan Washburn (Emeritus), Ph.D. North Carolina; D.J. Young, Ph.D. Texas.

**Associate Professors:**
- M. Beauvais, Ph.D. Texas; S. Blackwell, Ph.D. Indiana; F. Brizio-Skov, Ph.D. Washington; L. Essif Ph.D. Brown; P. Hoeyng, Ph.D. Wisconsin; C. Holmlund, Ph.D. Wisconsin;
311-312 and 401-402. The major with literary emphasis also requires Russian 301-302, 451-452, and 6 hours from Russian 221, 222, 371, 372, or other courses numbered above 300. The additional requirements for the area studies major are Russian 371-372; 3 or more credits chosen from Russian 221, 222, and Russian courses numbered 300 and above; and 6 or more credits chosen from Geography 375, History 340-341, and Political Science 459.

The Spanish Major consists of 30 hours in courses numbered 323 and above in one of two concentrations. All majors must have the following courses: 323, 330 and 331. Literature concentration: (1) 323, 333, 334; (2) four additional 400-level courses, at least two of which must be in literature. Hispanic Studies concentration: 1) one course from 332, 333 or 334; 2) 6 additional courses in language, literature or culture, at least 4 of which must be from the 400 level. Students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines may substitute a 400-level course or 323 with consent of the department.

German Major 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 30 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 241-242 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.

B.A. Honors in German The Honors B.A. consists of at least 32 hours of German in courses numbered above 300, including completion of German 477 or 478 with a grade of A or B+. To be admitted to the Honors Program, students must present a cumulative grade point average in German major courses of at least 3.5 and have an overall GPA of not less than 3.2. Students should apply for admission to the Program at the end of their junior year. Application forms are available in the department office. Since courses taken abroad are not calculated in the overall average, the department reserves the right to make a judgment on the appropriateness of a study-abroad curriculum for acceptance as equivalent and to require other 400-level courses as a condition for the degree.

The Italian Major consists of 30 hours in courses numbered 311 and above.

The Russian Major has two options, a traditional major with literary emphasis and an area studies major. Russian 201-202 is a prerequisite for both. Majors should prepare their programs in consultation with the departmental faculty advisor. Both options consist of 30 hours of courses, and both require Russian

B. PROFESSIONAL EMPHASIS

1. International Business students will take 24 hours beyond the prerequisite courses specified next under "C. PRACTICAL EXPERIENCE." The following are required: Accounting 201-202 (5 hours), Business Administration 201 (4 hours), Finance 301 (3 hours), Marketing 300 (3 hours), and Management 300 (3 hours).

2. English students must be admitted to the B.A. Honors Program at the end of their junior year. Application forms are presented will be assessed by the Director of the program, History 360 or 361, three hours of an approved Latin American Studies course.

3. The Russian Major consists of 30 hours. The following are required: Russian 301-302, 311-312, 401-402, 451-452, 490 or 491, and 3 hours from the following: 221, 222, 371, 372, 430, or any 400-level courses.

4. The Spanish Major consists of 33 hours. The following are required: 323, 330, 331, 345, 346, at least one 300-level literature survey course, three hours of 490 or 491, and any four courses in language, literature or culture, at least two of which must be from the 400 level while the remaining two may be selected from courses numbered above 300. Students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines may substitute a 400-level course for 323 with consent of the department.

C. PRACTICAL EXPERIENCE

Through Asian Languages 490, French 490, German 490, Italian 490, Portuguese 490, Russian 490, or Spanish 490, each Language and World Business student must undertake study abroad, an internship, or a relevant research project for a minimum of 3 hours (included in major requirements).

Additionally, Language and World Business students must consult with the Program director for advising as early as possible in their college careers. 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 Arts and Sciences in Basic Skills and Distribution and in the Language and World Business plan of studies, and a 3.0 average in language courses. Course prerequisites for the program include Asian Languages, French, German, Italian, Portuguese, Russian, or Spanish
The French Minor consists of 18 hours in courses numbered 333 and above, distributed as follows: 333 or 334; 351-352; 421; plus six hours of electives at the 300 or 400 level. French 300 does not count toward the minor, but is recommended for students needing grammar review.

The German Minor consists of German 201-202 or its equivalent as 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).

The Italian Minor consists of 18 hours in courses numbered 311 or above. Students pursuing a minor must consult with a departmental advisor.

The Japanese Minor consists of Asian Languages 251-252 or its equivalent is a prerequisite to the minor. The minor shall consist of at least 17 hours of Japanese courses, including Asian Languages 351-352; 451; and 6 hours from Asian Languages 313-314 or other Japanese courses above 300.

The Portuguese Minor consists of 18 hours in courses numbered 300 or above. Students pursuing a minor must consult with a departmental advisor.

The Russian Minor Russian 201-202 is a prerequisite to the minor. The minor in Russian shall consist of at least 18 hours of Russian courses, including Russian 301-302; 311-312; and 6 hours from Russian 221-222 or other Russian courses numbered above 300.

The Spanish Minor consists of 18 hours in courses numbered 323 or above, distributed as follows: 323, 330 and 331; one course from 332, 333 or 334; two additional courses. Students pursuing a minor are strongly advised to consult with a departmental advisor.

**MUSIC**

**Professors:**
- R. Stephens (Director), M.M. East Carolina;
- G.C. Bitzas, M.M. Converse; J.P. Brock, M.M. Alabama; J. Coker, M.A. Sam Houston;
- F.M. Combs, M.A. Missouri; K.A. Jacobs, D.M.A. Texas; C.F. Leach, D.M. Northwestern;
- W.S. MacMorran, M.M. Wisconsin; D.K. McClelland, M.A. Columbia;
- M.C. Moore, Ph.D. Michigan; D.B. Northington, D.M.A. Yale; D.M. Pederson, Ph.D. Iowa; G.D. Sousa, Ph.D. Ohio State; D.D. Stutenberger, D.M.A. Maryland.

**Associate Professors:**
- D. Brown, Memphis State; D. Brunell, D.M. Indiana; P.Z. Carter, M.M. Colorado; D.C. Davis (Interim Head), Ph.D. Iowa;
- C. Freeman, M.P.A. Oklahoma City; L.C. Gay, Ph.D. Columbia University; D.H. Hough, M.M. Tennessee; B.A. Murphy, Ph.D. Ohio State;
- M. Zelmanovitch.

**Assistant Professors:**
- A.L. Baty, D.M.A. South Carolina; W. Baldwin, D.M.A. Maryland; W.W. Hawthorne, Ph.D. Cincinnati; E. Keathley, Ph.D. SUNY
- (Stonybrook);
- E. Powell, M.M. Cincinnati;
- Jorge Richter, M.M. Andrews University;
- D. Ryder, D.M.A. Iowa; C. Walters, D.M. Florida State.

**BACHELOR OF MUSIC DEGREE**

The School of Music offers curricula leading to the Bachelor of Music degree with concentrations in music theory/composition, music education, and applied music (voice; piano; organ; sacred music-organ or piano; sacred music-voice; piano pedagogy; strings; woodwind, brass, and percussion instruments; studio music and jazz). This study prepares students for graduate music study or for positions in music for which a professional music degree is required.

The General Education (6 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 each of two languages chosen from French, German, and Italian.

**PROGRESSION REQUIREMENTS**

All new music students (freshman and transfer) must perform an audition in applied music and take a music theory examination, the results of which will determine his or her placement in applied music and theory. Both the audition and theory exam should be completed during a visit to the University prior to final arrival to begin classes. Applicants are urged to contact the School to schedule appointments for satisfying both requirements as early as possible, but certainly no later than the Summer Orientation period.

No student officially progresses to a Major in Music until both the audition and entrance examination have been successfully completed.

**MINIMUM PERFORMANCE STANDARDS**

Potential performance and music education majors not meeting minimum performance standards, but showing potential, will be allowed to register for applied music (Music 140 Fundamentals of Performance) in order to attain the desired level. Such students are normally expected to demonstrate sufficient progress by the end of the first academic year to perform on a level commensurate with a freshman student accepted without reservation by the School. The addition of the extra semesters of study usually results in lengthening the period needed to satisfy requirements for advanced standing (300 level).

Students entering any one of the three emphases in music education must complete the same audition procedures as those of performance majors. At the end of the second year or after having completed the required courses, students will participate in an interview with an appointed Admissions Board.

Upon receiving the positive recommendation from this board, students are admitted to the teacher education program and permitted to take required upper division education courses.

Students who pursue the music education curriculum are subject to all rules and regulations of the Teacher Education Program, which is housed in the College of Education, notwithstanding the fact that their degree will be awarded from the College of Arts and Sciences.
ENSEMBLES
Ensemble participation during each semester of residence is required of all students studying applied music. Students are required to participate in ensembles appropriate to their specific degree program as approved by the faculty of the department. Ensemble requirements vary among the concentrations and are listed in the School of Music Undergraduate Handbook, which is available in Room 211, Music Building. Enrollment in all ensembles is by audition or consent of instructor.

APPLIED MUSIC
Applied study is classified as Principle or Secondary.

Students studying their principle (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.

Area study guides for all sections of the examination are available in the Music Office.

All music majors are required to register for Music General 200—Solo Class every fall and spring semester with the exception of the semester in which they are student teaching. The requirements for this course are to attend scheduled concerts, recitals, master classes, repertoire, and solo classes, and to perform at least once each semester as partial fulfillment of applied music credit requirements.

Applied Music Fees: $80 per semester for half-hour lesson (1 credit hour) $160 per semester for hour lesson (2-4 credit hours). Computer registration and applied music fee payment must be verified in the School of Music office 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 lessons have been scheduled.

KEYBOARD SKILLS PROFICIENCY EXAMINATION
Proficiency in keyboard skills is required of all music majors and is usually acquired in the four-semester series of Class Piano I, II, III, IV (Mus Kbd 110, 120, 210, 220). Students who already possess keyboard skills may pass a proficiency examination in lieu of these courses.

RECITAL ATTENDANCE POLICY
The faculty of the School of Music believes that exposure to a variety of live musical performances is an important part of the education of students studying music at the University level. As a result, the faculty has put in place a recital attendance requirement for undergraduate music students. Regular recital attendance helps students become acquainted with accepted norms of recital presentation, furnishes them with opportunities to get to know and respect the talents of other students and faculty in the School of Music, and helps them establish the habit of attending musical performances after graduation. Specific recital attendance requirements are listed in the School of Music Undergraduate Student Handbook.

BACHELOR OF MUSIC IN MUSIC EDUCATION
Students seeking licensure to teach music in the public schools should pursue one of the options within this degree program. Four-year and five-year options are available to prepare teachers for instrumental teaching or for the teaching of vocal and general music. The four-year program leads to the degree and to teaching licensure. The five year program provides for the granting of the degree at the end of four years, with teacher licensure being awarded after a fifth-year, graduate level internship. Students choosing the five year program earn twenty-four hours which may be applied to the Master’s degree.

BACHELOR OF ARTS DEGREE
The School 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.

THE BACHELOR OF ARTS DEGREE—MUSIC MAJOR

Music Course Requirements Prerequisites: Music Theory 110,120 (6); Music Theory 130, 140 (2); Music Performance 100 Level (2). Courses toward the major: Music Theory 210,220 (6); Music Theory 230, 240 (2); Music History 200 (3); Music History 210, 220, 220 (6); Music Performance 200 level or above (four semester minimum) (8); Music General 200 (4 semester minimum) (0); Music Ensemble (4); Music Theory 310 (3) 3 hours selected from: Music History 350, 380, 390. Music electives (0-3 hours) selected from: Music History 460 (3); Music General 301 (0); Music Theory 493 (3) or Music History 493 (3); Music General 411 (0). Total of 45-48 hours.

1. Students must complete a minimum of four semesters of Music Performance, major instrument/voice at the 200 level or above.

2. Music General 200 must be completed a minimum of four semesters.

Degree requires a minimum of 124 hours. Remainder of hours to be structured per requirements as outlined in the catalog section “Requirements for Degrees” in the general section of the College of Arts and Sciences catalog entry.

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 Theory 100 or equivalent and two semesters of applied music study (Music Performance) at the 103-190 levels. (b) Concentration in Music History and Literature—consists of 17 hours in courses numbered 200 and above, distributed as follows: Music History 200, 9 hours in Music History and Literature courses, and 5 hours in music electives. Prerequisites are Music Theory 100 or equivalent and two semesters of applied music study at the 103-190 levels.

B.M. Curriculum in Music Education—Wind/Percussion Emphasis (5-year option)

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>B.M. Curriculum in Music Education—Wind/Percussion Emphasis (5-year option)</th>
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| Freshman     | English 101, 102 ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... ... 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Total: 124 hours plus 24 graduate hours

B.M. Curriculum in Music Education—String Emphasis (4-year alternative)

**Freshman**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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<tr>
<td>English 101, 102</td>
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</tr>
<tr>
<td>Music Theory 110, 120</td>
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<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (major instrument)</td>
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</tr>
<tr>
<td>Music Ensemble</td>
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</tr>
<tr>
<td>Music General 200</td>
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</tr>
<tr>
<td>Music History 200</td>
<td>3</td>
</tr>
<tr>
<td>Music Keyboard 110, 120</td>
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</tr>
<tr>
<td>Foreign Language</td>
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<tr>
<td><strong>Sophomore</strong></td>
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<tr>
<td>Music Theory 210, 220</td>
<td>6</td>
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<tr>
<td>Music Theory 230, 240</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (major instrument)</td>
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<tr>
<td>Music General 200</td>
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<tr>
<td>Music History 210, 220</td>
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<td>Chamber Ensemble</td>
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<td>Math 115</td>
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<td>Music Theory 320</td>
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<td>Music History 340</td>
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<td>Music General 200</td>
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<td>Music Performance (major instrument)</td>
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<tr>
<td>Music General 200</td>
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<td>Music History 210, 220</td>
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<tr>
<td>Music Ensemble</td>
<td>1.1</td>
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<tr>
<td>Chamber Ensemble</td>
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<tr>
<td>Educational Psychology 210</td>
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</tr>
<tr>
<td>Math 115</td>
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</tbody>
</table>

Total: 132 hours

B.M. Curriculum in Music Education—Vocal/General Concentration/Keyboard Emphasis (5-year option)

**Freshman**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
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</thead>
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<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 110, 120</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (keyboard)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Performance (voice)</td>
<td>1.1</td>
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<td>Music History 200</td>
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<tr>
<td>Foreign Language</td>
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<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
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<tr>
<td>Music Performance (keyboard)</td>
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</tr>
<tr>
<td>Music Performance (voice)</td>
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<tr>
<td>Music Education 240 or 241</td>
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<tr>
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<td>Foreign Language</td>
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Total: 124 hours plus 24 graduate hours

B.M. Curriculum in Music Education—Vocal/General Concentration/Keyboard Emphasis (4-year alternative)

**Freshman**

<table>
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<tr>
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<tbody>
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<td>English 101, 102</td>
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<tr>
<td>Music Theory 110, 120</td>
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<tr>
<td>Music Theory 130, 140</td>
<td>2</td>
</tr>
<tr>
<td>Music Performance (keyboard)</td>
<td>2.2</td>
</tr>
<tr>
<td>Music Performance (voice)</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Education 240 or 241</td>
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</tr>
<tr>
<td>Music General 200</td>
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<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music History 200</td>
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<td>Foreign Language</td>
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Total: 125 hours plus 24 graduate hours

**Internship Year**

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<tr>
<td>Music History 210, 220</td>
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<tr>
<td>Music Education 240 or 241</td>
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<tr>
<td>Music Performance (voice)</td>
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<tr>
<td>Music General 200</td>
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<tr>
<td>Music Ensemble</td>
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<tr>
<td>Music History 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Music Education 240 or 241</td>
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</tr>
<tr>
<td>Music Performance (voice)</td>
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<tr>
<td>Music General 200</td>
<td>0.0</td>
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<td>Music Ensemble</td>
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Total: 125 hours plus 24 graduate hours
### B.M. Curriculum in Music Education—Vocal/General Concentration/Vocal Emphasis (4-year alternative)

<table>
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<tr>
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<tbody>
<tr>
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<td>Music Theory 230, 240</td>
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<td>Music Performance (keyboard)</td>
<td>2,2</td>
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<tr>
<td>Music Performance (voice)</td>
<td>2,2</td>
</tr>
<tr>
<td>Music General 200</td>
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<tr>
<td>Music Ensemble</td>
<td>1,1</td>
</tr>
<tr>
<td>Music History 210</td>
<td>6</td>
</tr>
<tr>
<td>Music Education 200</td>
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<tr>
<td>Music Education 260</td>
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<td>Music Education 201</td>
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<tr>
<td>Math 115</td>
<td>3</td>
</tr>
<tr>
<td>Non-US History</td>
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**Junior Year**

|Music Theory 310|3|
|Music Theory 320|2|
|Music Performance (keyboard)|2,2|
|Music General 200|0,0|
|Music Ensemble|1,1|
|Music Education 250|0|
|Music Education 210 or 211|1|
|Music Education 310, 320|3,2|
|Music Education 330|3|
|Music Education 350|1|
|Music Education 450|3|
|Music Ensemble 399|1,1|
|Instructional Technology, Curriculum and Evaluation 486|3|

*Optional Full Recital with approval of major area

**Intersession Year**

|Music Education 575|12|
|Music Education 574|2|
|Music Education 591|4|
|Electives in Music Education or Music|6|

Total: 126 hours plus 24 graduate hours

**Senior Year**

|Music Theory 450|2|
|Music History 380|3|
|Non-US History|3|

Total: 134 hours

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### B.M. Curriculum in Music Education—Vocal/General Concentration/Vocal Emphasis (5-year option)

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<td>Music History 100, 120</td>
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<td>Music Theory 130, 140</td>
<td>6</td>
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<tr>
<td>Music Performance (voice)</td>
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</tr>
<tr>
<td>Music Performance (keyboard)</td>
<td>2,2</td>
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<tr>
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<td>1,1</td>
</tr>
<tr>
<td>Music Education 240 or 241</td>
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</tr>
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<td>Music General 200</td>
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<tr>
<td>Music Ensemble</td>
<td>1,1</td>
</tr>
<tr>
<td>Music History 200</td>
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<tr>
<td>Foreign Language</td>
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**Sophomore Year**

|Music Theory 210, 220|6|
|Music Theory 230, 240|2,2|
|Music Performance (voice)|2,2|
|Music General 200|0,0|
|Music Ensemble|1,1|
|Music Education 210 or 211|1|
|Music Education 310, 320|3,2|
|Music Education 330|3|
|Music Education 350|1|
|Music Education 450|3|
|Music History 380|3|
|Music Voice 450|2|
|Instructional Technology, Curriculum and Evaluation 486|3|

Total: 129 hours

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### B.M. Curriculum in Piano

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<tr>
<td>Music Theory 130, 140</td>
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</tr>
<tr>
<td>Music Performance 180</td>
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</tr>
<tr>
<td>Music Ensemble</td>
<td>1,1</td>
</tr>
<tr>
<td>Music General 200</td>
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<tr>
<td>Music History 200</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language</td>
<td>6</td>
</tr>
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</table>

**Sophomore Year**

|Music Theory 210, 220|6|
|Music Theory 230, 240|2,2|
|Music Performance (voice)|2,2|
|Music General 200|0,0|
|Music Ensemble|1,1|
|Music Education 250|0|
|Music Education 310, 320|3,2|
|Music Education 330|3|
|Music Education 350|1|
|Music Education 450|3|
|Music History 380|3|

Total: 134 hours

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### B.M. Curriculum in Organ

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<td>Music Theory 130, 140</td>
<td>2</td>
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<tr>
<td>Music Performance 180</td>
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<tr>
<td>Music Ensemble</td>
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<tr>
<td>Music General 200</td>
<td>0,0</td>
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<tr>
<td>Music History 200</td>
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<tr>
<td>Foreign Language</td>
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</table>

**Sophomore Year**

|Music Theory 210, 220|6|
|Music Theory 230, 240|2,2|
|Music Performance (voice)|2,2|
|Music General 200|0,0|
|Music Ensemble|1,1|
|Music Education 310, 320|3,2|
|Music Education 330|3|
|Music Education 350|1|
|Music Education 450|3|
|Music History 380|3|

Total: 129 hours
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<thead>
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<td>Music Keyboard 340</td>
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<tr>
<td></td>
<td>Music Performance 490</td>
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<tr>
<td></td>
<td>Music General 399</td>
<td>1</td>
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<tr>
<td></td>
<td>Music History 380</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory 130, 140</td>
<td>2</td>
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<tr>
<td></td>
<td>Music History 210, 220</td>
<td>3</td>
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<tr>
<td></td>
<td>Music History 380</td>
<td>0</td>
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<tr>
<td></td>
<td>Music Performance 390</td>
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<tr>
<td></td>
<td>Music Performance 390</td>
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<tr>
<td></td>
<td>Music General 200</td>
<td>0</td>
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<tr>
<td></td>
<td>Music General 401</td>
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<td></td>
<td>Music History 380</td>
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<td></td>
<td>Electives</td>
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**B.M. Curriculum in Piano Pedagogy**

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<tbody>
<tr>
<td>Freshman</td>
<td>English 101, 102</td>
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<tr>
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<td>Music Theory 110, 120</td>
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<tr>
<td></td>
<td>Music Theory 130, 140</td>
<td>2</td>
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<tr>
<td></td>
<td>Music General 399</td>
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<tr>
<td></td>
<td>Music General 200</td>
<td>0</td>
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<tr>
<td></td>
<td>Music History 200</td>
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<tr>
<td></td>
<td>Electives</td>
<td>6</td>
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</tr>
<tr>
<td>Senior</td>
<td>Music Keyboard 230</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td>Music Keyboard 420, 430</td>
<td>2</td>
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<tr>
<td></td>
<td>Music Performance 490</td>
<td>3</td>
<td></td>
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<tr>
<td></td>
<td>Music General 399</td>
<td>1</td>
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<td>Music History 380</td>
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**B.M. Curriculum in Strings**

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<tbody>
<tr>
<td>Freshman</td>
<td>English 101, 102</td>
<td>6</td>
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<td>Music Theory 110, 120</td>
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<td>Music Theory 130, 140</td>
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<td>Music Performance (100 level)</td>
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<td></td>
<td>Music General 399</td>
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<td>Music History 210, 220</td>
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<td>Music General 200</td>
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<td>Music General 401</td>
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<td></td>
<td>Music Ensemble</td>
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<td></td>
<td>Electives</td>
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<tr>
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<td>Music Keyboard 420, 430</td>
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<td>Music General 399</td>
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**B.M. Curriculum in Sacred Music**

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<td>Music Theory 130, 140</td>
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<td>Music Performance 155 or 190</td>
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<td>Music General 399</td>
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<td>Music General 200</td>
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<td></td>
<td>Music General 401</td>
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<tr>
<td></td>
<td>Music History 380</td>
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<td></td>
<td>Electives</td>
<td>6</td>
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<tr>
<td>Senior</td>
<td>Music Theory 210, 220</td>
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<td>Music Theory 230, 240</td>
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<td>Music History 210, 220</td>
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**B.M. Curriculum in Studio Music and Jazz**

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<td>Music Theory 110, 120</td>
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<td>Music Theory 130, 140</td>
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<td></td>
<td>Music History 210, 220</td>
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<tr>
<td></td>
<td>Electives</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Junior</td>
<td>Social Science</td>
<td>6</td>
<td></td>
</tr>
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<td></td>
<td>Music History 380, 480</td>
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<td>Music Performance 390</td>
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<td></td>
<td>Music Theory 310</td>
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**College of Arts and Sciences**

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<td></td>
<td>Music History 380</td>
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<tr>
<td></td>
<td>Music Jazz 110, 140</td>
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<td>Music Jazz 120</td>
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<td></td>
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<td>Music Performance</td>
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<td></td>
<td>Social Science Electives</td>
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<td>Music Jazz 310, 320</td>
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<td>Music General 200</td>
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<td></td>
<td>Music General 301</td>
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<td></td>
<td>Music Ensemble</td>
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<tr>
<td></td>
<td>Music History 380</td>
<td>6</td>
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<td>Arts and Sciences Electives</td>
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<td>Music Technology 290 or 340</td>
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<td>Music Performance</td>
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<td></td>
<td>Music General 200</td>
<td>0</td>
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<tr>
<td></td>
<td>Music General 301</td>
<td>0</td>
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<tr>
<td></td>
<td>Music Ensemble</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Music History 380</td>
<td>6</td>
<td></td>
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<tr>
<td></td>
<td>Non-US History</td>
<td>6</td>
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</tr>
<tr>
<td></td>
<td>Electives</td>
<td>12</td>
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<tr>
<td>Total: 131 hours</td>
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**B.M. Curriculum in Theory/Composition**

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<th>Course Name</th>
<th>Hours</th>
<th>Credit</th>
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<tr>
<td>Freshman</td>
<td>English 101, 102</td>
<td>6</td>
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<tr>
<td></td>
<td>Music Theory 110, 120</td>
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<tr>
<td></td>
<td>Music Theory 130, 140</td>
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<tr>
<td></td>
<td>Music History 210, 220</td>
<td>3</td>
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<tr>
<td></td>
<td>Music History 380</td>
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<td></td>
<td>Electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Senior</td>
<td>Music Theory 210, 220</td>
<td>6</td>
<td></td>
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<td></td>
<td>Music Theory 230, 240</td>
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<td></td>
<td>Music Performance 254 or 290</td>
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<td></td>
<td>Music General 200</td>
<td>0</td>
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<tr>
<td></td>
<td>Music Performance 390</td>
<td>3</td>
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<tr>
<td></td>
<td>Music General 401</td>
<td>0</td>
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<td></td>
<td>Music History 380</td>
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<td>Total: 130 hours</td>
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**B.M. Curriculum in Sacred Music**

<table>
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<th>Hours</th>
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<tr>
<td>Freshman</td>
<td>Music Education 310</td>
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<td></td>
<td>Music History 380</td>
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<td></td>
<td>Music Jazz 310</td>
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<tr>
<td></td>
<td>Music Jazz 320</td>
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<td></td>
<td>Music General 200</td>
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<td>0</td>
<td></td>
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<tr>
<td></td>
<td>Music History 210</td>
<td>1</td>
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<tr>
<td></td>
<td>Music Ensemble</td>
<td>1</td>
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<tr>
<td></td>
<td>Social Science</td>
<td>6</td>
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<tr>
<td></td>
<td>Arts and Sciences Electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Sophomore</td>
<td>Music Theory 210, 220</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Theory 230, 240</td>
<td>2</td>
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<tr>
<td></td>
<td>Music Performance 254 or 290</td>
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<td></td>
<td>Music Technology 290</td>
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<tr>
<td></td>
<td>Music Technology 390</td>
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<td></td>
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<tr>
<td></td>
<td>Music History 210, 220</td>
<td>6</td>
<td></td>
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<tr>
<td></td>
<td>Music Ensemble</td>
<td>1</td>
<td></td>
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<tr>
<td></td>
<td>Music General 200</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Music Keyboard 210, 220</td>
<td>2</td>
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<tr>
<td></td>
<td>Non-US History</td>
<td>6</td>
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<td>Total: 130 hours</td>
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**B.M. Curriculum in Studio Music and Jazz**

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<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>Music Education 310</td>
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<tr>
<td></td>
<td>Music History 380</td>
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<td></td>
<td>Music Jazz 301</td>
<td>0</td>
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<td></td>
<td>Music Voice 399</td>
<td>0</td>
<td></td>
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<tr>
<td></td>
<td>Music History 380</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Electives</td>
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<tr>
<td>Total: 129 hours</td>
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</table>
**Areas of Study**


Option C: Music Theory: Music Performance 394 or 395, Independent Study in Music Theory 493, Music History Elective (300 level and above).

***Humanities-Arts (Non-Music), Literature, Philosophical Perspectives, Interdisciplinary Studies***

### B.M. Curriculum in Voice

<table>
<thead>
<tr>
<th>Hours</th>
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<tbody>
<tr>
<td><strong>Freshman</strong></td>
<td></td>
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<tr>
<td>English 101, 102</td>
<td>6</td>
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<tr>
<td>Music Theory 110, 120</td>
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<td>Music Theory 310</td>
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<tr>
<td>Music General 200</td>
<td>0.0</td>
</tr>
<tr>
<td>Music Performance 155</td>
<td>4.4</td>
</tr>
<tr>
<td>Music Ensemble</td>
<td>1.1</td>
</tr>
<tr>
<td>Music Keyboard 110, 120</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td></td>
</tr>
<tr>
<td>Music Theory 210, 220</td>
<td>6</td>
</tr>
<tr>
<td>Music Theory 230, 240</td>
<td>2</td>
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<td>Music History 210, 220</td>
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<td>Music Ensemble</td>
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<td>Music Keyboard 210, 220</td>
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<td>Music General 200</td>
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<tr>
<td>Music Vocal 230</td>
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</tr>
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<td>Music Vocal 240, 250</td>
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<tr>
<td>Electives **</td>
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<tr>
<td><strong>Junior</strong></td>
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<td>Music History 380</td>
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<td>Foreign Language</td>
<td>6</td>
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<td>Social Science</td>
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<td>Music Ensemble</td>
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<td>Music General 301</td>
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<tr>
<td>Natural Science</td>
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<tr>
<td>Music Education 310</td>
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<tr>
<td><strong>Senior</strong></td>
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<tr>
<td>Electives</td>
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<tr>
<td>Music Vocal 410, 420</td>
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<tr>
<td>Music Vocal 450, 460</td>
<td>2.1</td>
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<tr>
<td>Music Performance 455</td>
<td>4.4</td>
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<td>Non-US History</td>
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<tr>
<td>Social Science</td>
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</table>

Total: 132 hours

1. Must take 1 year of two languages from French, German or Italian.
2. Humanities-Arts (Non-music), Literature, Philosophical Perspectives, Interdisciplinary Studies.

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### ORGANIZATIONAL PSYCHOLOGY PROGRAM

See Graduate School.

## PHILOSOPHY

**Professors:**
- J.R. Hardwig (Head), Ph.D. Texas
- R.E. Aquila, Ph.D. Northwestern; L.B. Cebik (Emeritus), Ph.D. Nebraska; S.M. Cohen, Ph.D. Northwestern; J.W. Davis (Emeritus), Ph.D. Emory; R.B. Edwards (Emeritus), Ph.D. Emory; G.C. Graber, Ph.D. Michigan; J.E. Nolt, Ph.D. Ohio State; B.C. Postow, Ph.D.
- D. Vale, D. Van de Valte (Emeritus), Ph.D. Yale.

**Associate Professors:**
- K.A. Bohstedt, Ph.D. Ohio State; J.O. Bennett, Ph.D. Tulane; H.P. Hamlin, Ph.D. Georgia; M.L. Osborne (Emeritus), Ph.D. Pennsylvania.

**Assistant Professors:**
- J.M. Kaplan, Ph.D.; Stanford; D.A. Reidy, J.D.; Ph.D. Kansas.

**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.

The minor consists of 18 hours in courses 200 or above. Minors should discuss their program with a member of the Philosophy faculty.

## PHYSICS AND ASTRONOMY

**Professors:**
- S.P. Sorensen (Head), Ph.D. Copenhagen (Denmark); F.E. Barnes (Collaborating Scientist), Ph.D. California; C.R. Bingham, Ph.D. Tennesse; W.E. Blass, Ph.D. Michigan State; M.J. Breinig, Ph.D. Oregon; W.W. Bugg, Ph.D. Tennesse; T.A. Callicott, Ph.D. Purdue; R.W. Childers, Ph.D. Vanderbilt; H.W. Crater (UTSI), Ph.D. Yale; K.E. Duckett, Ph.D. Tennesse; A.G. Eguiluz, Ph.D. Brown; S.B. Elston, Ph.D.

**Associate Professors:**
- S. Georghiou, Ph.D. Manchester (England); M.W. Guidry, Ph.D. Tennessee; T. Handler, Ph.D. Rutgers; E.L. Hart, Ph.D. Cornell; I. Kamynchov, Ph.D. ITEP (Russia); J.W.L. Lewis (Distinguished Professor, UTSI), Ph.D. Mississippi; Ph.D. Michigan; J. Macieik (Distinguished Scientist), Ph.D. Rensselaer Polytechnic Institute; G.D. Mahan (Distinguished Scientist), Ph.D. University of California (Berkeley); W. Nazarewicz, Ph.D. Warsaw; L.R. Painter, Ph.D. Tennessee; D.J. Pegg, Ph.D. New Hampshire; E.W. Plummer (Distinguished Scientist), Ph.D. Cornell; J.J. Quinn (Lincoln Chair), Ph.D. Maryland; L.L. Riedinger, Ph.D. Vanderbilt; C.C. Shih (Liaison); Cornell; M.R. Strayer, Ph.D. Massachusetts Institute of Technology; J.R. Thompson, Ph.D. Duke; B.F.L. Ward, Ph.D. Princeton; H.H. Weitinger, Ph.D. Groningen.

**Research Professors:**
- P. Dai, Ph.D. Missouri; L. Davis (UTSI), Ph.D. Auckand; T.L. Ferrell, Ph.D. Clemson; J.C. Levin, Ph.D. Oregon; D.G. Mandrus, Ph.D. SUNY (Stony Brook); C. Parigger (UTSI), Ph.D. New Zealand; K.F. Read (Collaborating Scientist), Ph.D. Cornell; S.Y. Shieh, Ph.D. Pennsylvania; G. Sopias, Ph.D. California Institute of Technology.

**Research Associate Professors:**
- S.J. Daunt, Ph.D. Queen (Kingston, Ontario, Canada); D.J. Dean (Collaborating Scientist), Ph.D. Vanderbilt; A.J. Sanders, Ph.D. Tufts.

**Research Assistant Professors:**
- Y.Y. Efremenko, Ph.D. ITEP (Russia); S.A. Yost, Ph.D. Princeton.

**Director of Undergraduate Laboratories:**
- J.E. Parks, Ph.D. Kentucky.

**Instructor:**
- T. Riedinger, M.S. Vanderbilt.

**PHYSICS**

**B.S. Major**

The undergraduate physics major provides a thorough introduction to all of the core areas of physics. At the same time it allows students with special interests to pursue different concentrations.

The Department offers three concentrations: Academic, Applied, and General. The Academic Concentration is intended for students interested in professional employment or graduate work in physics or closely related fields such as astronomy, engineering, laser technology, or computational science. The Applied Concentration introduces students to the physics and technology of today and tomorrow. Such a broad physics background is increasingly useful in technological and industrial fields outside of physics. The General Concentration is intended for students who wish to apply a substantial knowledge of physics to fields such as secondary education, medicine, law, journalism, business, or any of the above.

**Prerequisites of the Major**


The Major with a General Concentration consists of: Mathematics 241; Physics 240, 311, 321, and 361; one lab course, chosen from 421, 432, and 461; and three core courses, chosen from 312, 411, 412, 431, 432, 441, 442. In addition, 12 coordinated hours in an area of the student’s special interest are to be chosen by the student in consultation with a departmental advisor. Total Major hours: 40-41 including 28-29 in physics and 12 in chosen concentration.

A Physics Minor consists of Physics 137-138, 240, or 135-136, and 240 and twelve hours from Physics and Astronomy courses numbered 300 and above.

An Astronomy Minor consists of one year of introductory astronomy, Astronomy 300 and above, from Physics and Astronomy courses numbered 300 or above.

Astronomy 300 and above.

from Physics and Astronomy courses numbered 453-454 and 461. Total Major hours: 41.

A Physics Minor consists of Physics 137-138, 240, or 135-136, and 240 and twelve hours from Physics and Astronomy courses numbered 300 and above.

An Astronomy Minor consists of one year of introductory astronomy, Astronomy 411, 490 (3), Physics 311-12, and 421.

### POLITICAL SCIENCE

**Professors:**
- Patricia K. Freeland (Head), Ph.D. Wisconsin; Robert B. Cunningham, Ph.D. Indiana; Michael M. Gant, Ph.D. Michigan State; Michael R. Fitzgerald, Ph.D. Oklahoma; Robert Gorman, Ph.D. New York; William Lyons, Ph.D. Oklahoma; Hyrum Plass, Ph.D. Utah; John M. Scheb, Ph.D. Florida; Thomas A. Smith, Ph.D. Ohio State; Ots H. Stephens, Jr. (Alumni Distinguished Service Professor), Ph.D. Johns Hopkins; Thomas D. Ungs (Emeritus), Ph.D. Iowa.

**Associate Professors:**
- David H. Folz, Ph.D. Tennessee; Janet Kelly, Ph.D. Wayne State; Anthony J. Nownes, Ph.D. Kansas; David J. Houston, Ph.D. SUNY-Binghamton; Robert L. Peterson, Ph.D. Yale; Lilliard E. Richardson, Ph.D. Texas; Yang Zhong, Ph.D. Kentucky.

**Assistant Professors:**
- Mary Caprioni, Ph.D. Connecticut; Martin Carcieri, Ph.D. California (Santa Barbara); Daniel Lipinski, Ph.D. Duke; Donna Van Cott, Ph.D. Georgetown.

**B.A. Major Political Science 101 or 107, and 102 are prerequisites to the major. The major consists of 24 hours of courses numbered 300 or above. These 24 hours must include at least one course in each of the four areas of the discipline:**

**United States Government and Politics/ Public Administration 311, 312, 315, 320, 321, 330, 340, 401, 410, 411, 420, 421, 430, 431, 440, 441, and 442.**

**Comparative Government and Politics 350, 361, 452, 454, 455, 456, 461, 463.**

**International Relations 365, 366, 470, 471, and 472.**

**Political Theory 300, 374, 475 and 476.**

**Minor Prerequisites to the minor are Political Science 101 or 107 and 102. The minor consists of 15 hours of courses numbered 300 and above.**

**Honors in Political Science** The Honors concentration encourages highly motivated students to obtain a superior liberal education and more rigorous preparation in the discipline. Admission is selective. The Honors concentration is normally a two year program. Political Science 101 or 107, and 102 are prerequisites to the major. The major consists of 27 hours of courses numbered 300 or above, including 387, 388, 487, and 488. These 27 hours must include at least one course in each of the four areas of the discipline: Political Science 387 and 388 may be used to satisfy this requirement in the appropriate area.

To graduate with Honors in Political Science, the student must have a minimum GPA of 3.3 in Political Science, and a minimum cumulative GPA of 3.0.

**Major in Political Science with a Concentration in Public Administration**

Students majoring in Political Science who wish to prepare for a career in the public service may select to follow the concentration in Public Administration. Political Science 101 or 107, 102 and Economics 201 are prerequisites to the major in Political Science with a concentration in Public Administration. The concentration consists of course work in Political Science, Economics, and Accounting.

Students must complete Political Science 340, 401, two of the following: Political Science 440, 441 or 442; and two of the following: Economics 471, 472 or Accounting 201. Students must also include one course in each of the three remaining fields of Political Science: Comparative Government and Politics, International Relations, and Political Theory.

### PSYCHOLOGY

**Professors:**
- James E. Lawler (Head), Ph.D. North Carolina; G.M. Alumni Distinguished Professor), Ph.D. Chicago; W.H. Calhoun, Ph.D. California (Berkeley); H.J. Fine (Emeritus), Ph.D. Syracuse; S.J. Handle; Ph.D. Johns Hopkins; L. Handler; Ph.D. Michigan State; Warren H. Jones, Ph.D. Oklahoma State University; K.A. Lawler, Ph.D. North Carolina; J.W. Lounsbury, Ph.D. Michigan State; J.F. Lubar, Ph.D. Chicago; J.C. Malone, Ph.D. Duke; K.R. Newton (Emeritus), Ph.D. Tennessee; H.R. Pollio (Alumni Distinguished Service Professor), Ph.D. Michigan; F. Samejima, Ph.D. Kejo (Japan); R.A. Saudargas, Ph.D. Florida State; R.S. Shadrer (Emeritus), Ph.D. Tennessee; E.D. Sundstrum, Ph.D. C.B. Travi; Ph.D. California (Davis); R.G. Wahler, Ph.D. Washington; J.A. Wiberley (Emeritus), Ph.D. Syracuse.

**Associate Professors:**
- D. Baldwin, Ph.D. Kent State; M.G. Johnson, Ph.D. Johns Hopkins; A. McNulty, Ph.D. Yale; W.G. Morgan, Jr., Ph.D. Tennessee; M.R. Nash, Ph.D. Ohio; Deborah P. Welch, Ph.D. University of Massachusetts.

**Assistant Professor:**
- Kristina Gordon, Ph.D. University of North Carolina.

**Major Prerequisites are: one year of a biological science course (such as Biology 101-102), Psychology 110 with a grade of C or better, and a GPA of at least 2.0. The major requires 24 Psychology hours at the 200 level or higher:**

1. Either Psychology 295 or Psychology 395 (prerequisites to Psychology 395 are Psychology 385 or Statistics 201 or Math 115).
2. Three courses from Psychology 210, 220, 300, 310, 320, 330, 360, 370; (3) Two additional Psychology courses at the 300 level or higher; (4) Two additional Psychology courses at the 400 level.

**Honors Program** The Psychology Department offers an Honors Concentration that is a specially designed individualized mentorship program. University Honors students and psychology majors with ACT scores of 29 or higher (or SAT equivalent) may apply. Admission to the program will be on the basis of the review of the candidate’s application and interview by the Psychology Honors Faculty. Only one student in the second year. Any semester with a GPA below 3.2 will lead to consideration of a student’s dismissal from the program by the program faculty. The honors concentration includes all the requirements of the Psychology Major and at least 12 hours of upper division psychology honors courses including at least four hours of Psychology 347 (continuous registration is preferred), three hours of Psychology 367 and three hours of Psychology 467.

### RELIGIOUS STUDIES

**Professors:**
- J.L. Fitzgerald (Interim Head), Ph.D. Chicago; F.S. Lusby (Emeritus), M.Div. Colgate (Rochester); D.L. Duncan (Emeritus), Th.D. Harvard; R.J. Hackett, Ph.D. Aberdeen; W.L. Humphreys (Emeritus), Ph.D. Union; M.L. Levering, Ph.D. Harvard; D.E. Linge (Emeritus), Ph.D. Vanderbilt; R.V. Norman (Emeritus), Ph.D. Yale; C.H. Reynolds, Ph.D. Stanford; J.W. Lounsbury, Ph.D. North Carolina; J.R. Oh, Ph.D. California (Berkeley); L.M. Overton, Ph.D. Washington; J.O. Hodges, Ph.D. Chicago; Mark Hulsheer, Ph.D. Minnesota.

**Adjunct:**

**Major** The basic concentration consists of at least 27 hours, all of which must be at the 300 level or above, including one course from each of the first six categories and two courses from category seven, one of which must be PS 499. Majors are strongly urged to take PS 300, and to do so as soon as possible after declaring their major. The remaining three hours, which complete this major, shall not include related language courses.

2. Religions and Cultures of South Asia: 374, 376.
3. Religions and Cultures of East Asia: 379, 383, 384.
4. Religions and Cultures of West Asia and Europe: 311, 321, 322, 332, 381, 385.
5. Religions and Cultures of Africa: 373.
7. Two 400-level courses including 499.

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 (seminary, law, medicine) which recommends a specific course of undergraduate study. A faculty member in Religious Studies will assist a student to formulate this major consisting of at least 27 hours of credit at the 300 level or above, including 499. Up to 9 hours in this major may be taken in approved courses from other programs or departments in the College of Arts and Sciences. 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 minor in religious studies discuss their program with a member of the department faculty.

RUSSIAN
See Modern Foreign Languages and Literatures.

SOCIOLGY

Professors:
J.A. Black (Emeritus), Ph.D. Iowa; D.W. Hastings, Ph.D. Massachusetts; T.C. Hood, Ph.D. Duke; R.G. Perrin, Ph.D. British Columbia; N.E. Shover, Ph.D. Illinois (Urbana); S.E. Wallace, Ph.D. Minnesota.

Associate Professor:
S. Kurth (Head), Ph.D. Illinois (Chicago); S. Cable, Ph.D. Pennsylvania State; A. Jalata, Ph.D. SUNY-Binghamton; R.E. Jones, Ph.D. Washington State.

Assistant Professors:
H. Bui, Ph.D. Michigan State; J. Shefner, Ph.D. California (Davis).

Major
Before applying to the Sociology Department for admission to the major a student must complete either Sociology 110 or 120 or their honors equivalent with a grade of C+ or above. Upon granting admission to the major, the department will assign the student an academic advisor who will help the student plan a program of study for the major. The major consists of 24 upper-division hours in sociology and must include 321 and 331. Students should complete 321 and 331 by the end of their junior year.

Minor
The minor consists of 15 upper-division hours in Sociology and must include 321 and 331. Prerequisite to the minor is three lower-division hours in Sociology (either 110 or 120 or their honors equivalent).

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, either 455, 459, or 492, and two courses selected in consultation with advisor.

Concentration in Environment and Society
All prerequisites required for the major are required for this concentration. The Concentration in Environment and Society consists of Sociology 321 and 331 and eighteen upper-level division sociology courses as follows: 360, 464, either 344 or 345, either 442 or 446, and two courses selected in consultation with advisor.

Minor with Concentration in Environment and Society
The minor consists of Sociology 321, 331, and two courses to the minor either Sociology 110 or 120.

COLLEGE SCHOLARS HONORS

Director:
David Tandy, Professor of Classics.

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 Modern Foreign Languages and Literatures.

STATISTICS
See faculty list in the College of Business Administration.

Arts and Sciences students may major or minor in statistics under the supervision of the faculty of the Statistics Department in the College of Business Administration. The major is designed to prepare students for graduate studies in statistics or for professional work in various applications of statistical methods, including applications in the natural and social sciences, business and industry. Contact the Statistics Department for further information on careers in statistics and appropriate courses to take. It is highly recommended that a student majoring in statistics have a minor in an area of application.

Major
The major requires 33 semester hours including (a) Statistics 201 or 251; (b) Statistics 320, 330, 365, 471; (c) two courses selected from Statistics 472, 473, 475, Math 423, 424, 425; (d) Math 411-142 and 241-251, or upper division Math*; (e) two technical electives to be selected from upper division courses in Mathematics, Computer Science, Engineering, Physics, or Chemistry, with the approval of the student’s advisor in the Department of Statistics.

* Students who have completed Mathematics 123-125 should see an advisor to select courses to complete this requirement.

Minor
The minor consists of Statistics 201 or Statistics 251; an additional 12 hours from Statistics 320, 330, 365, 471, 472, 473, 475, and Math 423, 424, 425.
College of Business Administration

Jan R. Williams, Dean
David W. Schumann, Associate Dean for Research and Technology
Sarah F. Gardial, Assistant Dean, MBA Program
Patricia D. Postma, Assistant Dean, Center for Executive Education
Mary C. Holcomb, Interim Dean for Undergraduate Business Program
Fred A. Pierce, III, Director, Undergraduate Business Advising and Services Office

It’s everywhere. Business. College of Business Administration graduates will one day audit tax returns, practice law, create public policy, start an international business, manage portfolios, or research consumer use of potato chips and aspirin. These graduates will enter today’s broad business environment fully prepared by the College of Business Administration’s innovative curriculum, renown faculty and programs, and advanced technology.

THE CURRICULUM

The UT College of Business Administration is widely recognized for its leadership role in implementing some of the most innovative and exciting curriculum changes occurring during the last forty years of management education. In May of 2000, the faculty adopted a new curriculum structure for the undergraduate program, and that new structure is being practiced today.

The new curriculum coursework is divided into four components: general education, pre-business core, business core, and major.

The 62 hours of general education focuses on all aspects of human endeavor: written and oral communications; mathematics; social, behavioral, and natural sciences; humanities; foreign language; ethics; and the arts. General education courses span the student’s entire academic career.

The pre-business core courses (17 hours) are taken during the student’s sophomore year. The pre-business component provides students with the fundamentals of business education, introducing the tools, the environment, and the functions of contemporary business practices.

Building on the pre-business core foundation, the business core consists of integrated contemporary business management modules in supply chain management, demand management, lean operations, information management, the marketplace, and organizational behavior; discipline-specific courses in financial management and business strategy; and coursework on global and legal issues. As business management perspectives change, the topics in the business core will, by design, adapt.

Simultaneously, students are completing the coursework required by their chosen major. The College of Business Administration offers nine majors, including accounting, business studies, economics, finance, logistics and transportation, management, marketing, public administration, and statistics.

Upon the completion of this curriculum, students are awarded a Bachelor of Science in Business Administration.

Business Minor. The College of Business Administration also offers a Business Minor for students pursuing majors in colleges other than the College of Business Administration. Those students must successfully complete the following requirements: Accounting 201-202, Economics 201, Statistics 201, Business Administration 201, Finance 301, Marketing 300, and Management 300. All upper division (300 level or above) course work must be taken at UT. Students are responsible for meeting the listed prerequisites of any upper division courses taken. [For instance, Math 125 or 141 is a prerequisite to Statistics 201.] Engineering students may substitute Chemical Engineering 301 for Statistics 201.

FACULTY AND PROGRAMS

Students in the College of Business Administration will benefit from the countless faculty recognized for excellence in teaching, research, and public service and from the outstanding programs operating throughout the College. One of the first in the South to be accredited by the Association to Advance Collegiate Schools of Business International, UT’s College of Business Administration strives for excellence in all endeavors.

On the undergraduate level, the UT accounting program ranked 20 in the nation and was one of the first three to be accredited at all possible degree levels. The College’s logistics and transportation program has been ranked number one in the nation and continues to entice recruiters from local and national businesses. The College has also been a national leader in bringing the concepts of industrial statistics and total quality management methods into the classroom.

At the graduate level, the College of Business Administration offers nine masters programs, including the newly restructured 17-month MBA program, and eight Ph.D. programs.

In addition to challenging students in the classroom, faculty also devote their energies to professional growth and commitment to the community by participating in other College of Business Administration programs, like these listed below.

Global Business Institute. The College of Business Administration’s response to the changes brought about by the internationalization of business and higher education, the Global Business Institute serves as the primary catalyst for international awareness and exchange. By offering internships and career consultation, speakers and event planning, partnership coordination, and program and curricula facilitation, the Global Business Institute helps students, faculty, managers, and public policy makers meet the challenges of a global marketplace.

Center for Executive Education. Providing public and custom executive development programming and four executive MBA programs, the Center for Executive Education works with thousands of individuals and dozens of organizations such as Delta Airlines, Federal Express, and General Electric to broaden and improve the skills of working individuals. The Center for Executive Education is a member of UNICON, an international organization of leading business schools committed to management and executive education.
**Center for Business and Economic Research.** With three research faculty, numerous staff, and the College of Business Administration students, the Center for Business and Economic Research conducts research on national and state economic trends for UT, state agencies, and public and private organizations. By collecting, analyzing, and disseminating economic and demographic data, the Center for Business and Economic Research offers Tennessee businesses the ability to compete and to make sound fiscal and managerial decisions.

**TECHNOLOGY**

Success in today's business environment is largely a function of accessibility to and interpretation of, information. This information provides the knowledge that allows employees and employers to make smart business decisions. Because today's business world demands that employees be able to effectively use personal computers and diverse software applications, the College of Business Administration intertwines technology with its curriculum at all levels.

In order to take advantage of these unique learning tools, all business students will be required to have their own laptop computers when they start the business core courses. With the new wireless network at UT, a student will be able to use their laptop almost anywhere on campus. Additionally, the College of Business Administration maintains two computer labs containing 50 IBM-compatible computers to support classroom work.

**WHERE TO BEGIN**

**Undergraduate Business Advising and Services.** The mission of the Undergraduate Business Advising and Services Office is to provide excellent academic and educational program planning services to undergraduate students in the College of Business Administration. The Undergraduate Business Advising and Services Office, at 52 Glocker, maintains a full-time staff of academic advisors to answer students’ questions concerning majors, curriculum, and elective options. It serves entering freshmen, transfers, international students, and students not yet admitted to their major. After being admitted to a major (junior and senior years), students will confer with a departmental advisor regarding career goals and opportunities.

In addition to advising, the Business Advising and Services Office provides individual and group educational program planning, management of course data and enrollment information for the College, undergraduate student recruiting, administration of the undergraduate scholarship program, coordination of progression procedures to business majors, and career counseling.

**Progression Standards.** Acceptance to the College of Business Administration does not guarantee acceptance to a specific major. Students are admitted to the College as pre-majors and should progress to a major prior to the completion of 75 hours of coursework. Application to a major is a one time only event and occurs as part of the student’s advising session in the Undergraduate Business Advising and Services Office the semester a student completes the following coursework:

- Math 125, 123, or 141-142 (6 or 8 hours);
- Written Communications (3 hours from English 263, 295, 355, or 360);
- Accounting 201-202 (5 hours);
- Economics 201 (4 hours);
- Statistics 201 (3 hours); and
- Business Administration 201 (4 hours).

Students will progress to a major provided they have earned a 2.75 cumulative GPA (3.0 in Accounting) in the coursework listed above. If denied progression, the student may pursue majors in a college other than Business Administration.

**Appeals.** Students who have been denied progression to a major within the College of Business Administration may appeal to the Undergraduate Admissions Appeals Committee. Information on procedures may be obtained in the Undergraduate Business Advising and Services Office, 52 Glocker.

**Transfer Students within UT.** Students in other colleges at UT should apply for progression to the College of Business Administration at the earliest possible date—no later than the completion of 75 hours. Only in exceptional cases will application be considered after 75 hours of coursework (at UT or elsewhere) have been attempted. The following minimum requirements must be met in order to be considered for admission to a major:

- The student must have earned a minimum 2.75 cumulative average in the courses required for progression (3.0 for an accounting major).

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

**Transfer Students from Other Institutions.** The following minimum requirements must be met in order to be considered for admission to the major:

- Out-of-State community college or four-year institution: The student must have a cumulative GPA of 3.0 or higher. If this standard is not met, the student shall be denied admission to the College.
- In-State community college or four-year institution: The student must have a cumulative GPA of 2.75 or higher. If this standard is not met, the student shall be denied admission to the College.

Only in exceptional cases will application be considered after 75 hours of coursework have been attempted.

**Articulation Agreements.** The College of Business has special transfer articulation agreements with some Tennessee community colleges, leading to admission with junior standing in particular majors at UT. Students are awarded an associate’s degree by the specified community college and a baccalaureate degree by UT; provided the student successfully completes all the courses required in a particular program and meets the progression standards. All other academic regulations of the degree-granting institutions must also be satisfied.

Details on specific programs and requirements are available from the Office of Undergraduate Admissions at UT or from the specified community college.

**Residency Requirement.** Students transferring from other institutions must complete at least nine credit hours in their major and the last 30 hours at UT.

**HOW TO PROCEED**

**Course Load.** The normal course load for a semester is 15-18 hours. In unusual circumstances, permission to take a course load in excess of 19 hours may be granted by an advisor in the Undergraduate Business Advising and Services Office at 52 Glocker.

**Satisfactory/No Credit.** A maximum of 20 credit hours of satisfactory/no credit (S/NC) may be used toward degree requirements for a Bachelor of Science in Business Administration. Such credit hours may be used to meet only the requirements identified in the curriculum as “electives,” plus any business courses specifically designated as being available for S/NC grading.

**Executive Undergraduate Program.** Top students are invited into the Executive Undergraduate Program, a professional enrichment experience. Members meet with executives who present small group workshops and luncheons and share experiences with students who have similar goals and interests.

**Executive in Residence.** A senior-level Executive in Residence course brings distinguished business and industrial leaders to campus for lectures with small groups of students. In these sessions, students have the opportunity to ask questions of some of the nation’s business leaders regarding domestic and international strategic planning and other hot business topics.

**Scholarships.** A limited number of scholarships are available for highly qualified students. Students are invited to apply for a College of Business Administration scholarship. Selection criteria considered for scholarships include: academic merit, financial need, and leadership.

To be considered for a scholarship, students must meet the following criteria:

1. Unweighted grade point average of 3.0;
2. ACT composite score of 23 or SAT combined score of 1050.

Students must complete either the Entering Freshman Academic Scholarship Application or the Returning and Transfer Student Undergraduate Scholarship Application, both of which can be obtained from UT’s Office of Financial Aid and Scholarships, 115 Student Services Building, and submit it by the date printed on the application, with the following information:

1. A current high school transcript and a current college transcript, if the student is a transfer student;
2. ACT or SAT scores.

For a complete list of scholarships available to undergraduate students, please see the “Honors and Awards” section of this catalog.

**Foreign Study.** Several opportunities for study abroad are available to UT College of Business Administration students, such as 1) group programs arranged and supervised by the College’s departments on a full semester or summer term, 2) direct exchange, summer study, and semester programs organized by the Programs Abroad and Transfer Student Undergraduate Scholarship Application, both of which can be obtained from UT’s Office of International Education, and 3) individualized programs.

Students planning foreign study must meet with their academic advisor to discuss curriculum issues.

**Off-Campus Study.** Recognizing that learning is not restricted to formal classroom situations, students may earn credit towards graduation for approved off-campus study.
may include certain types of work experiences or community involvement. Such study may be undertaken only with prior approval of a faculty member and the department granting credit.

**Student Organizations.** Business students at UT have the opportunity to belong to several honorary and professional societies, often specific to the business environment. For a complete listing of these organizations and the related participation or entrance requirements, please see the College of Business Administration heading under the "Honors and Awards" section of this catalog.

### ACCOUNTING AND BUSINESS LAW

#### Professors:
- K.G. Stanga (Head and Andersen Professor of Accounting), Ph.D. Louisiana State, CPA; K.E. Anderson (Distinguished Professor of Taxation), Ph.D. Indiana, CPA; N.E. Dittrich (Emeritus), Ph.D. Ohio State, CPA; B.D. Fisher, L.M. George Washington; J.E. Kiger (Warren L. Slagle Professor of Accounting), Ph.D. Missouri, CPA; J.M. Reeve (Deloitte & Touche Professor), Ph.D. Oklahoma State, CPA; J.B. Woodroof, Ph.D. Virginia Polytechnic Institute, CPA, CMA; J.R. Williams (Ernst & Young Professor), Ph.D. Arkansas, CPA.

#### Associate Professors:
- B.K. Behn, Ph.D Arizona State, CPA; J.V. Carcello, Ph.D. Georgia State, CPA, CMA; D.P. Murphy, Ph.D. North Carolina, CPA; I.A. Posey (Emeritus), M.S. Tennessee, CPA, CMA; R.L. Townsend, Ph.D. Texas, CPA; J.B. Woodroof, Ph.D. Texas Tech, CPA.

#### Assistant Professors:
- D.D. DeVries, Ph.D. Arizona State, CPA, CISA; M.C. Lestersing (Emeritus), M.S. Tennessee, CPA; A.S. Rose, Ph.D. Texas A&M, CPA; J.M. Rose, Ph.D. Texas A&M.

#### Lecturers:
- E.B. Anderson, MACC Tennessee, CPA; A. R. Bryant, MACC Tennessee, CPA; L.W. Hendrick, M.B.A. Houston, J.D., CPA; H.N. Hughes, B.S. Tennessee; C.M. Pfeifer, MACC Tennessee; L.M. Reeves, MACC Tennessee.

The Accounting Program at UT has established itself as one of the nation’s top accounting schools. Modern society demands much from professional accountants. They are responsible for preparing and analyzing financial data and for consulting in many specialized areas such as tax planning and compliance, auditing (examining and verifying financial records), information systems, and management advisory services.

After completing the core requirements for a business education (including courses in statistics, economics, marketing, finance, business law, and management), the accounting major begins extensive work in financial and managerial accounting. The student then completes advanced work in specialized areas such as tax, auditing, and systems. The use of computers in accounting is also stressed.

UT’s Accounting Programs are accredited by AACSB International and are among the initial programs in the nation to receive this accreditation.

Since 1993, the state of Tennessee has required anyone wishing to take the Uniform Certified Public Accountant (CPA) Examination to complete 150 semester hours of study. Therefore, students are encouraged to continue their formal education in UT’s one-year Master of Accountancy program.

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<tr>
<th>Hours Credit</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Business Administration 101</th>
<th>Business Administration 331-332</th>
<th>Business Administration 341-342</th>
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**BUSINESS STUDIES**

The Business Studies Program offers a broader education that allows students to gain in-depth knowledge of a particular area of business while retaining an overall perspective. After completing the core requirements for a business degree, Business Studies majors complete twenty-four additional hours in upper-division business courses.

The wide range of business and arts and science courses required by this curriculum provides a solid base knowledge well suited for entry-level positions in many organizations. Graduates of the Business Studies program begin their careers as management trainees in sales, banking, insurance, and marketing. The curriculum is also ideal for students interested in pre-law, particularly with specialization in corporate law.

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| 6Social Science—Two courses from: Anthropology 110-120, 130, 320; Geography 101, 102, 320, 323; Political Science 101, 102, 107; Psychology 110, 117, 320, 310, 320; Sociology 110, 117, 120, 327, 310, 310, 370, 415, 459. |
| 7Written Communications—One course from: English 201, 295, 365, 370. |
| 8Ethics—One course from: Philosophy 242, 242, or 344. |
| 9Arts—One course from: Art 191; Art History 172, 173; Classics 232, 233; Music History 110, 120, 330; Speech 280, Theatre 100, 220, 211, 260; Women’s Studies 320. |
| 10J.B. Woodroof, Ph.D. Texas Tech, CPA. |

Total: 126 hours
**ECONOMICS**

Professors:  
M.N. Murray (Head); Douglass and Brenda Home Professor), Ph.D. Syracuse; R.A. Bohm, Ph.D. Washington (St. Louis); R.L. Bowlby (Emeritus), 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 (Emeritus), Ph.D. Texas; P. Davidson (Emeritus), Ph.D. Pennsylvania; W.F. Fox (William B. Stokely Distinguished Professor of Business), Ph.D. Ohio State; H.W. Herzog, Jr., Ph.D. Maryland; H.E. Jensen (Emeritus), Ph.D. Texas; F.Y. Lee (Emeritus), 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; M. Russell (Emeritus), Ph.D. Oklahoma; G.A. Spiva, Jr. (Emeritus), Ph.D. Texas.

**Associate Professor:** J.A. Gauger, Ph.D. Iowa State.

**Assistant Professors:**  
D. Barkoulas, Ph.D. Boston College; D. Fallaschetti, Ph.D. Washington (St. Louis); M. Malek, Ph.D. York University (Canada); M. Munkin, Ph.D. Indiana; R. Santore, Ph.D. Ohio State; S. Stewart, Ph.D. University of New Mexico.

**Research Assistant Professor:** D. Bruce, Ph.D. Syracuse University.

The economics major thoroughly examines the economic processes of society, focusing on the production, distribution, and consumption of goods and services. Students in economics may select courses from the fields of economic development, industrial organization, labor economics, international economics, economic history, regional economics, public finance, and quantitative methods. All students majoring in economics take courses in economic theory. In addition, the student gains a knowledge of our culture and society as well as the world of business by completing courses in arts and sciences and in the functional areas of business. Graduates in economics are in demand in many sectors including industry, commerce, finance, trade associations, and government offices at all levels.

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<th>Hours Credit</th>
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<td><strong>Freshman</strong></td>
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<td>11**English 101,102 ...</td>
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<td>2Math 123-125 or 141-142</td>
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<td>3Intermediate Foreign Language</td>
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<td>4<strong>Natural Science</strong></td>
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<td>5<strong>Social Science</strong></td>
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<td>6Business Administration 101</td>
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<td><strong>Sophomore</strong></td>
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<td>7Accounting 201, 202</td>
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<td>8Economics 201</td>
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<td>9Written Communications</td>
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<td>10<strong>Ethics</strong></td>
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<td>11<strong>Arts</strong></td>
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<td>12Statistics 201</td>
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<tr>
<td>13Business Administration 201</td>
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<td>14<strong>Humanities (Literature)</strong></td>
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<tr>
<td>15<strong>Oral Communications</strong></td>
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<tr>
<td><strong>Junior</strong></td>
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<td>16Business Administration 331-332</td>
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<td>17Business Administration 341-342</td>
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<td>18Finance 301</td>
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<td>19Economics 311</td>
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<td>20Economics 313</td>
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<td>21Business Administration 351-352</td>
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<td>22Business Administration 361</td>
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| 1Non-US History | 6 |
| 2Economics Electives | 3 |
| 3Senior Year | 6 |
| 4Economics Electives | 6 |
| 5Business Law 301 | 3 |
| 6Economics 499 | 3 |
| 7Management 401 | 3 |
| 8Electives | 13-15 |

Total: 126 hours

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1 Must be completed by the end of the Freshman Year.
2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 102 or a sophomore literature course in the English Department. If the sophomore literature course appears on the list for the Humanities Literature requirement, the course may also be counted toward the Humanities requirement.
3 Students who complete Mathematics 125 or 141 must be completed by the end of the first semester of the Sophomore Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their Freshman Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Sophomore Year. Students who have not completed Mathematics 125 by the end of their Freshman Year should take Mathematics 125 in the first semester of their Sophomore Year, prior to taking Mathematics 123.
4 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 are treated as non-business electives. 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 taught by the English Department at the 200-level.
5 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 101-102; Botany 110-120; Chemistry 120-130, or 128-138; Geography 131-132; Geology 101-102, or 101-103, or 107-108; Physics 135-136, or 137-138, or 217-222.
6 Social Science—Two courses from: Anthropology 110, 120, 130, 320; Geography 101, 102, 320, 323; Political Science 101, 102, 107; Psychology 110, 117, 220, 310, 320, 360; Sociology 110, 117, 120, 127, 310, 370, 415, 459.
7 Written Communications—One course from: English 263, 295, 355, 360.
8 Ethics—One course from: Philosophy 242, 342, or 344.
9 Arts—One course from: Art 191; Art History 172, 173, 183; Classics 232, 233; Music History 110, 120, 330; Speech 280, Theatre 100, 220, 221, 260; Women’s Studies 330.
10 Humanities—One course from: Asian Languages 311, 312, 313, 314; Classics 253; Comparative Literature 202, 203; English 201, 202, 221, 222, 231, 232, 233, 251, 252, 253, 281, 333, or 200-level Honors Literature Courses; Any foreign language courses whose content is literature including foreign literature in English translation; Medieval Studies 261, 262; Religious Studies 312, 313; Women’s Studies 210, 215.
11 Oral Communications—One course from: Speech 210, 240.
13 Choose from any upper division Economics courses.
FINANCE

Professors: J.W. Wansley (Head and Clayton Homes Chair of Excellence), Ph.D. South Carolina; H.A. Black (James F. Smith Professor), Ph.D. Ohio State; T.P. Boehm (AmSouth Scholar), Ph.D. Washington University (St. Louis); R.P. DeGennaro (SunTrust Professor), Ph.D. Ohio State; W.W. Dotten relief (Emeritus), Ph.D. Pennsylvania; M.C. Ehhardt (Castagna Professor), Ph.D. Georgia Tech; G.C. Philippatos (Distinguished Chaired Professor of Banking and Finance), Ph.D. New York; R.E. Shrieves (Voigt Professor), Ph.D. California (Los Angeles); J.M. Wachowicz, Jr. (AmSouth Scholar), Ph.D. Illinois.

Associate Professors: A.L. Auxier, Ph.D. Iowa; M.C. Collins (Home Federal Faculty Fellow), Ph.D. Georgia; P.R. Daves, Ph.D. North Carolina; D. Murphy, Ph.D. Florida.

Instructors: S. Murphy, MBA Loyola University.

The finance major gives students the flexibility to tailor their programs to fit their particular career goals and to prepare for one (or more) of the following specialty areas:
- Courses in Investment lead to career opportunities in investment analysis, commercial and investment banking, and insurance companies. Courses in Real Estate are designed for students who are interested in real estate brokerage, appraising, taxation, law, property management, real estate development, mortgage lending and banking, construction, government loan guarantees, and insurance.
- Courses in Corporate Finance lead to opportunities in corporate forecasting, planning, and control; cash management; and capital and financial analysis positions. Courses in Financial Institutions and Markets prepare students for opportunities in the management of financial institutions, as well as within the government organizations related to the industry.
- Courses in Insurance and Risk Management prepare students for opportunities in insurance, business, and public risk management.

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<th>Hours Credit</th>
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<tr>
<td>Freshman</td>
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<td>English 101, 102</td>
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<td>Math 123-125 or 141-142</td>
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<td>Natural Science</td>
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<td>Business Administration 101</td>
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<td>Sophomore</td>
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<td>Accounting 201, 202</td>
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<td>Economics 201</td>
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<td>Written Communications</td>
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<td>Ethics</td>
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<td>Junior</td>
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<td>Business Administration 331-332</td>
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<td>Business Administration 341-342</td>
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<td>Finance</td>
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<td>Business Administration 361</td>
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<tr>
<td>Accounting 311 Statistics 320</td>
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<td>Finance 421</td>
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Total: 126 hours

1 Must be completed by the end of the Freshman Year.
2 Students who complete English 118, Honors English Composition, with a grade of A or B will complete their English Composition requirement by choosing English 101 or a sophomore course in the English Department. If the sophomore literature course appears on the Humanities Literature requirement, the course may also be counted toward the Humanities requirement.
3 Mathematics—Mathematics 125 or 141 are prerequisites for Statistics 201, which is taken during the second semester of the Sophomore Year. As a result, either Mathematics 125 or 141 must be completed by the end of the first semester of the Sophomore Year. Students testing into Mathematics 100, 110, 115, or 119 must complete these courses during their Freshman Year to ensure that Mathematics 125 or 141 can be completed during the first semester of the Sophomore Year. Students who have not completed Mathematics 125 by the end of their Sophomore Year should take Mathematics 125 in the first semester of their Sophomore Year, prior to taking Mathematics 123.
4 Foreign Language—Students must complete the intermediate sequence of a foreign language.
5 Students may either continue the Foreign Language begun in high school or start a new sequence. Courses taken at other than the intermediate level are treated as non-business electives. Students whose native language is not English may meet this requirement by passing two English language literature courses taught by the English Department at the 200-level.
6 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.
7 Astronomy 161-162, or 217-218; Biology 101-102; Botany 120-120, or 128-138;Geography 131-132; Geology 101-102, or 101-103, or 107-108; Physical Geography (Emeritus), or 121-122; Social Science—Two courses from: Anthropology 114, 120, 130, 320; Geography 101, 102, 320, 323; Political Science 101, 102, 107; Psychology 110, 117, 220, 320, 323, 325, 326; Sociology 110, 117, 120, 127, 310, 310, 370, 415, 459.
8 Written Communications—one course from: English 283, 285, 355, 360.
9 Ethics—one course from: Philosophy 242, 243, or 344.
10 Arts—one course from: Art 111; Art History 101, 201, or 202; Art History 101, 201, 202, 221, 231, 232, 233, 251, 252, 253, 258, 331, 332, 333, or 200-level Honors Literature Courses:
- Foreign Language courses whose content is literature including foreign literature in English translation; Medieval Studies 281-282; Religious Studies 312, 313; Women’s Studies 210, 215.
11 Oral Communications—one course from: Speech 210, 240.
13 Finance Electives—Choose from the following courses: Finance 402, 422, 431, 460, 470, 471, 481, 482, and 493.

MANAGEMENT

Professors: R.W. Boling (Emeritus), Ph.D. Stanford; H.D. Dewhirst (Emeritus), Ph.D. Texas; K.C. Gilbert, Ph.D. Tennessee; L.R. James, Ph.D. Utah; A.H. Kealy (Emeritus), M.B.A. Pennsylvania; R.T. Ladd, Ph.D. Georgia; J.M. Larsen, Jr., (Emeritus), Ph.D. Purdue; A. Miller (William B. Stokely Professor of Management), Ph.D. Washington; C.W. Neel, Ph.D. Alabama; C.E. Noon, Ph.D. Michigan; D. Reese (Emeritus), Ph.D. Iowa; M.C. Rush, Ph.D. Akron; M.M. Smrnan (The Ball Corporation Professor of Management), Ph.D. Northwestern; M.J. Stahl (Distinguished Professor of Management), Ph.D. Rensselaer; S.C. Vance (William B. Stokely Professor of Management, Emeritus), Ph.D. Pennsylvania; G.H. Whitlock (Emeritus and Alumni Distinguished Service Professor), Ph.D. Tennessee.

Associate Professors: O.S. Fowler (Head), Ph.D. Georgia; M.R. Bowers, Ph.D. Clemson; C.P. Edrisirighe, Ph.D. British Columbia; Usha G.V. Haley, Ph.D. New York University; W.Q. Judge, Ph.D. North Carolina; R.C. Madding (Emeritus), Ph.D. Texas; J.R. Rentsch, Ph.D. Maryland; D.J. Woehr, Ph.D. Georgia Institute of Technology.


Instructors: J.C. Anderson, Master of International Management, Arizona; W.L. Illic, M.A. Tennessee.

Management majors at UT may choose from several different areas of emphasis. Operations management and personnel management are the most specified, but an individualized program may be developed. The foundation is provided by studies of organizational structure and process, human behavior in organizations, and business strategy. Building on that foundation and the core courses in accounting, economics, marketing, and finance, the management major selects from the following four areas of emphasis: General Management, Operations Management, Human Resource Management, or International Management.

Career opportunities include staff positions in production planning, inventory management, employment, training, and recruiting. In addition, line management positions in all types of industries, such as manufacturing, retailing, banking, transportation, and hospitality are all available to management majors.

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<td>Finance 421</td>
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</tbody>
</table>
### Statistics 201

- **Must be completed by the end of the Freshman Year.**

### Business Administration 101

- **English 101, 102**
- **Math 123-125 or 141-142**
- **English Composition**
- **Humanities (Literature)**
- **Social Science**
- **Arts**
- **Written Communications**
- **Oral Communications**
- **Electives**

### Junior Year

- **Management Electives**
- **Business Administration 351-352**
- **Finance 301**
- **Management 341**
- **Management 401**
- **Electives**

**Total: 126 hours**

### Senior Year

- **Management Electives**
- **Business Law 301**
- **Management 401**
- **Electives**

**Total: 126 hours**

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**MANAGEMENT SCIENCE PROGRAMS**

**GRADUATE PROGRAMS ONLY**

**Professor:**

- K.C. Gilbert, Ph.D.
- Tennessee; C.E. Noon, Ph.D.
- Michigan; M.M. Srivivasan (The Ball Corporation Professor of Management), Ph.D.
- Northwestern.

**Associate Professors:**

- M.R. Bowers, Ph.D.
- Clemson; C.P.
- Edlisinghe, Ph.D.
- British Columbia.

**Graduate**

Consult the Graduate Catalog for information on graduate programs.

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**LOGISTICS AND TRANSPORTATION**

**Professors:**

- F.W. Davis, Jr., Ph.D.
- Michigan State; G.N.
- Dicer, D.B.A.
- Indiana; J.T.
- Merz, Ph.D.
- Michigan State.

**Associate Professors:**

- J.H. Foggin, Ph.D.
- Indiana; M.C.
- Holcomb, Ph.D.
- Tennessee; L.M.
- Rinehart, Ph.D.
- Michigan State.

**Assistant Professor:**

- M.E. Rozicka, Ph.D.
- Arizona State.

Logistics has responsibility for the movement of raw materials and component parts into and within a business firm, and the distribution of finished products and services to customers. A major component of logistics, transportation refers to the physical movement of goods between two geographic points. Because having products and/or services in the right place at the right time is critical for success in any business, logistics plays a critical role in a firm’s comprehensive supply chain. A career in logistics offers students the opportunity to make a significant contribution to corporate effectiveness in this area. Students interested in transferring to UT are currently regarded as one of the most comprehensive and contemporary programs in the nation.

The program offers a fundamental yet innovative curriculum. Students develop important skills required of logistics professionals, as well as learn how logistics helps solve business supply chain management problems.
Students may either continue the Foreign Language begun in high school or start a new sequence. Courses taken at other than the intermediate level are treated as non-business electives. 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 taught by the English Department at the 200-level.

Marketing education enables one to pursue varied career opportunities critical to organizations. Typically, a career in marketing begins in either consumer or industrial sales or retailing, which eventually may lead to management positions in any of several areas. For example, marketing professionals may hold positions in advertising, brand management, sales management, promotion management, marketing research, distribution, and other related areas.

Students interested in a marketing career should have a broad-based business education, which includes financial management, logistics and transportation, operations, human resources, business strategy, economics, and statistics. In addition to a broad array of courses in arts and sciences, marketing students should obtain a strong grounding in the social sciences to better understand the forces that shape customer preferences.

### MARKETING

**Professors:**
- D.J. Barnaby, Ph.D., Purdue, E.R. Cadotte, Ph.D., Ohio State; J.T. Mentzer, Ph.D., Indiana.
- D.J. Flint, Ph.D., Pennsylvania State; D.W. Schumach, Ph.D., Missouri (Columbia); R.B. Woodruff, D.B.A., Indiana.

**Associate Professors:**
- P.A. Dahbolkar, Ph.D., Georgia State; S.F. Gardial, Ph.D., Houston; M.A. Moon, Ph.D., North Carolina (Chapel Hill); R.C. Reizenstein (Chair), Ph.D., Cornell; J.O. Rentz, Ph.D., Georgia.

**Assistant Professors:**
- K.B. Kahn, Ph.D., Polytechnic Institute; M.B. Myers, Ph.D., Michigan State; D.J. Flint, Ph.D., Pennsylvania State.

**Instructor:**
- M.E. Collins, M.B.A., Middle Tennessee State.

Marketing in an organization has responsibility for identifying who customers are, what they need and want, and how best to meet those needs/wants by creating and delivering superior value to them. Marketing professionals use strategy tools to target customers, create value propositions and positioning for each target, and deliver and communicate value to these customers through product design, pricing, advertising, personal selling, promotion, and distribution.

### PUBLIC ADMINISTRATION

Public Administration is a joint program sponsored by the Department of Economics and the Department of Political Science. It is designed for students interested in public sector 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 in government. Students choose electives to focus their interest or expertise.

Public administration majors find careers in city management, tax administration, budget analysis, and in the functional areas of government such as education, health, and economic development. Opportunities exist at the federal, state, and local levels of government. Many public administration majors pursue graduate-level education and training. Law schools and the Masters of Public Administration are two possible options.
STATISTICS

Professors:
Robert W. Mee (Head), Ph.D. Iowa State; H. Bozdogan, Ph.D. Illinois; Frank M. Guess, Ph.D. Florida State; Robert A. McLean (Emeritus), Ph.D. Western Michigan; Frederick R. Harrell, Ph.D. Southern Methodist; John W. Philpot (Emeritus), Ph.D. Virginia Polytechnic; Richard D. Sanders (Emeritus), Ph.D. Texas; David L. Sylvester (Emeritus), Ph.D. Stanford; Charles C. Thigpen (Emeritus), Ph.D. Virginia Polytechnic Institute.

Associate Professors:
Mary G. Leitnaker, Ph.D. Kentucky; Ramon V. Leon, Ph.D. Florida State; William L. Seaver, Ph.D. Texas A&M; Esteban Walker, Ph.D. Virginia Polytechnic; Mary Sue Younger, Ph.D. Virginia Polytechnic.

Assistant Professor:
Halima Bensmail, Ph.D. Paris VII; Hyunjoong Kim, Ph.D. Wisconsin.

Instructor:
Charles M. Cwiek, M.S. Tennessee.

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

Adjunct:
K.O. Bowman, Ph.D. Virginia Polytechnic Institute; Edward L. Frome, Ph.D. Emory; Stephen A. McGuire, Ph.D. Kansas State.

The general perception of a statistician is that of a professional who designs experiments, obtains and analyzes data, and interprets results for scientists, engineers, and others. A statistician’s work is concerned with the planning and design of surveys and experiments; the collection, processing, and analysis of data; and the interpretation of the results. The work of a statistician involves applications of mathematics, computer science, and statistics to other fields such as medicine, biology, economics, finance, and engineering. Statisticians may work in a variety of settings, including government agencies, research institutions, and private industry.

The College of Business Administration at UT offers a graduate program in Applied Statistics. The program is designed to provide students with a strong foundation in statistical theory and methodology, as well as practical skills in data analysis and interpretation.

The program is flexible and can be completed in one of two tracks: the General Track and the Industrial/Engineering Track. The General Track is designed for students who wish to pursue a career in statistics, while the Industrial/Engineering Track is designed for students who wish to apply statistical methods in industrial and engineering settings.

The program requires the completion of 36 credits of coursework, which includes core courses in statistical theory and methodology, as well as electives in areas such as economics, finance, and computer science. Students are also required to complete a thesis or dissertation.

The program is open to students from all majors, and admission is based on a combination of academic background and professional experience. The program is designed to prepare students for careers in a variety of fields, including government, industry, and academia.

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4Foreign 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 are treated as non-business electives. 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 taught by the English Department at the 200-level.

5Natural 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 101-102; Botany 110-120; Chemistry 120-130, or 128-138; Geography 131-132; Geology 101-102, or 101-103, or 107-108; Physics 135-136, or 137-138, or 221-222.

6Social Science—Two courses from: Anthropology 110, 120, 130, 121; Political Science 101, 102, 107; Psychology 110, 117, 220, 310, 320, 360; Sociology 110, 117, 120, 127, 310, 370, 415, 459.

7Written Communications—One course from: English 263, 295, 355, 360.

8Ethics—One course from: Philosophy 242, 342, or 344.

9Arts—One course from: Art 191; Art History 172, 173, 183; Classics 232, 233; Music History 110, 120, 330; Speech 280, Theatre 100, 220, 221, 260; Women's Studies 330.

10Humanities—One course from: Asian Languages 311, 312, 313, 314; Classics 253; Comparative Literature 202, 203; English 201, 202, 221, 222, 231, 232, 233, 251, 252, 253, 281, 333, or 200-level Honors Literature Courses; Any foreign language courses whose content is literature including foreign literature in English translation; Medieval Studies 261, 262; Religious Studies 312, 313; Women's Studies 210, 215.

11Oral Communications—One course from: Speech 210, 240.


13Math Elective—To attain at least 126 hours, students who took the six credits of Math 123-125 should take Math 141-142; for others the recommended courses are Math 241 and 251.

14Statistics Electives—Choose any two courses from Statistics 472, 473, 475; Mathematics 423, 424, 425.

CENTER FOR BUSINESS AND ECONOMIC RESEARCH

W.F. Fox (Director), Research Professor, Ph.D. Ohio State

M.N. Murray (Associate Director), Research Professor, Ph.D. Syracuse

D. Bruce, Research Assistant Professor, Ph.D. Syracuse

M.J. Cornelius, Research Associate, M.S. Tennessee

V.C. Cunningham, Research Associate, B.A. Tennessee

P. Dowell, Research Associate, Ph.D. Tennessee

P.A. Price, Research Associate, B.S. Tennessee

J.M. Snoderly, Research Associate, B.A. Tennessee

A.R. Thacker, Research Associate, B.S. Tennessee

B.B. Vickers, Research Associate, B.A. Mary Washington
COURSE LOAD

The maximum number of hours an undergraduate may take without special permission is 19 hours. Permission to take 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 head or school director.

REQUIRED FOR ALL CURRICULUMS

CORE AREAS

All students in the College take the following core areas:
- Overview/Survey
- Writing
- Theory and Research
- Free Speech, Law and Ethics
- Each department designates a course (or courses) to fulfill each of the five majors.

SATISFACTORY/NO CREDIT OPTION

This option applies only to general elective courses with the exception of field experience courses. No course that is 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 and humanities electives required by the various departments cannot be taken 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, Journalism/Public Relations, and Speech Communication. An interdisciplinary Communications minor is also available.

A minor in Broadcasting consists of 18 hours as follows: Communications 100, Broadcasting 275, Broadcasting 310 or 320, and Broadcasting electives (any three courses in the department).

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

A minor in Speech Communication consists of Speech Communication 100 plus 18 additional hours of Speech Communication courses, at least 12 of which must be at the 300 level and above. Speech Communication 445, 491, 492, 493 may not be included toward requirements for the minor.

An 18 hour interdisciplinary minor in Communications for non-majors is available that consists of either Communications 100 or Speech Communication 100; two 200-level sequence introduction courses (Advertising 250, Broadcasting 275, Journalism 200, Public Relations 270, Speech Communication 260); and three upper division courses across two sequences in which the 200-level introductory courses have been taken. Students seeking an interdisciplinary minor should see the College of Communications undergraduate associate dean.

HONORS PROGRAM IN SPEECH COMMUNICATION

The Speech Communication Department offers an honors program that provides an intense educational experience designed to assure the participating student a superior and challenging undergraduate education. Speech Communication 107, the Honors version of Introduction to Speech Communication, is open to students with a 3.0 or higher cumulative GPA and to entering freshmen with a 3.5 or higher cumulative high school GPA and/or ACT composite score of 27 or better. Majors who are prospective juniors and who have a 3.0 or higher cumulative GPA and a 3.25 or higher cumulative GPA in the major are eligible to apply for admission to the Speech Communication Honors Program. Application forms are available in the department office. To graduate with Honors, students must meet all
requirements for the Speech Communication major and must complete 397 (Honors Seminar) during the junior year and 497-498 (Senior Honors Thesis) during the senior year. The GPA requirement for admission to the program must be maintained, and the grade in 498 must be B or higher.

REQUIREMENTS FOR GRADUATION

The Bachelor of Science degree in Communications is awarded to majors who complete a program of 124 hours prescribed under the Advertising, Broadcasting and Journalism departmental requirements listed below. At least 90 of those hours must be taken in courses other than the major or related communications fields. At least 18 of the hours in the major must be taken at the University of Tennessee.

The Bachelor of Arts in Communications degree is awarded to Speech Communication majors who successfully complete the prescribed 124 hours of courses listed below. Students must achieve a cumulative grade point average of at least 2.0 in all College of Communications courses used to fulfill graduation requirements.

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 and Public Relations or the Departments of Broadcasting or Speech Communication after the completion of at least 30 hours of prescribed coursework with a 2.5 cumulative GPA. Students who have completed the course requirements for the freshman year with a minimum 2.75 cumulative average in those courses will be considered for progression into the Department of Advertising. Applicants must submit a completed department application, a statement of career goals, and an academic history.

Until they progress to a major, students may not enroll in courses in the College numbered 300 or above without approval.

Students who do not progress to a major by the time they have accumulated 80 credit hours will be dismissed from the College.

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, with the exception of the advertising major, as soon as they complete at least 30 hours of prescribed coursework with a 2.5 cumulative GPA, complete Communications or Speech Communication 100, and make application to the appropriate Department or School. Students pursuing a major in advertising must complete the freshman year course requirements with a 2.75 cumulative GPA to be considered for admission.

GRADUATE

Consult the Graduate Catalog for listing of graduate level courses.

ADVERTISING

Professors: Roxanne Hovland, Ph.D. Illinois; Mariea G. Hoy, Ph.D. Oklahoma State; Ronald E. Taylor (Head), Ph.D. Illinois.

Associate Professor: Eric Haley, Ph.D. Georgia.

Assistant Professors: Michael Hoeffges, Ph.D. Florida; Margaret Morrison, Ph.D. Georgia; Sally McMillan, Ph.D. Oregon.

Emeritus Professor: Richard Joel, M.A. Wisconsin.

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<td>Communications 100</td>
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<td>Foreign Language</td>
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<td>Mathematics 119 or 123, 125</td>
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<tr>
<td>Electives outside College of Communications</td>
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</table>

Total: 124 hours

1 Six hours of intermediate foreign language is required.
2 Natural Science Electives are any two courses from: Astronomy 161, 162; Biology 101, 102; Botany 110, 120; Chemistry 100, 110, 120, 130; Geography 131, 132; Geology 101, 102, or 103.
3 Mathematics Electives: 110, 115, 119, 123, 125.

* NOTE: If courses in these areas are taken, at least some general elective hours must be used for courses given in the College of Arts and Sciences. Between general electives and professional electives, at least 14 hours must be taken from the College of Arts and Sciences.

JOURNALISM

Professors: Barbara A. Moore (Head), Ph.D. Ohio; Norman R. Swan, Jr., Ph.D. Missouri.

Assistant Professor: Benjamin J. Bates, Ph.D. Michigan.

Assistant Professors: Barbara K. Kaye, Ph.D. Florida State; Catherine A. Luther, Ph.D. Minnesota; Mark D. Harmon, Ph.D. Ohio.


<table>
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<tr>
<th>Course</th>
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<td>History 241, 242</td>
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1 Six hours of intermediate foreign language is required.
2 Natural Science Electives are any two courses from: Astronomy 161, 162; Biology 101, 102; Botany 110, 120; Chemistry 100, 110, 120, 130; Geography 131, 132; Geology 101, 102, or 103.
3 Mathematics Electives: 110, 115, 119, 123, 125.

*NOTE: If courses in these areas are taken, at least some general elective hours must be used for courses given in the College of Arts and Sciences. Between general electives and professional electives, at least 14 hours must be taken from the College of Arts and Sciences.

BROADCASTING

Professors: Paul G. Ashdown, Ph.D. Bowling Green; Dorothy A. Bowles, Ph.D. Wisconsin (Madison); Edward Caudill, Ph.D. North Carolina; Mark Littmann (Chair of Excellence), Ph.D. Northwestern; Mark Miller, Ph.D. Michigan State; Michael W. Singletary, Ph.D. Southern Illinois; Dwight L. Teeter, Jr., Ph.D. Wisconsin (Madison).

Associate Professors: Daniel Foley, M.S.J. Northwestern; Robert B. Heller, M.S. Syracuse; Jerry L. Morrow, Ph.D. Toledo; Candace L. White, Ph.D. Georgia.

Assistant Professors: Lisa T. Fall, Ph.D. Michigan State; Bonnie P. Riechert, Ph.D. Tennessee; Candace L. White, Ph.D. Georgia.

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<th>Course</th>
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### JOURNALISM CONCENTRATION

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Total: 124 hours

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### PUBLIC RELATIONS CONCENTRATION

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Total: 124 hours

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### SPEECH COMMUNICATION

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<td>Psychology</td>
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<td>*Natural Science</td>
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<td>*Computer Science 100 or 102</td>
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<tr>
<td>Math 115 or Statistics 201</td>
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<td>*Foreign Language</td>
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<td>*Humanities Elective</td>
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<td>General Electives</td>
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<th>Junior</th>
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<td>*Communications Elective</td>
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<td>*Social Science Elective</td>
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<tr>
<td>General Electives</td>
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</table>

Total: 124 hours

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*Six hours of intermediate foreign language is required.
2Natural Science Electives are any two courses from: Astronomy 161, 162; Biology 101, 102; Botany 110, 120; Chemistry 100, 110 or 120, 130; Geography 131, 132; Geology 101, 102, or 103.
3Mathematics Electives: Math 110, 119, or 125
4Humanities Electives: Art; Classics; English; Foreign Language; Journalism 444, 456; Music; Theatre; Philosophy; Religious Studies.
5Political Science Electives: 315, 320, 321.
6Social Science Electives: Anthropology; Geography; Economics; History; Political Science; Psychology; Sociology; Child and Family Studies; African and African-American Studies; Women’s Studies; Speech Communication; Information Sciences; Journalism 460.
The College of Education holds membership in the American Association of Colleges for Teacher Education and the Holmes Partnership. Furthermore, all school licensure and school related degree programs 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. All degree programs which prepare non-school based professionals are accredited by the Southern Association of Colleges and Schools.

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 and non-school based professionals at the undergraduate and graduate levels; (2) to collaborate with school personnel, educational agencies, community agencies, professional groups, and others interested in the evaluation and improvement of educational opportunities, programs, and services; and (3) to promote and conduct investigations which are designed to improve professional education and enhance student/client learning. In performing these functions, it is believed that students should attain a broad cultural background in the arts and sciences, demonstrate mastery of professional knowledge and skills, and have a thorough knowledge of their content field. Through a carefully planned program of combined academic and direct experiences, the prospective professional acquires a depth and breadth of knowledge and understanding which is superior to that of the typical college graduate in cultural and citizenship appreciation as well as in professional and scholarly accomplishment.

The Claxton Complex and the Health, Physical Education, and Recreation Building are functional facilities which are designed for the education of teachers and other professionals. These buildings include science laboratories, seminar rooms, the Instructional Services Center, the Reading Center, the Curriculum Laboratory, the Computer Laboratory, the Bureau of Education, Research and Service, as well as a number of interest centers.

C. Glennon Rowell, Dean
Thomas W. George, Associate Dean for Academic Programs and Administration
Lynn C. Cagle, Associate Dean for Professional Licensure, Instructional Support, and Faculty Development

The College of Education prepares teachers, school administrators, pupil personnel specialists, and other professionals for non-school settings. At the undergraduate level teacher education remains a major function of the College even though students are now required to complete one year of post baccalaureate level work before qualifying for a teacher license.

Prior to the establishment of the College of Education in 1926, courses for teachers were first taught in 1903. Since that time the College has increasingly fulfilled its responsibility to prepare competent preservice graduates, as well as to provide professional growth experiences for inservice educators.

The College of Education’s approximate 85 faculty reside in six academic departments. The College’s Office of Teacher Education and Licensure coordinates educational licensure programs throughout the College of Education and collaborates with other colleges within the University where professional educators are prepared (see Collaborative Programs section). In addition, the Office of Teacher Education has been responsible for overseeing a series of teacher education reforms which include increased admission standards, strengthened general education, redesigned professional education, and the creation of student/faculty mentoring teams. In addition to teacher education programs, the College of Education has several non-teacher education majors at the undergraduate level. These majors include: Exercise Science, Human Services, and Sport Management.

Exercise Science graduates attend programs in physical therapy, cardiac rehabilitation, and biomechanics, and are employed in fitness, out-patient rehabilitative, and athletic-training settings.

COLLABORATIVE PROGRAMS

Faculty members of the College of Education collaborate with faculty in the colleges cited below in preparing teachers and educational specialists. Students interested in pursuing teacher or educational specialist licensure in these fields earn their baccalaureate degrees from the colleges cited and complete licensure requirements at the conclusion of either the fourth or fifth academic year, depending upon program requirements. Students are referred to the offices indicated below and to Steps I-IV of the licensure requirements cited in this section of the catalog for further information.

College of Agricultural Sciences and Natural Resources, Agriculture Education, Agriculture and Extension Education—201 Morgan Hall;
College of Arts and Sciences, Art Education—Art Department Art and Architecture Building, 1715 Volunteer Boulevard; Elementary Education, Secondary Education: English, Foreign Languages, Mathematics, Science, Social Science—College of Education Student Services Center, Claxton Complex A332, Music Education—Music Department, 211A Music Building, 1741 Volunteer Boulevard; Speech and Hearing Education—Audiology and Speech Pathology Department, 457 South Stadium Hall;
College of Social Work, School Social Worker—College of Social Work, 221 Henson Hall.
TITLE II, HEA COMPLIANCE

As required by Title II of the Higher Education Act (Sections 207(f)(1) and 207 (f)(2)), the College of Education publishes annually the results of professional licensure tests mandated by the Tennessee State Board of Education and the State Department of Education. Title II specifically requires higher education institutions that prepare teachers, principals, and other P-12 support personnel to report publicly the percentage of candidates who pass licensure specialty examinations. The law also requires disclosure of the state-wide pass rate which includes all institutions offering programs in TEACH. For the 2000-01 reporting period, University of Tennessee licensure candidates achieved a 98% pass rate. The statewide pass rate was 91%.

Questions concerning the above information should be directed to the Associate Dean for Professional Licensure, College of Education, the University of Tennessee, Knoxville.

PROGRESSION TOWARD DEGREE COMPLETION AND/OR LICENSURE IN TEACHING FIELDS

Progression toward completion of a degree and/or licensure 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 whether the student enters as a freshman or transfer student.1

STEP I: ADMISSION TO TEACHER EDUCATION

MINIMUM REQUIREMENTS

Applicants will be evaluated by a board of admissions upon attainment of the following minimal criteria:2

1. Academic Achievement: Applicants will be required to earn a minimum 2.7 undergraduate cumulative GPA (2.5 GPA in Agriculture Education; the following programs may have different standards and students should contact the respective program advisor for details: Business/Marketing Education, Home Economics Education, Technological Education, Trades and Industry Education, and Music Education). 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 75 hours of academic work for the following teaching fields: Business/Marketing Education, English Education, Foreign Language Education, Mathematics Education, Social Science Education, or Science Education.

2. PRAXIS I: Pre-Professional Skills Test (PPST): 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 920 on the SAT or a 1020 on the RSAT shall be exempt from the PPST.
(b) Applicants who have earned a bachelor's degree from an accredited institution.

Applicants who qualify for a waiver based on other standardized test scores must contact the Director of Teacher Education.

If this standard is not met: The applicant will retake the PRAXIS I: PPST until passed. Applicants who fail the same subtest twice should consult the Office of the Director of Teacher Education to determine 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:3 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.

BOARDS OF ADMISSION

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, and expressed interest in teaching.

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. Some applicants may be encouraged to interview again with the same program following remediation.

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

STEP II: PROGRAM PROGRESSION

Each student's progress will be reviewed each semester following admission to the Teacher Education Program and a determination will be made as to the student's eligibility to advance to the next level of preparation. Particular attention will be given to the following variables:

1. Academic Achievement: The following minimum GPA's function as guidelines during the period between admission to the Teacher Education Program and enrollment in student teaching or internship: (a) 2.7 under-graduate cumulative GPA minimum (2.5 GPA in Agricultural Education; the following programs may have different standards and students should contact the respective program advisor for details: Business/Marketing Education, Family and Consumer Sciences Education, Technological Education, and Trades and Industry Education, and Music Education), and (b) 2.8 GPA in professional education courses.

It is important to note that letter grades of “D” and “F” in professional education courses must be repeated.

2. Field Study: Each student's performance in field study will be reviewed by College faculty and school-based professionals. Students whose progress is judged inadequate will be required to either repeat courses, participate in remedial activities, or change to a more appropriate major.

To facilitate communication and proper guidance, all students will be assigned to a mentoring team consisting of appropriate College faculty.

STEP III: PROGRESSION TO STUDENT TEACHING OR INTERNSHIP

Students seeking authorization to enroll in student teaching or internship must apply at least one calendar year prior to the term of intended student teaching or internship.

Making application to enroll in the internship may occur prior to admission to the Teacher Education Program. Students should apply at least one calendar year prior to the term of actual internship regardless of their status in the Teacher Education Program. Students who choose to delay their enrollment in the internship program are only guaranteed a new placement if they inform the Office of School Based Experiences and their program faculty mentor at least one calendar year prior to the term of intended internship.

The following are the general prerequisites for student teaching or internship. Prerequisites for specific program areas (e.g., Art Education, Elementary Education) are available in the Office of School Based Experiences or from academic advisors.

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1Community college students who anticipate transferring to the College should contact the College of Education Student Services Center, Claxton Complex A332.
2Students 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 and at least 6 additional hours of 200 level or above math; (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 and foreign language education require at least 9 semester hours of 300 level (or above) courses in English or foreign language, respectively, and a 3.0 cumulative average in those respective fields.

3Deaf applicants are not required to submit to the speech and hearing screening if they are pursuing licensure to teach deaf students. However, such applicants must inform the Director of Teacher Education, Claxton Complex 337, of their intentions.
1. Admission to the Teacher Education Program no later than the term preceding student teaching or internship.

2. Completion of field studies required in the program curriculum.

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

4. Possession of the following minimum grade point averages: (a) 2.7 undergraduate cumulative GPA (2.5 GPA in Agriculture Education; the following programs may have different standards and students should contact the respective program director for details: Business/Marketing Education, Early Childhood Education, Home Economics Education, Technological Education, Trades Industry Education, and Music Education), (b) 2.5 GPA in major, and (c) 2.8 GPA in professional education courses (i.e., grades of “D” and “F” must be repeated).

5. Recommendation by the student’s faculty mentoring team to enroll in student teaching or internship.

In addition, any record established by the student in the Office of Student Conduct will be reviewed by the Teacher Education Standards Committee.

Students should note that the most important criterion in placing student teachers or interns in the public schools is the potential value of the placement to the student’s professional development. Therefore, the College cannot guarantee the students’ preferences regarding specific geographic placement will be granted.

Student teaching or internship is evaluated on a satisfactory/no credit basis.

STEP IV: LICENSURE

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

1. Academic and professional achievement: Only those students who perform satisfactorily in student teaching or internship will be recommended for licensure. 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-enrollment 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. PRAXIS TESTS: Professional Assessments for Beginning Teachers: All candidates for licensure are required to attain minimum scores as determined by the State Board of Education. Complete details regarding specific tests required and minimum passing scores can be obtained in the Education Student Services Center, Claxton Complex A332.

Complete details regarding the NTE are available in the Education Student Services Center, Claxton Complex A332.

Applications for teacher licensure should be completed early in the final semester before graduation. Application forms may be obtained in the Education Student Services Center, Claxton Complex A332.

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

PROGRESSION TOWARD DEGREE COMPLETION IN NON-TEACHING FIELDS

EXERCISE SCIENCE PROGRESSION

Progression to the Exercise Science Major requires a minimum undergraduate cumulative GPA of 2.5 after a minimum of 45 hours of coursework and completion of ES 100 Orientation to Exercise Science, Chemistry 120, and Physics 221.

1. Any professional course, taken before or after progression into the Exercise Science Program, must be passed with a minimum letter grade of “C.” No professional courses with a grade below “C” will be counted toward the major.

Professional courses are: BCMB 230, Exercise Science 325 Athletic Training Techniques, 332 Applied Anatomy, 350 Disease and Injury: Epidemiologic and Demographic Perspectives, 411 Adapted Physical Activity, 414 Fitness Testing and Exercise Prescription, 422 Biomechanics of Human Movement, 480 Physiology of Exercise and all professional electives.

2. Students admitted into the Exercise Science Major must maintain a minimum cumulative GPA of 2.5 thereafter to remain in good academic standing. Students with less than a 2.5 GPA for two consecutive semesters will be dropped from the program.

3. Students must have a minimum cumulative 2.5 GPA to be able to register for, and complete, ES 411 Adapted Physical Activity, 414 Fitness Testing and Exercise Prescription, 422 Biomechanics of Human Movement, and 480 Exercise Physiology.

HUMAN SERVICES PROGRESSION

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 service professions. 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 retain 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, and 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 field 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 Counseling, Deafness, and Human Services Department.) Requests for information about the program, an appointment with the Board of Review, and an application for the field practicum sequence should be directed to the program secretary in Claxton Complex A204.

SPORT MANAGEMENT PROGRESSION

Students must complete an application upon completion of the following minimum criteria:

1. application to the Sport Management major;

2. 30 semester hours;

3. minimum 2.5 cumulative GPA for progression to the major and maintain a 2.5 cumulative GPA for continuation in the program.

4. Completion of Sport Management 100, 250 with a grade of “C” or better.

5. Completion of English 101, 102, and Math 125.

Board of Admissions

The Board of Admissions is made up of the faculty on the Sport Management Program Area Committee and will meet once in the spring and once in the fall to review applications.

The Board of Admissions will base admissions decisions upon applicants’ academic qualifications, oral and written communication, and expressed interest in sport management.

Admission Decisions

The Sport Management Program is committed to recruiting and preparing the strongest possible candidates for the sport management profession. The admissions criteria summarized above are minimum expectations. Applicants should be aware that admission decisions are made by the faculty in Sport Management and that selection is competitive, based upon available faculty resources and field placements.

Retention

Students admitted to the Sport Management major must maintain a minimum cumulative GPA of 2.5 thereafter to remain in good academic standing. Students who drop below the minimum for one semester will be advised of their status by letter. Students who are below the minimum for two semesters will be advised by letter that they have been dropped from the major.

MINORS

Teaching Minors

Students who are earning a baccalaureate degree in the College of Arts and Sciences and who are also seeking teacher licensure in Elementary Education, English Education, Foreign Language Education, Mathematics Education, Music Education, and Social Science Education are urged to earn a minor in either Elementary or Secondary Education. Students who do not earn a minor as a part of their undergraduate studies will be required to complete the equivalent of a minor as a prerequisite to entering the fifth year of professional study.

Students should note that courses taken to satisfy the minor will not fulfill teacher licensure requirements.
The following courses are taken during the post
Elementary Education 351 ........................................ 2
Educational Psychology 210 ..................................... 3
Cultural Studies in Education 400 ............................. 2
Theory and Practice in Teacher Education 505 ......... 6
Education 591 ........................................................... 4
Education 574 ........................................................... 2
Education 575 ........................................................... 2
Education 591 ........................................................... 4
English Education 461 ........................................... 3
Social Science Education 454, Foreign Language/ESL Education 454, English Education 459, Mathematics Education 485, Science Education 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 Master’s Degree. For details, see the Graduate Catalog.

**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/NC may not be used in required courses or in controlled electives, except where the course is offered only on a S/NC basis (such as teaching internships and field experiences).

**Grades in Major Courses**

Students seeking baccalaureate degrees in Education (i.e., BS Education) shall be required to earn grades of "C" or higher in all courses included within a major; courses in which lower grades are earned must be repeated.

**Course Load**

Permission to enroll in more than 19 hours during a semester or 12 hours during summer term must be obtained from the Director of Undergraduate Student Services, Claxton Complex A332. 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 the Associate Dean for Undergraduate Studies, Claxton Complex 338. Approved petitions are forwarded to the Dean of Admissions for final approval and for filing in the Records Office.

Professional education courses taken at junior or community colleges may be substituted for lower division (100/200 level) courses or may be used as electives. These courses may not be substituted for upper division (300/400 level) professional education courses.
COUNSELING, DEAFNESS, AND HUMAN SERVICES

Professors:
J.L. Cassell, Ph.D. Kansas; C.R. Colvin, Ed.D. Virginia; Kathleen L. Davis, Ed.D., Georgia; Lawrence M. DeRidder (Emeritus), Ph.D., Michigan; Mark A. Hector, Ph.D., Michigan State; Schuyler W. Huck, Ph.D., Northwestern; R.F. Kronik, Ph.D. Tennessee; T. McClam, Ph.D. South Carolina; J. H. Miller (Emeritus), Ed.D. Auburn; S.W. Mulkey, Ph.D. Florida State; Marla P. Peterson, Ph.D., Ohio State; William A. Poppen, Ph.D., Ohio State; Charles L. Thompson, Ph.D., Ohio State; Olga M. Welch (Head), Ed.D. Tennessee; M.R. Woodside, Ed.D. VPI.

Associate Professors:
D.L. Ashmore, M.S. Tennessee; J. Davis, Ph.D. New Mexico; Teresa A. Hutchens, Ph.D., Georgia; M.K. Warden, Ph.D. Tennessee.

Assistant Professor:
Amy Skinner, Ph.D. Mississippi State.

EDUCATIONAL ADMINISTRATION AND CULTURAL STUDIES

Professors:
J.T. DeSensi (Head), Ed.D., North Carolina (Greensboro); Clinton B. Allison (Emeritus), Ph.D., Oklahoma; Grady Bogue, Ed.D Memph State; Anand Malik, Ed.D., Columbia; Malcolm McInnis, Ph.D. Florida State; Norma T. Mertz, Ed.D. Columbia; W.J. Morgan, Ph.D., Minnesota; Joan Paul, Ed.D., Alabama; Gerald C. Ubben, Ph.D. Minnesota; C.A. Wrisberg, Ph.D. Michigan; Richard Wisniewski (Emeritus), Ed.D., Wayne State.

Associate Professor:
Vincent Anfara, Ph.D. Toledo; Jeffrey P. Aper, Ph.D. VPI; Cynthia Norris, Ed.D. Tennessee; Barbara Thayer-Bacon, Ph.D. Indiana University; Handel K. Wright, Ph.D. Toronto.

Assistant Professor:
Leslie A. Fisher, Ph.D. Berkley; Terri Mangione, Ph.D. Buffalo; Diana Moyer, Ph.D. Ohio State.

EDUCATIONAL PSYCHOLOGY

Professors:
R. Steve McCallum (Head), Ph.D. Georgia; J.J. Bellon (Emeritus), Ed.D. California (Berkeley); Ralph G. Brockett, Ph.D. Syracuse; Donald J. Dickinson (Emeritus), Ed.D. Oklahoma State; Thomas George, Ed.D. Tennessee (Knoxville); Katherine H. Greenberg, Ph.D. George Peabody of Vanderbilt; John M. Peters, Ed.D. N.C. State; C.H. Skinner, Ph.D. Lehigh; R.L. Williams, Ph.D. George Peabody.

Adjunct Professors:
D. Tzuel, Ph.D. George Peabody.

Associate Professor:

Adjunct Associate Professors:

Adjunct Assistant Professors:

ASSOCIATE PROFESSORS:


Associate Professor:
R.E. Jones, Ph.D. Toledo; D.R. Kelley, Ph.D. Georgia State; D.L. Thompson, Ph.D. Virginia.

Assistant Professors:

Adjunct Professors:
J.T. DeSensi, Ph.D; G. Mathien, M.D.; S. Putnam, Ph.D.; D. Sleet, Ph.D.; J. Stein, Ph.D.; J. Wasserman, Ph.D.

EXERCISE SCIENCE AND SPORT MANAGEMENT

Professors:
E.T. Howley (Head), Ph.D. Wisconsin; D.R. Bassett, Jr., Ph.D. Wisconsin; P. Betit (Emeritus), Ed.D. North Carolina (Greensboro); N.E. Lay (Emeritus), Ph.D. Florida State; W.P. Liemohn, Ph.D. Iowa; A.J. Kozar (University Professor), Ph.D. Michigan; I.R.H. Rockett, Ph.D. Florida; H.B. Watson (Emeritus), Ph.D. Michigan; H. Welch (Emeritus), Ph.D. Florida.

Associate Professor:
R.E. Jones, Ph.D. Toledo; D.R. Kelley, Ph.D. Georgia State; D.L. Thompson, Ph.D. Virginia.

Assistant Professors:

Adjunct Professors:
J.T. DeSensi, Ph.D; G. Mathien, M.D.; S. Putnam, Ph.D.; D. Sleet, Ph.D.; J. Stein, Ph.D.; J. Wasserman, Ph.D.

Adjunct Associate Professors:
B. Dupre, Ph.D.

INSTRUCTIONAL TECHNOLOGY, CURRICULUM, AND EVALUATION

Professors:

Associate Professors:

Assistant Professor:
Allene Nonis, Ph.D. Virginia.

Adjunct Assistant Professors:

THEORY AND PRACTICE IN TEACHER EDUCATION

Professors:
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 Arts and Sciences 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>Requirement</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art Education 301</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 302</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 303</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 400</td>
<td>2</td>
</tr>
<tr>
<td>Education 350</td>
<td>2</td>
</tr>
<tr>
<td>Education 401</td>
<td>3</td>
</tr>
<tr>
<td>Psychology/Pre-Professional Studies 210</td>
<td>3</td>
</tr>
<tr>
<td>Instructional Technology, Curriculum, and Evaluation 486</td>
<td>3</td>
</tr>
<tr>
<td><strong>Undergraduate Total:</strong> 24 hours</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 574</td>
<td>2</td>
</tr>
<tr>
<td>Education 575</td>
<td>2</td>
</tr>
<tr>
<td>Education 591</td>
<td>4</td>
</tr>
<tr>
<td>Art Education 530</td>
<td>3</td>
</tr>
<tr>
<td>Art Education 540</td>
<td>3</td>
</tr>
<tr>
<td><strong>Graduate Total:</strong> 24 hours</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Teacher licensure is granted at the successful completion of the Professional Year; 12 additional hours may be taken to complete the Master's Degree. For details, see the Graduate Catalog.

HUMAN SERVICES

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Natural Science Electives</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics Electives</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language Electives</td>
<td>3</td>
</tr>
<tr>
<td>Humanities and Art Elective</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td>3</td>
</tr>
<tr>
<td>Human Services 220, 330</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 330</td>
<td>3</td>
</tr>
<tr>
<td>History (Non-U.S.) Electives</td>
<td>6</td>
</tr>
<tr>
<td>Humanities or Arts Electives</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 100</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
<td>3</td>
</tr>
<tr>
<td>Human Services 380, 390</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 360</td>
<td>3</td>
</tr>
<tr>
<td>History (Non-U.S.) Electives</td>
<td>6</td>
</tr>
<tr>
<td>Humanities or Arts Electives</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 100</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td>3</td>
</tr>
<tr>
<td>Human Services 420, 430</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 440</td>
<td>4</td>
</tr>
<tr>
<td>Counseling Psychology 431</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong> 121 hours</td>
<td></td>
</tr>
</tbody>
</table>

HUMAN SERVICES: MODIFIED AND COMPREHENSIVE CONCENTRATION

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
<td></td>
</tr>
<tr>
<td>English 101, 102</td>
<td>6</td>
</tr>
<tr>
<td>Natural Science Electives</td>
<td>8</td>
</tr>
<tr>
<td>Mathematics Electives</td>
<td>3</td>
</tr>
<tr>
<td>History (Non-U.S.) Electives</td>
<td>6</td>
</tr>
<tr>
<td>Humanities or Arts Electives</td>
<td>3</td>
</tr>
<tr>
<td>Computer Science 100</td>
<td>3</td>
</tr>
<tr>
<td>Social Science Elective</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td>3</td>
</tr>
<tr>
<td>Human Services 220, 330</td>
<td>6</td>
</tr>
<tr>
<td>Psychology 330</td>
<td>3</td>
</tr>
<tr>
<td>Foreign Language Electives</td>
<td>6</td>
</tr>
<tr>
<td>Educational Psychology 460</td>
<td>3</td>
</tr>
<tr>
<td>Human Services 440, 441</td>
<td>12</td>
</tr>
<tr>
<td>Elective</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total:</strong> 60 hours</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Junior</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Services 380, 390, 420, 430</td>
<td>12</td>
</tr>
<tr>
<td>English 380</td>
<td>3</td>
</tr>
<tr>
<td>Educational Psychology 460</td>
<td>3</td>
</tr>
<tr>
<td>Human Services 400</td>
<td>2</td>
</tr>
<tr>
<td>Counselor Education and Counseling</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 431</td>
<td>3</td>
</tr>
<tr>
<td>Education 400, 401</td>
<td>2</td>
</tr>
<tr>
<td>Instructional Technology, Curriculum and Evaluation 486</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
<td><strong>6</strong></td>
</tr>
<tr>
<td>Special Education 431-432</td>
<td>9</td>
</tr>
<tr>
<td>Elementary Education 422</td>
<td>6</td>
</tr>
<tr>
<td>Human Services 440</td>
<td>6</td>
</tr>
<tr>
<td>Human Services 441</td>
<td>6</td>
</tr>
<tr>
<td>Special Education 419</td>
<td>6</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
<td><strong>6</strong></td>
</tr>
<tr>
<td><strong>Undergraduate Total:</strong> 129 hours</td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education 574</td>
</tr>
<tr>
<td>Theory and Practice in Teacher Education 510, 591</td>
</tr>
<tr>
<td><strong>Graduate Total:</strong> 24 hours</td>
</tr>
</tbody>
</table>

**SPECIAL EDUCATION: EDUCATION OF THE DEAF AND HARD OF HEARING CONCENTRATION**

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Art, Music, or Theatre Elective</td>
</tr>
<tr>
<td>Anthropology 110 or 130</td>
</tr>
<tr>
<td>Interdisciplinary Studies Electives</td>
</tr>
<tr>
<td>Natural Science Elective</td>
</tr>
<tr>
<td>Sociology Elective</td>
</tr>
<tr>
<td>Physical Education Activity or Recreation</td>
</tr>
<tr>
<td>Mathematics 110-115</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
</tr>
<tr>
<td>Speech 210, 220, or 240</td>
</tr>
<tr>
<td>Literature Elective</td>
</tr>
<tr>
<td>Human Services 220 or 330</td>
</tr>
<tr>
<td>Psychology Elective</td>
</tr>
<tr>
<td>History 251, 252</td>
</tr>
<tr>
<td>Biological Science Elective</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
</tr>
<tr>
<td>Instructional Technology, Curriculum, and Evaluation 486</td>
</tr>
<tr>
<td>Philosophy/Religious Studies 348</td>
</tr>
<tr>
<td>Political Science or Economics Elective</td>
</tr>
<tr>
<td>Educational Psychology 210</td>
</tr>
<tr>
<td>Health 305 or 306</td>
</tr>
<tr>
<td>Interdisciplinary/Cultural Studies</td>
</tr>
<tr>
<td>Education 400, 401</td>
</tr>
<tr>
<td>Educational Methods (see advisor)</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
</tr>
<tr>
<td>Humanities Elective</td>
</tr>
<tr>
<td>Rehabilitation and Deafness 223, 410, 415, 416, 419, 425</td>
</tr>
<tr>
<td>Audiological and Speech Pathology 303 and 473 or Rehabilitation and Deafness 424</td>
</tr>
<tr>
<td>Theory and Practice in Teacher Education 310 (3), 320 (3), 321 (3)</td>
</tr>
<tr>
<td><strong>Undergraduate Total:</strong> 125-129 hours</td>
</tr>
</tbody>
</table>

**SPORT MANAGEMENT**

The Sport Management major is designed for students interested in working in the sport industry. The program combines Sport Management and Sport Studies with a minor in Business Administration. The program includes a semester-long internship experience.

<table>
<thead>
<tr>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman</td>
</tr>
<tr>
<td>English 101, 102</td>
</tr>
<tr>
<td>Communications 100 or Journalism 201</td>
</tr>
<tr>
<td>Foreign Language, Multicultural, or Integrative Electives</td>
</tr>
<tr>
<td>Computer Science 100</td>
</tr>
<tr>
<td>History Electives</td>
</tr>
<tr>
<td>Sport Management 100</td>
</tr>
<tr>
<td>Humanities Elective</td>
</tr>
<tr>
<td>Mathematics (to include 123, 125, or 141)</td>
</tr>
<tr>
<td><strong>Sophomore</strong></td>
</tr>
<tr>
<td>Accounting 201, 202</td>
</tr>
<tr>
<td>Economics 201</td>
</tr>
<tr>
<td>Business Administration 201</td>
</tr>
<tr>
<td>Natural Science Electives</td>
</tr>
<tr>
<td>Sociology 291</td>
</tr>
<tr>
<td>Speech 210 or 240</td>
</tr>
<tr>
<td>Sport Management 250</td>
</tr>
<tr>
<td>Statistics 201</td>
</tr>
<tr>
<td>Sport Management 290</td>
</tr>
<tr>
<td><strong>Junior</strong></td>
</tr>
<tr>
<td>Finance 301</td>
</tr>
<tr>
<td>Management 300</td>
</tr>
<tr>
<td>Humanities Elective</td>
</tr>
<tr>
<td>CSE 321 or CSE 372</td>
</tr>
<tr>
<td>Marketing 300</td>
</tr>
<tr>
<td>General Electives</td>
</tr>
<tr>
<td>Sport Management 350</td>
</tr>
<tr>
<td>Sport Management 390</td>
</tr>
<tr>
<td><strong>Senior</strong></td>
</tr>
<tr>
<td>General Electives</td>
</tr>
<tr>
<td>Choose four from the following: Sport Management 330, 370, 380, 415, 440, 450 or Recreation 440</td>
</tr>
<tr>
<td><strong>Total:</strong> 130 hours</td>
</tr>
</tbody>
</table>

1. Business minor requirement.
2. Practicum courses in Sport Management are required prior to enrolling in internship.
3. Admission to and retention in the Sport Management Major are contingent upon achieving and maintaining a 2.5 GPA.
4. A 2.5 GPA is required for internship.

**APPROVED FOREIGN LANGUAGE, MULTI-CULTURAL, AND INTEGRATED ELECTIVES**

| FOREIGN LANGUAGE | Greek (Classics)—any course offered by this department including 121, 122, 261, 262; Latin (Classics)—any course offered by this department including 111, 112, 251, 252; French—any course offered by this department including 111, 112, 250, 211, 212, 217, 218; German—any course offered by this department including 101, 102, 108, 150, 201, 202, 208; Italian—any course offered by this department including 111, 112, 211, 212; Portuguese—any course offered by this department including 111, 112, 211, 212; Asian Language/Asian Studies—any course offered by this department including 121, 122, 221, 222, 131, 132, 231, 232, 141, 142, 241, 242, 151, 152, 251, 252, 161, 162, 261, 262; Russian—any course offered by this department including 101, 102, 201, 202; Spanish—111, 112, 130, 211, 212, 217, 218; MULTI-CULTURAL STUDIES African and African-American Studies—any course offered by this department including 201, 202, 314, 315, 343, 352, 353, 364, 371, 373, 420, 421, 429, 431, 445, 450, 452, 461, 473, 480, 483; Asian Studies—any course offered by this department including 101, 102, 319, 471; Cultural Studies 291, 364; Dance 480, 490; Latin-American Studies—any course offered by this department including 251, 252, 311, 312, 313, 355, 356, 360, 401, 450, 455, 471, 472, 473, 474, 475, 479; Music 310, 350, 390; Women’s Studies 324, 383, 360, 422, 432, 483; INTEGRATIVE ELECTIVE University Studies—any University Studies course. |
In light of modern society’s ever-increasing dependence on technology, there is a continuing and urgent need for engineering graduates who possess the high levels of technical competence and social understanding that will enable them to fulfill their responsibilities as professional engineers. The College of Engineering prepares men and women to face these challenges and to seize their opportunities to become the technology leaders of the 21st century.

Engineers solve problems. To do so, they apply science, mathematics, and creativity to invent, design, test, build and operate engineering systems that will meet the needs of society. In the latter half of the 20th century, engineers developed the personal computer, the space shuttle, artificial hearts and many other “high-tech” products. The opportunities to use technology for the benefit of 21st century society will be even greater.

Increasingly, engineers must also have good interpersonal skills to work effectively in the interdisciplinary groups required to tackle modern engineering projects. They must understand the ethical, environmental, political and business implications of their work. Engineers must work comfortably among the cultures, customs and languages of multi-national enterprises.

In light of modern society’s ever-increasing dependence on technology, there is a continuing and urgent need for engineering graduates who possess the high levels of technical competence and social understanding that will enable them to fulfill their responsibilities as professional engineers. The College of Engineering prepares men and women to face these challenges and to seize their opportunities to become the technology leaders of the 21st century.

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 college has eleven major undergraduate curricula in which a student may specialize: aerospace engineering, biomedical engineering, chemical engineering, civil engineering, computer engineering, electrical engineering, industrial engineering, materials science and engineering, mechanical engineering, nuclear engineering, and engineering physics.

Biosystems engineering is based in the College of Agricultural Sciences and Natural Resources with facilities located on the Agricultural Campus. The biosystems engineering curriculum is offered cooperatively by the College of Agriculture and the College of Engineering. Details of the curriculum may be found in the College of Agricultural Sciences and Natural Resources section of this catalog.

The college, in cooperation with industrial sponsors, established the Minority Engineering Scholarship Program in 1973. The program goal is to increase significantly the number of qualified minority engineering graduates.

**FACILITIES**

Most of the college’s facilities are on the southeastern corner of The Hill. Administration, Civil and Environmental Engineering, and Biomedical Engineering are in Perkins Hall; Electrical and Computer Engineering are in Ferris Hall; Industrial Engineering and the Interdisciplinary Engineering Research Centers are in East Stadium Hall; Nuclear Engineering is in the Pasqua Engineering Building; Mechanical and Aerospace, Chemical, and Materials Science are in Dougherty Hall. The Engineering Fundamentals Division is located in Estabrook Hall. The Co-op Office and the Engineering Diversity Programs Office are in Perkins Hall. The Engineering Physics program is administered through the UT Physics Department in the Nielsen Physics Building.

**COOP WORK ASSIGNMENTS**

Co-op 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 to engineering employment, the college and 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, 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. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives. All positions are paid positions, and most educational and career interests and objectives.
Further details may be obtained from the Cooperative Engineering Program, 310 Perkins Hall, The University of Tennessee, Knoxville, TN 37996-2012. You may also contact the Co-op office via e-mail at coop@engr.utk.edu or via the program homepage at http://www.coop.utk.edu

**INTERNATIONAL ENGINEERING PROGRAM**

The United States, like most countries throughout the world, can no longer thrive economically with only a domestic market for its goods and services. To compete in the global marketplace, engineers must understand how to design and manufacture products for world-wide use. The College of Engineering works with several organizations, both on and off campus, to enable interested students to participate in significant engineering experiences abroad. Students interested in making an international experience part of their engineering education should begin exploring opportunities and develop plans during their freshman year. Language preparation to a level of substantial proficiency may be required. Thus, language preparation should be started immediately. For further information on international engineering educational programs, contact the UT Center for International Education, 1620 Melrose Avenue.

**GRADUATE PROGRAM**

Graduate programs leading to the degree of Master of Science are offered in eleven areas of study: aerospace engineering, chemical engineering, civil engineering, electrical engineering, engineering science, environmental engineering, industrial engineering, materials science and engineering, mechanical engineering, nuclear engineering, and polymer engineering. The degree of Doctor of Philosophy is offered in nine major subjects: aerospace engineering, chemical engineering, civil engineering, electrical engineering, engineering science, materials science and engineering, mechanical engineering, nuclear engineering, and polymer engineering. The College is honored to have the national headquarters of Tau Beta Pi, the National Engineering Honor Society, housed on our campus. This honor was earned in part through the unflagging efforts of R.C. “Red” Matthews, who served as secretary-treasurer for the organization from 1905 to 1947. The suite of offices, located in Dougherty Hall, is occupied by Mr. J.D. Froula, secretary-treasurer, Roger Hawks, Assistant Secretary-Treasurer, and their staff.

**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). ABET accreditation ensures that graduates of UT engineering programs are adequately prepared to enter and continue the practice of engineering. Accredited engineering programs at UT include aerospace, biosystems, civil, electrical, engineering science, industrial, mechanical, materials science, and nuclear. Co-op programs in the above areas are also accredited.

Accreditation criteria require each engineering degree program to design a curriculum and educational process that will achieve defined educational objectives consistent with ABET criteria and the mission of UT. The educational objectives of each degree program are presented by the department responsible for the program later in this chapter. In each case the objectives are consistent with the mission of the College of Engineering. That mission is to:

1. provide high quality education in the major engineering disciplines from the undergraduate through doctoral levels through a creative balance of academic, professional, and interdisciplinary programs;
2. foster and maintain mutually beneficial partnerships with our alumni, friends, industry, and local, state, and federal governments through public services, assistance, and collaborative research; and
3. be a major contributor to our nation’s technology base through scholarship and research.

In addition, the educational objectives of each degree program are also guided by and consistent with the strategic objectives of the College of Engineering. Two particularly relevant strategic objectives are “to continuously provide quality delivery of courses, programs, extracurricular activities, assistance, and support that enhances each student’s desire to learn and that excites each student’s interest in engineering and the work environment” and “to continuously provide and improve the education and working abilities that employers want our engineering graduates to have.” ABET accreditation criteria also require an assessment process to ensure that program outcomes critical to successful engineering programs are being achieved. Assessment of eleven program outcomes common to all engineering disciplines are required by ABET. Specifically, each engineering degree program must demonstrate that its graduates have:

1. an ability to apply knowledge of mathematics, science, and engineering;
2. an ability to design and conduct experiments, as well as to analyze and interpret data;
3. an ability to design a system, component, or process to meet desired needs;
4. an ability to function on multi-disciplinary teams;
5. an ability to identify, formulate, and solve engineering problems;
6. an understanding of professional and ethical responsibility;
7. an ability to communicate effectively;
8. the broad education necessary to understand the impact of engineering solutions in a global/societal context;
9. a recognition of the need for and an ability to engage in life-long learning;
10. a knowledge of contemporary issues;
11. an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

The College of Engineering has embraced these program outcomes as valid and valuable indicators of educational program effectiveness. Thus, the College prepares students to demonstrate sufficiency and to strive for excellence in each of these areas. This goal is achieved by ensuring that instruction and other learning experiences are provided that will produce each program outcome. Engineering courses, mathematics and natural science courses, and the humanities and social sciences each provide essential contributions to the achievement of this goal. Program outcomes that are critically dependent on humanities and social science courses are discussed in the General Education Requirements section to follow. Additional program outcomes selected by individual degree programs to supplement ABET outcomes are also discussed in subsequent sections.

**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. Minors must be officially approved and described in the UT catalog. No unofficial minors will be recognized. Minors exist in aerospace engineering, environmental engineering, materials science and engineering, mechanical engineering, materials science and engineering, nuclear engineering, and polymer engineering.

2. Courses taken to satisfy the minor may also be used to satisfy engineering degree requirements, provided that the courses would be a part of engineering degree requirements 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.

3. 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 Records Office.

**COURSE LOAD**

The maximum number of hours which can be taken by an undergraduate engineering student without special permission is 19. The Associate Dean for Academic Affairs must give permission to take 20 hours or more. In general, this decision is based on the student’s previous performance at UT.

**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.

**FRESHMAN PLACEMENT CRITERIA**

Placement criteria are in effect for the College of Engineering to promote the maximum opportunity for success among entering freshmen. A success prediction indicator (SPI) is calculated for all incoming students. The SPI is calculated by multiplying the High School GPA by 10 and adding the resulting product to the math component of the ACT.

SAT scores can be converted to an equivalent ACT score to perform this calculation.
A pre-requisite for the first engineering course, Engineering Fundamentals 101, is a SPI of equal to or greater than 55, with a corequisite of Math 130 (pre-calculus) or higher math course. Math placement is determined by examination during orientation. Entering engineering students may change the SPI pre-requisite or qualify for placement in at least Math 130 have the following options:

- Attend the University of Tennessee summer session or another institution and complete a transferable math course equivalent to Math 130 (pre-calculus) with a grade of B or better and a transferable English course equivalent to English 101 with a grade of C or better. OR
- Enroll in our engineering transition curriculum that prepares students to begin EF 101 in their third semester.

TRANSFER STUDENTS
Transfer students, including internal UT 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 grade point average (GPA) in their 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 student desiring association with one of the departments of the College of Engineering should go to the departmental office for the desired major. An interview with the department head or his/her 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 in helping 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 general education 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 course 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 what restrictions there are, if any, on the use of correspondence course credit to meet the minimum degree requirements.

GENERAL EDUCATION 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, government, cultural, and international factors. Courses in the humanities and social sciences serve to meet the vital need for awareness and knowledge of these influences on the engineering profession. In addition, they support the UT general education goal to develop the basic skills, knowledge, attitudes and judgment necessary for effective citizenship, fulfilling personal interactions and an enriched personal life. Lastly, ABET accreditation requirements mandate a strong general education component as a necessary part of achieving engineering program outcomes. Humanities and social science courses contribute significantly to the educational objectives of each engineering program and the program outcomes desired of every engineering graduate. In fact, certain program outcomes are critically dependent on contributions from these courses. Thus, in the College of Engineering, humanities and social science courses do more than ensure adequate breadth in the educational experience. They also complement and support engineering courses in developing skills and providing experiences critical to the practice of engineering.

Program outcomes supported by the general education component in engineering curricula and a cluster of courses relevant to that outcome are shown below. The first two outcomes, (1) the broad education necessary to understand the impact of engineering solutions in a global/societal context and (2) a knowledge of contemporary issues, have a fundamental relationship to humanities and social science courses. All engineering students are required to take at least one course from each of these clusters by engineering programs may specify up to two other clusters that are required in their curriculum to ensure that each program outcome is achieved by either engineering coursework, general education electives, or a combination of the two.

General education requirements in English composition, mathematics, and natural science are fully satisfied by required courses in each engineering curriculum. Electives from the humanities and social sciences, in addition to supporting selected engineering program outcomes, must also satisfy UT general education requirements for these areas of study. Thus, to ensure general education compliance, engineering students must take at least two courses from the arts or humanities clusters; one course from multicultural studies or a two course foreign language sequence; and one course from the sciences cluster. Additional general education electives can be chosen from any cluster to provide breadth or depth as desired by the student, but a minimum of 18 semester hours is required.

To be accepted as valid within the context of the University general education requirements, each course should meet the generally accepted definitions that (1) humanities are the branches of knowledge concerned with humanity and culture; (2) the arts include performance and/or analysis of the visual and written arts, music or theatre, and (3) social sciences are the studies of individual relationships in and to society. Subject areas in the humanities include history, English, philosophy, religion, and classics. The arts will include courses in music, art, theatre and creative writing. 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 in the engineering general education program include: (1) a language course in the student’s native language; (2) military science courses unless they are either on the approved list or officially equivalent to a course in the humanities or social sciences in another department; (3) courses whose basic content is science or mathematics; (4) engineering economy; and (5) professional courses in other fields—business, communications, etc.

A student is urged to seek guidance from his or her advisor in choosing these electives, since they are an important part of the learning experience in preparation for engineering practice. Choices should be made on the basis of personal interest and value in engineering practice. Up to 9 hours in this category may be taken on an S/NC grading basis. Credit earned by Advanced Placement or courses transferred from another university as “Satisfactory” are included in the 9 hour limit. However, if more than 9 hours of general education courses have been earned by AP or transfer credit, students may apply for a waiver of the 9 hour limit.

These requirements are not intended to inhibit in any way the selection of courses to be taken by a student while attending UT. There may be courses of interest to a student which are not included on the lists below, but would be of great value in the student’s education. Students are encouraged to consult with their advisor in order to incorporate such courses into their program of study.

The requirements for the general education component of all engineering curricula are:

1. The minimum number of semester credit hours of acceptable courses is 18.
2. One course from the Engineering Practice in a Global/Societal Context Cluster.
3. One course from the Contemporary Issues Cluster.
4. Other courses or clusters as established by departmental requirements to support selected program outcomes.
5. A minimum of:
   a. two courses from the Humanities or Arts clusters;
   b. one course from the Multicultural Studies Cluster or two foreign language courses;
   c. one course from the Social Sciences Cluster.
6. Courses may simultaneously meet more than one requirement (e.g. a multicultural course may also satisfy the Engineering Practice in a Global/Societal Context Cluster).

7. For a foreign language to be used in meeting general education requirements (a) at least two courses in the same language must be taken and (b) the language cannot be the native language of the student.

APPROVED GENERAL EDUCATION ELECTIVES

Courses included on the list below have been approved by the faculty as general education electives. Any course not on this list must be approved through the major department prior to enrollment in the course. Where such phrases as “any psychology course” are used, special topics courses in that area are specifically excluded since the content is variable. Students should seek approval from their advisor prior to enrollment in such special topics courses.

Engineering Practice in a Global/Societal Context Cluster


Contemporary Issues Cluster

African and African-American Studies 343, 364, 420, 429, 442, 473, 480, 483; Agriculture and Natural Resources 101, 333; American Studies 343, 345, 420; Anthropology 130, 320; Business Law 301; Child and Family Studies 220, 240, 240; Communications 100, 150; Geology 201, 202; History 320, 442, 446; Human Services 220; Philosophy 240, 280, 342, 344, 345, 346, 360, 382, 390; Political Science 311, 350; Religious Studies 319; Sociology 110, 340, 343, 344, 345, 360, 363, 375, 414, 415, 442, 446, 451, 462, 464; Speech Communication 468; University Studies 311, 321, 322; Women’s Studies 220, 230, 310, 360, 375.

Multi-disciplinary Teams Cluster

Counselor Education and Counseling Psychology 206, 306; Psychology 360, 409, 440; Sociology 232, 320; Speech Communication 220, 230, 240, 300, 310, 320, 330, 420.

Professional and Ethical Responsibility Cluster

Military Science 420; Philosophy 240, 342, 344, 345, 346; Religious Studies 344, 345; University Studies 322.

Effective Communications Cluster

English 263, 295, 355, 360, 455; Information Sciences 450; Journalism 450, 456; Speech Communication 210, 220; Theatre 220, 221. Any sequence of foreign language courses.

Life-Long Learning Cluster

Cultural Studies in Education 302, 451; Philosophy 110, 111; Psychology 310.

Aesthetics in Design Cluster


Humanities Cluster

Any British or American literature course. Any foreign language literature course including those using English translations. Any course from History, Philosophy, Medieval Studies or Religious Studies. Asian Languages 311, 312, 313, 314; Cinema Studies 321, 323, 325, 334, 420, 421, 433, 465; Classics 221, 222, 253; Comparative Literature 202, 203; Women’s Studies 210, 215, 320, 383.

Arts Cluster

Architecture 111; Art 191; Art History 172, 173, 183; Classics 232, 233; English 263, 363; Music*; Music History 110, 115, 120, 210, 220, 290, 310, 330, 340, 341, 350, 380, 390; Philosophy 350, 353; Theatre 100, 220*.

* Courses involving skill development in the arts (Art 191, Theatre 220 or music courses that include vocal or instrumental performance) may be used as General Education Electives up to maximum of 3 semester hours.

Multicultural Studies Cluster

Any sequence of foreign language courses. Any course from African and African-American Studies, Latin American Studies. American Studies 310, 343; Anthropology 130, 313, 315, 319, 373; Asian Studies 101, 102, 322, 333, 361; Business Administration 311; Economics 321, 323; Geography 320; Political Science 365, 452, 454, 459, 463; Religious Studies 101, 102, 232, 333, 373, 374, 376, 379, 381, 383; Women’s Studies 360.

Social Sciences Cluster


AMERICAN HISTORY REQUIREMENT

Engineering students, regardless of national 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 221 and 222, 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 enrollment and 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.

ENGINEERING FUNDAMENTALS DIVISION

Professors: J.R. Parsons (Mechanical, Aerospace and Biomedical Engineering); Director, R.M. Bennett (Civil and Environmental Engineering); J.H. Forrester (Mechanical, Aerospace and Biomedical Engineering); O. Soliman (Mechanical, Aerospace and Biomedical Engineering).

Associate Professors: C.D. Plonke (Mechanical, Aerospace and Biomedical Engineering); D. Raj Raman (Agricultural and Biosystems Engineering); T.H. Scott (Nuclear Engineering); J.E. Seat (NSF Research Associate Professor), Ph.D. Tennessee; T.H. Scott (Nuclear Engineering); P.E. Weber (Chemical Engineering); D.C. Yoder (Agricultural and Biosystems Engineering).

The Engineering Fundamentals Division is the academic home for all first year engineering students. Located in Estabrook Hall, the Division serves as a focus for all freshman student activities. The faculty of the Division act as academic advisors and teach the principal courses in Engineering Fundamentals. These courses are designed to prepare students for entry into the Sophomore year of every degree program in the College. Academic standards in the first year are necessarily high. To assist students with deficient academic backgrounds in the necessary math and computer skills, supplementary courses are offered as needed.

No degree is awarded by the Engineering Fundamentals Division. The division co-ad ministers (with the College of Education) the Engineering and Communication and Performance Minor for engineering students desiring additional training and certification in team facilitation and organizational communication.
New freshman students are assigned to the Engineering Fundamentals Division for academic advising and career counseling until they have completed the freshman curriculum. Freshman students admitted to the College of Engineering are required to designate a field of study by the end of their freshman year. As sophomores, students are assigned faculty advisors in their selected departments.

BIOSYSTEMS ENGINEERING
(See College of Agricultural Sciences and Natural Resources)

CHEMICAL ENGINEERING

Professors:
J.R. Collier (Head), Ph.D. Case Institute of Technology; P.R. Bienkowski, Ph.D. Purdue; H.D. Cochran (Adjunct), Ph.D. Massachusetts Institute of Technology; R.M. Counce, Ph.D. Tennessee; P.T. Cummings (Distinguished Scientist), Ph.D. U. of Melbourne (Australia); J.M. Holmes (Emeritus), Ph.D. Tennessee; C.F. Moore (Distinguished Service Professor), Ph.D. Louisiana State; J.W. Prados (Emeritus), Ph.D. Tennessee; PE; J.S. Watson (Adjunct), Ph.D. Tennessee.

Associate Professors:
J.S. Arnold (Adjunct), Ph.D. Tennessee; D.D. Bruns, Ph.D. Houston; B.J. Edwards, Ph.D. Delaware; P.D. Frymier, Ph.D. Virginia; S. Perovan (Research) Ph.D. Iasi Tech; T.-W. Wang, Ph.D. Massachusetts Institute of Technology; F.E. Weber, Ph.D. Minnesota.

Assistant Professors:
D.J. Keffer, Ph.D. Minnesota.

BACHELOR OF SCIENCE PROGRAM

Chemical engineering deals with the development, design, operation, and management of plants and processes for economical, safe conversion of chemical raw materials to useful products. It is a broadly based discipline with heavy emphasis on chemistry and mathematics, with supporting study in areas such as physics, materials, and humanities.

Chemical engineering graduates of the University of Tennessee possess the knowledge base, intellectual skills, and professional commitment that prepare them for innovative technical leadership, graduate study, productive service to society, and continued professional growth through lifelong learning. Preparation is based in the learning objectives identified below, regular evaluation of the achievement of these objectives, and use of evaluation results to improve the educational process.

Technical Knowledge Base: Graduates of the UT chemical engineering program demonstrate the ability to apply knowledge of mathematics, chemistry, other sciences, and engineering to identify and solve problems dealing with material and energy balances applied to chemical processes; thermodynamics of physical and chemical equilibria; heat, mass, and momentum transfer; continuous and stagewise separation operations; chemical kinetics and reactors; and process dynamics and control.

Analytical Skills: Graduates of the UT chemical engineering program demonstrate the ability to apply the following analytical skills in the solution of engineering problems: differential and integral calculus, ordinary differential equations, linear algebra, statistical methods, and numerical methods.

Problem Formulation and Solution Skills: Graduates of the UT chemical engineering program demonstrate the ability to formulate a technical problem that permits a solution, identify the appropriate tools to address a technical problem, make simplifying assumptions required to allow a solution with an appropriate level of rigor, identify and collect information needed to obtain the solution, and evaluate the reasonableness of the solution.

Experimental Skills: Graduates of the UT chemical engineering program demonstrate the ability to plan experiments to meet specified objectives, conduct such experiments carefully and safely, and analyze and interpret experimental data in terms of process models.

Graduates of the UT chemical engineering program demonstrate the ability to apply computer skills in engineering problem solving. These include: computation, communication, and data acquisition; and skills that keep pace with evolving technology.

Process Design and Synthesis Skills: Graduates of the UT chemical engineering program demonstrate the ability to formulate and solve open-ended problems that require evaluation of alternatives with respect to specified criteria; size equipment to meet process objectives; apply the principles of engineering economics to estimate capital investment and operating costs for specified process equipment and systems; develop an appropriate flowsheet to meet a process objective; calculate the material and energy balances for a given process flowsheet; employ computer-based process design tools and techniques; optimize the design of a conceptual process with respect to specified criteria that include safety, environmental impact, operability, and economics; and analyze and compare alternative designs.

Communication Skills: Graduates of the UT chemical engineering program demonstrate the ability to communicate effectively in writing, speaking, and listening in a variety of contexts. Specific skills include the ability to write effective reports, experimental procedures, memos, and similar documents; make effective oral presentations and critique presentations by others; prepare and use appropriate visual representations effectively in both written and oral presentations; and critically evaluate technical material presented in lectures and seminars.

Graduates of the UT chemical engineering program demonstrate the ability to function as effective team members and leaders. This includes the ability to work effectively with other team members; employ appropriate team facilitation procedures as needed; organize and lead a team effort; and contribute individual expertise in achieving team goals.

Lifelong Learning Skills: Graduates of the UT chemical engineering program recognize the need for and are able to engage in lifelong learning. Students will have the ability to obtain needed information from libraries and electronic data bases; the ability to use the Internet as an effective communication and research tool; the ability to use distance learning media to independently complete required assignments; and familiarity with lifelong learning resources available through professional societies.

Professional Commitment: Graduates of the UT chemical engineering program demonstrate high standards of professional and ethical responsibility. Students are required to take a course preparing them for the Fundamentals of Engineering examination, receiving a grade based on their performance on a “mock Fundamentals of Engineering examination,” and are strongly encouraged to pursue the path to registration as Professional Engineers.

Safety, Health, and Environmental Protection: Graduates of the UT chemical engineering program demonstrate an understanding of chemical process safety, including occupational safety and health and minimization of adverse environmental impact.

Understanding of the Global and Societal Impact of Engineering: Graduates of the UT chemical engineering program demonstrate an appreciation for the global and societal impact of engineering decisions.

Appreciation of the Cultural Heritage: Graduates of the UT chemical engineering program demonstrate an appreciation for human cultural heritage.

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.

DEPARTMENTAL GRADUATION REQUIREMENTS

To graduate in chemical engineering, students must complete the published curriculum with a grade of C or better in all required chemical engineering courses.

A minimum of 18 semester hours of general education courses are required. These courses must meet the college general education requirements listed under “Curricula in Engineering.” A 3 semester-hour technical writing course must be included in the general education electives.

HONORS PROGRAM

The honors program encourages highly motivated students to experience a more rigorous preparation in chemical engineering. Admission is selective. Application to the honors program is made when the student applies for upper division status. Honors requirements are: credit for 3 of the 4 honors seminars (CHE 307, 308, 407 and 408), CHE 447, one of CHE 467, 477, 488 or 498 as a technical elective and Chem 483 as a chem option. Students interested in the honors program should consult the department’s honors coordinator.

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 CHE 200, 230, 240 and 250 with a grade of C or better in each course and an overall GPA of 2.5 or better.

Provisional Status: Students who have completed CHE 200, 230, 240, and 250 with an overall GPA of at least 2.1 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 the ability to perform satisfactorily in upper division courses by completing a total of seven departmental courses with a grade of C or better in each course (including the four required for Upper-Division Status). Permission to continue with upper-division classes depends on this minimum level of performance.

Any student with an overall GPA below 2.1 will not be admitted to upper division Chemical Engineering courses. Students who have not been admitted to Upper-Division or Provisional Status will be dropped from upper-division 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 AND ENVIRONMENTAL ENGINEERING

Professors: G.D. Reed (Condra Professor and Head), Ph.D., P.E., Arkansas; R.M. Bennett, Ph.D., P.E., Illinois; E.G. Burdette (Fred N. Peebles Professor), Ph.D., P.E., Illinois; A. Chatterjee, Ph.D., P.E., North Carolina State; W.T. Davis, Ph.D., Tennessee; J.H. Deatherage, Ph.D., Arizona; D.W. Goodpasture, Ph.D., P.E., Tennessee; W.L. Grecco (Emeritus), Ph.D., Michigan State; K.W. Heathington (Emeritus), Ph.D., Northwestern; J.B. Humphreys, Ph.D., Texas A&M; W.A. Miller (Emeritus), Ph.D., P.E., Georgia Institute of Technology; R.B. Robinson (Fisher Professor), Ph.D., P.E., Iowa State; B.A. Tschantz (Emeritus), Sc.D., P.E., New Mexico State; T. Urbanik, Ph.D., Texas A&M; J. Wegmann, Ph.D., Northwestern.

Associate Professors: C.D. Cox, Ph.D., Penn State; L.D. Han, Ph.D., California (Berkeley); T.L. Miller, Ph.D., Tennessee; D. Penamadu, Ph.D., Georgia Tech; S.H. Richards, Ph.D., P.E., Tennessee; K.G. Robinson, Ph.D., VPI; R.F. Tiry (Emeritus), B.S. Marquette.

Assistant Professors: K.H. Chu, Ph.D., California (Berkeley); B. Huang, Ph.d. LSU.

BACHELOR OF SCIENCE PROGRAM

The department offers a Bachelor of Science degree with a major in Civil Engineering, accredited by the Accreditation Board for Engineering and Technology (ABET).

UNDERGRADUATE EDUCATION MISSION

To prepare students to enter the general practice of Civil Engineering and/or pursue graduate education, the department’s undergraduate education mission is to provide a high-quality teaching and learning environment in recognized areas of civil engineering with proficiency in environmental, geotechnical, structural, transportation, and water resources engineering.

EDUCATIONAL OBJECTIVES

To ensure a high quality and stimulating learning environment, the department strives to do the following: attract highly-qualified and motivated students; provide a highly competent faculty, dedicated to undergraduate instruction; control class size to facilitate a high-quality learning environment; provide state-of-the-art teaching and laboratory equipment/facilities; and foster strong bonds of faculty-student interaction through seminars, extracurricular activities, personal advising and consultation.

To ensure that students have exposure to the practice of Civil Engineering, the department strives to provide cooperative education and internships; to encourage professional society participation; to consult an external advisory board of practitioners to assist with the development of the curriculum; to provide a senior design project including meaningful engineering design experiences; to maintain national engineering accreditation; and to maintain a high passing rate on the first professional licensing examination.

The department strives to ensure graduates will compete favorably in the marketplace for opportunities in the practice of civil engineering and/or graduate education by: providing professional courses to achieve proficiency in the five areas listed in the mission statement; fostering an appreciation for professional development and life-long learning; providing an undergraduate education that is recognized for its excellence both statewide and nationally; and providing professional development opportunities consistent with current engineering practice.

The curriculum in Civil Engineering provides training in fundamental engineering sciences and in basic subjects in related fields. Technical electives are available in construction, environmental engineering, geotechnical, material, structures, transportation, or water resources. Students are required to maintain a cumulative grade point of at least 2.00 in all Civil Engineering and Environmental Engineering courses taken at the University of Tennessee and used to satisfy the graduation requirements. No more than six hours of Civil and Environmental Engineering courses in which a D is the highest grade earned may be counted toward graduation.

ELECTIVES

Electives are chosen to meet student career objectives and program accreditation requirements. Students must consult with their advisor and have their selections pre-approved. A student must have a GPA of 2.75 or higher or approval of the instructor to take 500-level courses for undergraduate credit.

ENVIRONMENTAL ENGINEERING MINOR

The College of Engineering offers a minor in Environmental Engineering to those undergraduate students whose academic history provides the prerequisites for the courses required in the minor. The minor requires the completion of a minimum of 21 credits in course work which builds the foundation of an environmental engineering perspective. Some of the courses used in the minor may also satisfy a requirement for a major. Students are advised that the first professional degree in Environmental Engineering at the University of Tennessee is the M.S. in Environmental Engineering which builds on the minor.

COURSE REQUIREMENTS

Choose One:
- CHEM 230 Inorganic Chemistry
- CHEM 310 Analytical Chemistry
- CHEM 350 Organic Chemistry

Required:
- MICR 210 General Microbiology

Choose Two:
- CHE 200 Chemical Engineering Fundamentals
- CE 324 Material and Energy Flow in Bio Systems
- CE 380 Water and Wastewater Treatment
- CE 395 Hydrology or CE 315 Soil and Water Conservation

Choose One:
- GEOL 202 Earth as an Ecosystem
- PHIL 346 Environmental Ethics

Choose One:
- GEOL 485 or CE 485 Hydrogeology
- PSS 415 Soil Hydrology

Required:
- CE 486 Air and Waste Management

Students are asked to file their intent to complete the Minor with the office of the Department of Civil and Environmental Engineering. 223 Perkins Hall. The student’s home department advisor will then be supplied with the information about the Minor requirements to assist with prerequisite sequencing. A copy will be filed with undergraduate records so the Minor, once completed, will be shown on the student’s transcript.

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: W.T. Snyder (Chancellor Emeritus and Acting Head), Ph.D. Northwestern; M. Abidi (Weston Fulton Professor), Ph.D. Tennessee; J.D. Birdwell, Ph.D. Massachusetts Institute of Technology; B.K. Bose (Condra Chair of Excellence), Ph.D. Calcutta; D.W. Bouldin, Ph.D. Vanderbilt; M.O. Pace, Ph.D. Georgia Institute of Technology; P.E.; J.S. Lawler, Ph.D. Michigan State; A. Pujol (UTSI), Ph.D. Vanderbilt; M.J. Roberts, Ph.D. Tennessee; J.R. Roth (Weston Fulton Professor), Ph.D. Cornell.


Associate Professors: B.W. Bomer (UTSI), Ph.D. Tennessee; P.B. Crilly, Ph.D. New Mexico State; S.K. Islam, Ph.D. Connecticut; R.D. Joseph (UTSI), Ph.D. Case Institute of Technology; D.B. Koch, Ph.D. Missouri-Rolla.

Emeritus Associate Professors: J.M. Rochelle, Ph.D. Tennessee; D. Rosenberg, Ph.D. New York; J.W. Waller, Ph.D. Tennessee

Assistant Professors: B.J. Blalock, Ph.D. Georgia Tech; J.N. Chiasson, Ph.D. Minnesota; M.M.K. Howlader, Ph.D. Virginia Polytechnic Institute; S.-G. Kong, Ph.D. Dayton; L.L. Thompson, Ph.D. Washington University; H. Qi, Ph.D. North Carolina State; L.M. Smith (UTSI), Ph.D. Tennessee; P.W. Smith, Ph.D. Virginia; L.M. Tolbert, Ph.D. Georgia Institute of Technology.

BACHELOR OF SCIENCE PROGRAMS

GOALS
The goals of the B.S. degree programs in electrical and computer engineering are to: (a) prepare students for entry into the profession; (b) instill in students the capabilities required by the discipline, the recognition of the need to enhance the discipline, and the desire for lifelong learning; and (c) equip students with a general knowledge of technical and non-technical disciplines so that they are prepared for further study in other fields including professional and graduate education.

The B.S. degree programs are based on a series of integrated courses. Students advance through the program in a sequential manner guided by prerequisite and co-requisite courses in the showcase curriculum. This integrated sequentially developed program is highlighted by the systematic inclusion of the design process introduced in the sophomore year.

PROGRAM EDUCATIONAL OBJECTIVES
The program educational objectives of the Electrical and Computer Engineering programs include: (1) an understanding of the engineering sciences necessary to analyze and design complex devices and systems containing hardware and software components; (2) an understanding of mathematics through differential and integral calculus and differential equations; (3) an understanding of probability and statistics, including applications; (4) an understanding of linear algebra, numerical analysis, and advanced calculus; (5) an understanding of the basic sciences including chemistry and physics; (6) a progression of design projects and tasks throughout the program; (7) an orderly student progression through the program; and (8) achievement of all eleven Program Outcomes common to all engineering disciplines and the two additional department specified outcomes. See Program Outcomes below.

PROGRAM OUTCOMES
In addition to the eleven program-outcomes listed in the College of Engineering section on National Accreditation (listed on page 104), electrical and computer engineering program outcomes also include (a) experience in using organizational skills in team management and negotiation; and (b) ability to use creative and technical skills in analytical problem solving in the discipline and other engineering related fields. Both Electrical and Computer Engineering programs are under continuous assessment and improvement based on Engineering Criteria 2000. The Advisory Committee to the department, which is made up of persons from industry, government, higher education, students and recent graduates, and faculty, provides constituent input for setting program educational objectives and outcomes and establishing the requisite assessment modes for the program.

GENERAL
The courses of study for the B.S. degree in Electrical Engineering and B.S. degree in Computer Engineering are structured to provide a foundation in both the basic sciences and the specialized areas of their respective discipline. The programs also have sufficient general education electives 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 selection of general education elective courses is left to each student but must be made in accord with an established College of Engineering Policy. Students are required to satisfy the following general education cluster distribution requirements: Engineering in a Global/Societal Context cluster (1 course), Contemporary Issues cluster (1 course), Humanities/Arts cluster (1 course), Multicultural cluster (1 course; 2 if a foreign language), and Social Sciences cluster (1 course), and Professional and Ethical Responsibility cluster (1 course).

Generally all sophomore and junior level courses taught in the department are taught every semester. Senior level courses are normally offered in either the fall or spring semester. Courses for which a senior course is a prerequisite will be normally offered in the spring semester with the prerequisite senior course being offered in the fall semester. In all courses which have prerequisites indicated, the prerequisite must be completed prior to enrollment in the course. This scheduling arrangement allows for flexibility since the student may elect the normal four-year schedule, an accelerated schedule, or choose to participate in the Cooperative Engineering Program.

The Electrical and Computer Engineering Department maintains a number of laboratory facilities to support the undergraduate teaching program. The laboratories are devoted specifically to circuits and systems, communications, computer networks, digital systems, electronics, image processing, machinery, machines, and power electronics and drives. Microcomputer and personal computer facilities are provided within the department.

COMPUTER ENGINEERING

Students in the junior and senior years may choose from a wide spectrum of courses covering various aspects of electrical and computer engineering, computer science, and related fields. Students must meet the design, depth, and breadth requirements in the department in their selection of these courses. Students are encouraged to discuss an appropriate senior program with their advisors.

To be eligible for the Bachelor of Science degree in Computer Engineering, a student must achieve a cumulative grade point average of at least 2.0 in all ECE courses taken at the University of Tennessee. At least 30 hours of upper division courses in Electrical and Computer Engineering, and Computer Science must be earned at the University of Tennessee.

ELECTRICAL ENGINEERING

Students in the senior year may choose from a wide spectrum of courses covering all aspects of Electrical and Computer Engineering. Students must meet the design, depth, and breadth requirements of the department in their selection of these courses. The design requirement is met through a major engineering design experience in ECE 400, Senior Design, and through the design process being integrated into specified courses throughout the program. The depth requirement is met by taking two courses in one of the five core areas of communications, computers, electronics, power, and systems. The breadth requirement is met by taking courses in other core areas, or courses in computer vision, power electronics, and emerging technologies. Students are encouraged to discuss an appropriate senior program with their advisors.

To be eligible for the Bachelor of Science degree in Electrical Engineering, a student must achieve a cumulative grade point average of at least 2.0 in all ECE courses taken at the University of Tennessee. At least 30 hours of upper division ECE courses, including ECE 400, and courses to meet the depth, and breadth requirements of the department must be earned at the University of Tennessee.
GRADUATE STUDY PROGRAM

Comprehensive course and research programs for the degrees of Master of Science and Doctor of Philosophy in electrical engineering are offered for students with career goals such as advanced design, research, and teaching. Students admitted to the graduate program are expected to have a minimum grade 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 complete details on the graduate program.

The ECE Department has a long-standing tradition of research excellence in analog and mixed-signal integrated circuits, computer vision, image processing, information processing, industrial plasma engineering, power electronics, and sensors. Various government agencies, laboratories, and industrial partners support research of the ECE faculty at a level of approximately $3.5M per year. The campus is located within the vicinity of the Oak Ridge National Laboratory (ORNL). The ECE Department sustains a strong link with ORNL in their efforts at advancing the nation’s energy resources, scientific knowledge, educational foundations, and economic competitiveness.

ENGINEERING PHYSICS

Soren P. Sorensen, Head
Stuart B. Elston, Coordinator

Engineering physicists typically work in areas of applied science and emerging technology in which standard engineering practices are rapidly evolving to keep pace with advances in science; they are often involved in developing new engineering methods and principles. The goal of the Engineering Physics B.S. program is to prepare its students to apply the principles and problem-solving approaches of physics to the solution of engineering problems at the frontiers between science and technology, by:

1. providing students with a thorough knowledge of mathematics, science, and engineering science with an emphasis on the principles of physics and of the derived physical, chemical, and biological sciences as appropriate to individual career goals;
2. training students in the communication, team cooperation, and problem identification and solving skills needed to practice engineering in the modern world;
3. preparing students through example and experience to apply those principles and skills to the design and conduct of experiments, to the analysis and interpretation of measured results, and to the design of components, processes, and systems that meet specific, identified needs; and
4. instilling in students understanding and appreciation of the cultural, historical, societal, economic, and environmental contexts in which problems of engineering and science arise, and to promote commitment to seek solutions which achieve appropriate balance of cultural, social, and technical value.

The program 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 of the curriculum are concerned with fundamental courses in engineering, science, mathematics, and general education. In the upper division, the curriculum allows some choice of courses in engineering and in physics depending on the interest and career goals of the student. The undergraduate program is a complete, professional program, equipping the student for entry into a variety of work in industry and research. The program also leads to graduate work in either physics or engineering.

ENVIRONMENTAL ENGINEERING

(See Civil Engineering)

INDUSTRIAL ENGINEERING

Professors:
A.B. Badriu (Head), Ph.D. Central Florida, P.E.; W.W. Claycombe (Emeritus), Ph.D. Virginia Polytechnic Institute, P.E.; G.W. Garrison (UTSI), Ph.D. North Carolina State; H.L. Loveless (Emeritus), M.S. North Carolina State, P.E.; J.A. Bontadelli (Emeritus), Ph.D. Ohio State, P.E.

Associate Professors:

Assistant Professors:

The undergraduate curriculum in industrial engineering provides a strong background in both fundamental engineering principles and the analytic methods necessary for solving the multi-faceted problems associated with the production, maintenance, and delivery of goods and services. In particular, this curriculum emphasizes the knowledge and skills necessary to design integrated systems of people, materials, equipment, and energy wherever they are found, such that the overall system functions at an optimal level and such that the needs of the human components of the system are adequately met.

GOALS

The goals of the Industrial Engineering undergraduate program are to prepare students to contribute to the profession of Industrial Engineering and to prepare them for further study, including professional and graduate education.

OBJECTIVES

The objectives of the Industrial Engineering Program include enabling the students to obtain:

(a) An understanding of fundamental engineering principles, mathematics, science, and statistics.

(b) An understanding of and an ability to apply the following concepts to the multi-faceted problems associated with the production of, maintenance, and delivery of goods and services: fundamental human factors which influence engineering design, the economic analysis of alternative design choices, introductory economics and accounting, quality control techniques, manufacturing processes and materials, production and inventory systems, design and control, the mathematical modeling and simulation of complex systems, and the design and installation of information acquisition and control systems.

(c) An ability to communicate effectively, both orally and in writing, to function on multidisciplinary teams, to have a knowledge of pertinent contemporary issues, and to recognize the need for a commitment to life-long learning.

This curriculum emphasizes the knowledge and skills necessary to design integrated systems of people, materials, equipment and energy, such that the overall systems functions at an optimal level and such that the needs of human components of the system are met. The solid, broad base in engineering, combined with education 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, food industry, as well as traditional areas of manufacturing.

OUTCOMES

The eleven program outcomes listed in the College of Engineering section on National Accreditation are the accepted outcomes of the Industrial Engineering Department.

UNIVERSITY OF TENNESSEE GENERAL EDUCATION REQUIREMENTS

Industrial Engineering students are required to take Economics 211 and two English electives. They must select the remainder of their humanities/social science elective courses to satisfy the University of Tennessee General Education Requirements in accordance with the established College of Engineering Policy. An Industrial Engineering advisor will assist the student in selecting courses to meet these requirements.

GRADUATE STUDY PROGRAMS

The Department of Industrial Engineering offers a graduate program leading to the Master of Science degree with a major in Industrial Engineering, concentrations in traditional industrial engineering, engineering management, manufacturing systems engineering, and product development and manufacturing. The Ph.D. with a major in Engineering Science is available through the Department of Engineering Science and Mechanics with a specialization in Industrial Engineering.
Students who enroll in the Master of Science degree may select a concentration in either Industrial Engineering, Engineering Management, or Manufacturing Systems Engineering. In manufacturing, a dual degree program leading to an MBA and MSIE is available. Admission is open to graduates of ABET—accredited undergraduate curricula in engineering, or to graduates of other technical curricula who satisfy prerequisites depending on their academic backgrounds and industrial experiences. Policies concerning prerequisite requirements will be determined by the Industrial Engineering faculty.

NOTE: Any 400-level course required in the Bachelor of Science in Industrial Engineering program at UT may not be used for graduate credit in the M.S. degree program.

INDUSTRIAL ENGINEERING AND MANUFACTURING SYSTEMS ENGINEERING

Under the Industrial Engineering and Manufacturing Systems Engineering Concentration, students may select either the thesis or non-thesis option. The thesis option requires 24 hours of coursework and 6 hours thesis. The non-thesis option requires 30 hours of course work plus a 3-hour industrial design project.

Depending upon a student’s background and career objectives, graduate work in Industrial Engineering enables the student to select an area of specialization from operations research, human factors engineering, quality engineering, maintenance and reliability engineering, or general industrial engineering. In addition to the concentration in manufacturing systems engineering, a dual degree program, requiring a total of 67 semester hours of coursework, is available in product development and manufacturing, and leads to an MBA and an MS degree.

It is also possible in either concentration for a student to select minors in engineering, mathematics, psychology, business, computer science, statistics, or economics.

ENGINEERING MANAGEMENT

The Engineering Management Concentration has an admission requirement of two years’ industrial experience as a practicing engineer or scientist, or current full-time employment in an appropriate engineering or applied science position. The program is non-thesis and requires 33 hours of course work plus a 3-hour capstone project.

MATERIALS SCIENCE AND ENGINEERING

Professors: Raymond A. Buchanan (Interim Head), Ph.D. Vanderbilt, P.E.; R.S. Benson, Ph.D. Florida State; C.R. Brooks (Emeritus), Ph.D. Tennessee; Edward S. Clark (Emeritus), Ph.D. California; N.B. Dahotre (UTSI), Ph.D. Michigan State; J.F. Fellers (Emeritus), Ph.D. Akron; Easo P. George, Ph.D., Pennsylvania; Marion G. Hansen, Ph.D. Wisconsin; P.K. Liaw (Racheff Chair of Excellence), Ph.D. Northwestern; Douglas H. Lowndes, Ph.D. Colorado; Carl D. Lundin, Ph.D. Rensselaer; Carl J. McHargue, Ph.D. Kentucky; Ben F. Oliver (Emeritus), Ph.D. Penn State; A.J. Pedraza, Ph.D. LaPlata (Argentina); George

M. Pharr, Ph.D. Stanford, P.E.; Paul J. Phillips, Ph.D. Liverpool (UK); Joseph E. Sproull, Ph.D. Tennessee; E.E. Stansbury (Emeritus), Ph.D. Cincinnati.

Associate Professors: William T. Becker (Emeritus), Ph.D. Illinois; Thomas T. Meek, Ph.D. Ohio State.

Assistant Professor: Hahn Choo, Ph.D. Illinois Institute of Technology; Kevin Kit, Ph.D. Delaware; Phillip D. Rack, Ph.D. Florida; Claudia J. Rawn, Ph.D. Arizona.

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 prepare students to undertake materials science and engineering careers or to enter graduate programs in this or related disciplines. In order to accomplish this overall goal, the specific educational objectives of the program for the degree of B.S. in Materials Science and Engineering are:

1. To provide students with a knowledge of the fundamentals of appropriate physical and chemical sciences, mathematics, and engineering sciences, and to demonstrate the application of these principles to solve engineering problems with an emphasis on the materials processing, structure, properties, and performance. This knowledge base includes the development of analytical and experimental skills.

2. To provide students with experiences in design and materials selection such that they can design components, systems, or processes with consideration of economic, safety, environmental, and social issues.

3. To develop professional skills in such areas as written and oral communication, problem-solving, and working in diverse teams that prepare graduates to practice materials engineering in contemporary and global environments.

4. To provide students with a general education component that complements the technical content, for the appreciation of cultural and social values, for understanding the impact of engineering solutions on society, and for personal development.

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 and in-depth coverage of specific materials categories. By judicious choice of electives the student may get a broad perspective or may develop a specialty area.

A minimum of 18 semester-hours of general education courses are required by all engineering degree programs in order to meet the UT general education goals, as discussed above. The major in Materials Science and Engineering specifically requires that Economics 201 and one course from the Effective Communication Cluster be included as a part of this group.

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.

MINOR IN MATERIALS SCIENCE AND ENGINEERING

A minor in Materials Science and Engineering (MSE) is offered through the College of Engineering to those undergraduate students who have met the prerequisites for the courses required by the minor. The minor requires completion of a minimum of 18 semester hours in course work which develops a foundation in MSE and allows concentration in MSE areas to be selected by the students (e.g., metallurgy, polymers, ceramics, composites, or electronic materials). Some of the courses used for the MSE minor may also satisfy requirements for the student’s major.

Students may enroll in the minor program by completing a form at the office of the Department of Materials Science and Engineering, 434 Dougherty Engineering Building. A copy of the completed enrollment form and information on the minor requirements will be forwarded to the student’s home department advisor. A copy of the form also will be filed with the Office of Records and Certification so that, upon completion, the minor will be shown on the student’s transcript.
COURSE REQUIREMENTS

Required courses:
- Materials Science and Engineering 201 and 380.

Choose at least one:
- Materials Science and Engineering 410, 420, 340, 360, and 472.
Choose at least three, at least one of which must be at the 400 level:
- Any of the Materials Science and Engineering courses
- Civil and Environmental Engineering 321 and 421;
- Chemical Engineering 330 and 447;
- Industrial Engineering 330
- Mechanical Engineering 366 and 466;
- Engineering Science 321, 322, 323, 423, 426, and 473;
- Chemistry 350-360, 369, 430, 450, 473-483, 479-489, 484, and 490;
- Physics 342, 411-412, and 431-432;

Other courses in this category may be acceptable, but must be approved in advance by the Department of Materials Science and Engineering.

GRADUATE STUDY PROGRAMS

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy with a major in Materials Science and 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, AEROSPACE, AND BIOMEDICAL ENGINEERING

Professors:
- T.E. Shannon (Acting Head), Ph.D.

Professors (Emeritus):

Associate Professors:
- J.A.M. Boulet, Ph.D.; Stanford; J.S. Freeman, Ph.D.; Wisconsin; W.R. Hamel, Ph.D.; Tennessee; G.S. Iannelli, Ph.D.; Tennessee; M. Karsa, Ph.D.; Ecole Polytechnique (Canada); A. Lumsdale, Ph.D.; Michigan; J.E. Lyne, M.D.; Ph.D. North Carolina State; M.S. Madhukar, Ph.D.; Drexel; K. Nguyen, Ph.D.; Colorado; C.D. Pionke, Ph.D.; Georgia Tech, P.E.; N. Yu, Ph.D. California (San Diego).

Associate Professor Emeritus:
- J.E. Stoneking (Dean), Ph.D.

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in Materials Science and Engineering with a major in Materials Science and Engineering.

GRADUATE STUDY PROGRAMS

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy in Mechanical Engineering, Aerospace Engineering, and Biomedical Engineering. At the graduate level the M.S. and Ph.D. degrees are offered in Mechanical Engineering, Aerospace Engineering, and Engineering Science. The mission of the department is to provide a broad base integration of courses and experiences that prepare graduates to practice their profession successfully, to apply their skills to solve current engineering problems collaboratively, and to help advance the knowledge and engineering practice in their fields. Further information can be found on the department's web site: http://www.engr.utk.edu/imbe/

BACHELOR OF SCIENCE PROGRAMS

Mechanical Engineering involves the design, analysis, testing, and manufacture of mechanical and thermal systems. Mechanical engineers are employed in nearly every industry, from basic research through mass production of energy systems, computer software/hardware, robotics, and automobiles.

Mechanical Engineering is a versatile and broadly based engineering discipline that also provides pathways into many exciting fields of specialization. Its foundation is in the basic sciences, but mechanical engineers must further understand such subject areas as mechanics, design, solid and fluid mechanics, thermodynamics, heat transfer, vibrations, manufacturing processes, instrumentation and automatic control. Design projects throughout the curriculum develop student skills in handling practical real-world problems. Because of the broad engineering foundation and design training in this program, graduates are found in nearly every industry and at different levels of research, design, and management.

The educational objectives of the Mechanical Engineering program are:
- To educate students thoroughly in methods of analysis, including mathematical and computational skills appropriate for application to engineering problems;
- To develop the skills pertinent to the design process, including skills needed for formulation of problems, analysis, synthesis, and skills pertinent to effective communication and collaborative work;
- To teach students to use modern experimental and data analysis techniques for engineering application; and
- To prepare students for lifelong learning, nourish creative talents, and provide understanding of professional and ethical responsibilities.

Aerospace Engineering uses the basic sciences and mathematics to develop the foundation for the design, development, production, testing, and applied research associated with aerospace vehicles. These vehicles include aircraft, spacecraft, and missiles. Auxiliary and propulsion systems are also an integral part of this education. These include guidance, control, environmental, ramjet, rocket, turbo-jet, and piston engine systems. Emphasis in the senior year is directed toward these topics, and the program culminates in a major aerospace design project.

The educational objectives of the Aerospace Engineering program are:
- To provide students with a comprehensive education that includes in-depth instruction in aerodynamics, structures, flight mechanics, orbital mechanics, flight propulsion, and the design of aerospace systems;
- To prepare students for professional careers in Aerospace Engineering by developing the skills pertinent to problem solving, analysis, design, and those personal skills required for teamwork and effective communication;
- To provide adequate opportunities to develop and cultivate lifelong learning skills, individual professionalism and ethics, and to nourish creative talents.

The Biomedical Engineering degree curriculum integrates selected engineering sciences and design methods with life science course work. The program prepares students for careers in a variety of health care related professions including work for medical device manufacturers and regulatory governmental agencies. The educational objectives of the Biomedical Engineering curriculum complements the departmental strengths in mechanical engineering and includes a comprehensive coverage of engineering materials and biomechanics applications. Effective courses are available to allow students to specialize their curriculum to areas of particular interest in the marketplace such as cellular and tissue engineering applications. The biomedical engineering program also allows students to meet medical school admission requirements with an appropriate selection of technical electives.
• To provide students with a solid foundation in mathematics, the basic and engineering sciences and engineering design methods;
• To provide students with a comprehensive integration of engineering methods of problem-solving and design with the biological sciences;
• To develop the skills needed for work in the medical device industry including a thorough coverage of engineering materials, biomaterials, biomechanics, medical device design, and work in interdisciplinary teams;
• To provide essential laboratory experience with commonly used biomedical devices and systems and to provide coverage of methods for the design of experiments in medical and life science applications;
• To provide a biomedical technology-based engineering background for students desiring admission to medical school with admission requirements being met through the appropriate selection of elective course work.

ACADEMIC COMMON MARKET

An agreement among state for sharing academic programs allows legal residents of some states to enroll in certain programs at UT (Knoxville campus) on an in-state tuition basis. Aerospace Engineering is available on an in-state basis to students from Arkansas, Kentucky, Louisiana, and South Carolina. Bio-medical Engineering is available on an in-state basis to students from Alabama, Arkansas, Kentucky, Maryland, Mississippi, South Carolina, and West Virginia.

PROGRESSION TOWARD GRADUATION

The freshman year curriculum is common to all engineering majors. The sophomore curriculum is nearly identical for all students in the department. The first two years are considered to be lower division and the two remaining years upper division. Upon completion of the lower division courses the student must apply for progression to the upper division in order to continue in the department. Students allowed to progress may be awarded Full Status or Provisional Status. Factors considered include overall grade point average, performance in lower division engineering and math courses, and evidence of orderly progression through the lower division curriculum.

Full Status

A Lower Division student may apply for progression to Upper Division after completing 47 semester hours of Lower Division engineering curriculum course work with an overall GPA of at least 2.4.

Provisional Status

Students who have completed 47 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 ability to perform satisfactorily in Upper Division by attaining a minimum GPA of 2.0 in the first 12 semester hours of 300 level required engineering courses.

Award of Upper Division Full Status is dependent upon this performance.

Students with an overall GPA less than 2.0 in 47 hours of Lower Division engineering curriculum course work will not be admitted to Upper Division. Students who have not progressed to Upper Division will be dropped from departmental class rolls.

Transfer Students

Students transferring more than 26 hours from another institution are considered Transfer Students. Students transferring 47 hours or more will be admitted to Upper Division, if eligible, with Provisional Status.

Loss of Full Status

Full Status students are expected to maintain a general overall GPA of 2.0 and a GPA of 2.0 in departmental courses. Failure of other curricula who satisfy the necessary prerequisite courses. The general requirements for advanced degrees are summarized in the Graduate Catalog.

Graduate Programs

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy with a major in Mechanical Engineering or Aerospace Engineering are available to graduates of other curricula who satisfy the necessary prerequisite courses. The general requirements for advanced degrees are summarized in the Graduate Catalog.

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. 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.

NUCLEAR ENGINEERING

Professors:
H.L. Dodds (Head), Ph.D. Tennessee, P.E.; L.F. Miller, Ph.D. Texas A&M, P.E.; L.W. Townsend, Ph.D. Idaho; R.E. Uhrig (Distinguished Professor) Ph.D. Iowa State, P.E.; B.R. Upadhyaya, Ph.D. California, P.E.

Professors Emeritus:
T.W. Kerlin, Ph.D. Tennessee; R.B. Perez, Ph.D. Madrid; P.N. Stevens, Ph.D. Northwestern, P.E.

Research Professors:

Associate Professors:
P.G. Groer, Ph.D. Vienna (Austria); J.W. Hines, Ph.D. Ohio State; R.E. Pevey, Ph.D., Tennessee, P.E.; A.E. Ruggles, Ph.D. Rensselaer; T.H. Scott, Ph.D. Florida, P.E.

GENERAL

Nuclear engineering is the engineering discipline that focuses on the application of nuclear and atomic processes for the benefit of mankind and the environment. Radiological engineering is a specialty of nuclear engineering that addresses biological applications such as radiation safety (health physics). Some examples of nuclear and radiological engineering are production of electric power with essentially no air pollution, production of radioisopes for medical and industrial uses, and development of radiation based methods for the diagnosis and treatment of cancer.

The mission of the Nuclear Engineering Department is to:
1. Produce high quality nuclear and radiological engineering graduates from undergraduate through the doctoral level in order to help meet the manpower needs of our state, region, nation, and the international community.
2. Conduct nuclear and radiological engineering related research to help meet the needs of society.
3. Provide services for industry, government, professional organizations, and the public in areas related to nuclear and radiological engineering.

Additional information about the Department and its programs is available on the Department’s web site at www.engr.utk.edu/nuclear.

BACHELOR OF SCIENCE PROGRAM

The program for the B.S. degree in Nuclear Engineering is nationally accredited by the Accreditation Board for Engineering and Technology (ABET) which is described earlier in this catalog. The educational objectives of the B.S. program are to:
1. Provide students with fundamental knowledge in mathematics, computer science, the basic sciences, and the engineering sciences that is necessary to solve state-of-the-art problems in nuclear and radiological engineering.
2. Provide students with a real-world design and analysis experience in nuclear and radiological engineering that shall include environmental, societal, safety, and economic considerations.
3. Provide students with appropriate skills in oral and written communication, teamwork, laboratory work, problem solving and the use of modern engineering tools that will prepare them to work productively in a contemporary and global environment.
4. Provide students with a diverse general education in the humanities, ethics, and social sciences to complement their technological education in order to understand and appreciate the importance of each in society and in personal development.
5. Foster a genuine desire for lifelong learning in students.
Students majoring in nuclear engineering take courses in the basic sciences, engineering fundamentals, mathematics, computer science, humanities, and special areas of nuclear engineering including nuclear system design and safety; radiation transport and shielding; heat transfer and fluid flow; instrumentation and controls; fuel cycle and waste management; and health physics. Nuclear engineering students may concentrate in radiological engineering by substitution of three courses. The radiological engineering concentration also satisfies most of the requirements of pre-med, pre-vet, and pre-dentistry programs.

**MASTER OF SCIENCE PROGRAM**

A graduate program leading to the Master of Science degree in nuclear engineering is available to graduates of recognized undergraduate programs in engineering, physics, chemistry, biology, or mathematics. Each applicant will be advised as to the necessary prerequisite courses before entering the program. The general requirements of the Master of Science 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.

**ACADEMIC COMMON MARKET**

An agreement among states for sharing academic programs allows legal residents of some states to enroll in certain programs at UT (Knoxville campus) on an in-state fee basis. The undergraduate program in Nuclear Engineering is available on an in-state basis to students from Alabama, Arkansas, Delaware, Kentucky, Louisiana, Mississippi, South Carolina, Virginia, and West Virginia.

**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 make 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 following freshman year curriculum is common to all engineering programs except Engineering Physics. (Engineering Physics students should see the curriculum that follows.)

**AEROSPACE ENGINEERING**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aerospace Engineering 201</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics 231, 241</td>
<td>7</td>
</tr>
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<td>Mathematics 200</td>
<td>7</td>
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<tr>
<td>Physics 231, 232</td>
<td>7</td>
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<tr>
<td>Mechanical Engineering 231, 321</td>
<td>6</td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 331</td>
<td>3</td>
</tr>
<tr>
<td>Economics 201</td>
<td>3</td>
</tr>
<tr>
<td>General Education Elective</td>
<td>3</td>
</tr>
</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>Mechanical Engineering 332, 363, 391</td>
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</tr>
<tr>
<td>Aerospace Engineering 341, 345, 351,</td>
<td>15</td>
</tr>
<tr>
<td>363, 370</td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer Engineering</td>
<td>6</td>
</tr>
<tr>
<td>301, 302</td>
<td></td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
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**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Mechanical Engineering 344, 451, 402</td>
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</tr>
<tr>
<td>Aerospace Engineering 426, 429</td>
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</tr>
<tr>
<td>Aerospace Engineering 422, 424, 425</td>
<td>9</td>
</tr>
<tr>
<td>Aerospace Engineering 431, 449</td>
<td>4</td>
</tr>
<tr>
<td>General Education Electives</td>
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</tbody>
</table>

Total: 136 hours

General Education Electives: See College of Engineering General Requirements.

**CHEMICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Chemical Engineering 200, 230, 240, 250</td>
<td>14</td>
</tr>
<tr>
<td>Chemistry 310-319</td>
<td>4</td>
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<td>Materials Science and Engineering 201</td>
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<tr>
<td>Mathematics 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>General Education Electives</td>
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</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Engineering 301, 310, 340, 360,</td>
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<tr>
<td>380</td>
<td></td>
</tr>
<tr>
<td>Physics 231</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry Option</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry 390</td>
<td>3</td>
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<tr>
<td>Chemistry 320, 360, or 483</td>
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</tr>
<tr>
<td>General Education Elective</td>
<td>3</td>
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<tr>
<td>Technical Writing Elective</td>
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**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Chemical Engineering 401, 410, 445, 450,</td>
<td>17</td>
</tr>
<tr>
<td>480, 488 or 490</td>
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</tr>
<tr>
<td>Technical Electives</td>
<td>9</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

Total: 133 hours

**CIVIL ENGINEERING**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Mathematics 231, 241, 251</td>
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<tr>
<td>Physics 231</td>
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<tr>
<td>Statistics 251</td>
<td>3</td>
</tr>
<tr>
<td>Nuclear Engineering 203</td>
<td>9</td>
</tr>
<tr>
<td>Civil Engineering 205, 210, 261</td>
<td>9</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering 321, 351, 361, 390</td>
<td>13</td>
</tr>
<tr>
<td>Civil Engineering 305, 330, 352, 380</td>
<td>7</td>
</tr>
<tr>
<td>395</td>
<td>14</td>
</tr>
<tr>
<td>General Education Electives</td>
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**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering 435, 442, 471, 480</td>
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<tr>
<td>Civil Engineering 400, 401, 440</td>
<td>7</td>
</tr>
<tr>
<td>Civil Engineering Elective</td>
<td>3</td>
</tr>
<tr>
<td>Technical Electives</td>
<td>6</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
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</table>

Total: 135 hours

**COMPUTER ENGINEERING**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math 231, 241, 251</td>
<td>10</td>
</tr>
<tr>
<td>Physics 231</td>
<td>7</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 206,</td>
<td>8</td>
</tr>
<tr>
<td>255</td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer Engineering 300</td>
<td>5</td>
</tr>
<tr>
<td>Computer Science 140</td>
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**Junior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>Electrical and Computer Engineering 315,</td>
<td>7</td>
</tr>
<tr>
<td>335</td>
<td></td>
</tr>
<tr>
<td>Computer Science 302, 360</td>
<td>6</td>
</tr>
<tr>
<td>Math 300</td>
<td>6</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 316,</td>
<td>3</td>
</tr>
<tr>
<td>342, 355, 395</td>
<td>10</td>
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<tr>
<td>General Education Electives</td>
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**Senior**

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
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<tbody>
<tr>
<td>Electrical and Computer Engineering 451,</td>
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</tr>
<tr>
<td>452</td>
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<tr>
<td>&quot;Computer Engineering Senior Electives&quot;</td>
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<tr>
<td>&quot;General Education Electives&quot;</td>
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</tbody>
</table>

Total: 131 hours

*At Least 1 Course from the Professional and Ethical Responsibility Cluster, and at least 1 course from the Effective Communications Cluster.*

*At least two of the CpE Senior Electives must be ECE courses. At most, one CpE Senior Elective can be from any 300-level ECE courses. Approved CpE Senior Electives are: ECE 325, 336, 341, 411, 412, 421, 422, 423, 431, 432, 441, 443, 446, 471, 472, 481, 482, 494, ECE 453; CS 370, 420, 430, 460, 470, 494; IE 405; ENGL 360.*
**ELECTRICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sophomore</td>
<td></td>
</tr>
<tr>
<td>Mathematics 231, 241, 200</td>
<td>8</td>
</tr>
<tr>
<td>Physics 231, 232</td>
<td>7</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 206, 285</td>
<td>8</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 300</td>
<td>5</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer Engineering 315, 325, 335, 341, 395</td>
<td>15</td>
</tr>
<tr>
<td>2Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>Electrical and Computer Engineering 316, 336, 342, 355</td>
<td>12</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Electrical and Computer Engineering 400</td>
<td>5</td>
</tr>
<tr>
<td>Electrical Engineering Senior Electives</td>
<td>13</td>
</tr>
<tr>
<td>2Technical Elective</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 331</td>
<td>3</td>
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<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total: 134 hours</td>
<td></td>
</tr>
</tbody>
</table>

1Transfer students from other engineering departments may substitute Engineering Fundamentals 102 for Physics 137, Physics 231 for Physics 136, and Physics 232 for Physics 240.

2A total of 12 hours of engineering electives plus 9 hours of technical electives are required. Engineering electives should form a coherent group of courses taken in the College of Engineering. Technical electives may be taken in physics, engineering, math, other physical sciences, or astronomy.

**ENGINEERING PHYSICS**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
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<tr>
<td>English 101, 102</td>
<td>8</td>
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<tr>
<td>Mathematics 141, 142</td>
<td>8</td>
</tr>
<tr>
<td>Engineering Fundamentals 101, 102</td>
<td>12</td>
</tr>
<tr>
<td>Physics 137, 138</td>
<td>10</td>
</tr>
<tr>
<td>Sophomore</td>
<td></td>
</tr>
<tr>
<td>Mathematics 231, 241</td>
<td>7</td>
</tr>
<tr>
<td>Computer Science 102</td>
<td>4</td>
</tr>
<tr>
<td>Chemistry 120, 130</td>
<td>8</td>
</tr>
<tr>
<td>Physics 240, 251</td>
<td>6</td>
</tr>
<tr>
<td>General Education Electives</td>
<td>9</td>
</tr>
<tr>
<td>Junior</td>
<td></td>
</tr>
<tr>
<td>Physics 311, 312</td>
<td>6</td>
</tr>
<tr>
<td>Physics 361, 461</td>
<td>6</td>
</tr>
<tr>
<td>Physics 421</td>
<td>6</td>
</tr>
<tr>
<td>2Engineering/Technical Electives</td>
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<tr>
<td>General Education Electives</td>
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<tr>
<td>Senior</td>
<td></td>
</tr>
<tr>
<td>Physics 411, 412</td>
<td>6</td>
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<tr>
<td>Physics 431, 432</td>
<td>6</td>
</tr>
<tr>
<td>2Engineering/Technical Electives</td>
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<tr>
<td>Electives</td>
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<td>Total: 134 hours</td>
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**INDUSTRIAL ENGINEERING**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>English Electives</td>
<td>6</td>
</tr>
<tr>
<td>Math 200, 231, 241</td>
<td>8</td>
</tr>
<tr>
<td>Physics 231</td>
<td>3</td>
</tr>
<tr>
<td>Mechanical Engineering 231</td>
<td>3</td>
</tr>
<tr>
<td>Industrial Engineering 202</td>
<td>3</td>
</tr>
<tr>
<td>Accounting 201</td>
<td>3</td>
</tr>
<tr>
<td>Statistics 251</td>
<td>3</td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
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<td>Junior</td>
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<tr>
<td>Electrical and Computer Engineering 301</td>
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**MATERIALS SCIENCE AND ENGINEERING**

<table>
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<td>Sophomore</td>
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<tr>
<td>Materials Science and Engineering 201</td>
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</tr>
<tr>
<td>Physics 231, 232</td>
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<td>Mathematics 200, 231, 241</td>
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<td>Chemical Engineering 200, 240</td>
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<tr>
<td>General Education Electives</td>
<td>6</td>
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<td>Junior</td>
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<tr>
<td>Materials Science and Engineering 290, 291</td>
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</tr>
<tr>
<td>Chemistry 473</td>
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<tr>
<td>Electrical and Computer Engineering 301</td>
<td>3</td>
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<tr>
<td>Mechanical Engineering 321</td>
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</tr>
<tr>
<td>General Education Electives</td>
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<tr>
<td>Senior</td>
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</tr>
<tr>
<td>Materials Science and Engineering 290, 291</td>
<td>20</td>
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<tr>
<td>Materials Science and Engineering Elective</td>
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</tr>
<tr>
<td>General Education Electives</td>
<td>6</td>
</tr>
<tr>
<td>Total: 133 hours</td>
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</table>

**MECHANICAL ENGINEERING**

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sophomore</td>
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</tr>
<tr>
<td>Mathematics 200, 231, 241</td>
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</tr>
<tr>
<td>Physics 231, 232</td>
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</tr>
<tr>
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<td>6</td>
</tr>
<tr>
<td>Materials Science and Engineering 201</td>
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<tr>
<td>Mechanical Engineering 331</td>
<td>3</td>
</tr>
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<td>Economics 201</td>
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<tr>
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<td>2</td>
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<tr>
<td>Mechanical Engineering 332, 344, 345, 363, 365, 366, 391</td>
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<tr>
<td>Electrical and Computer Engineering 301, 302</td>
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<td>Aerospace Engineering 341</td>
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<tr>
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<tr>
<td>or 456 and 479</td>
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<td>General Education Electives</td>
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**NUCLEAR ENGINEERING**

<table>
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<th>Hours</th>
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<tbody>
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<td>Mathematics 231, 241</td>
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<td>Physics 231, 232</td>
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<tr>
<td>Mathematics 403</td>
<td>3</td>
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<tr>
<td>Physics 341</td>
<td>3</td>
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<td>Nuclear Engineering 301, 304, 342, 351, 360, 431, 470</td>
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<td>Biology 140</td>
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<td>General Education Electives</td>
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<tr>
<td>Senior</td>
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<tr>
<td>Industrial Engineering 405</td>
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<td>Mechanical Engineering 402</td>
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<td>Nuclear Engineering 400, 403, 404, 406, 472</td>
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<td>Statistics 251, BCM 310, or Chemistry 350</td>
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<td>2Technical Elective</td>
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<tr>
<td>General Education Electives</td>
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</tr>
<tr>
<td>Total: 134 hours</td>
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</tr>
</tbody>
</table>

1General Education Electives must include one course from the Communications Cluster and one course from the Professional and Ethical Responsibility Cluster.

2Technical electives are selected from upper division mathematics and engineering courses and must be pre-approved by the department.

1General Education Electives must include one course from the Professional and Ethical Responsibility Cluster.

2General Education Electives must include one course from the Professional and Ethical Responsibility Cluster.
UNDERGRADUATE STUDY IN HUMAN ECOLOGY
Curricula in the following majors lead to a Bachelor of Science degree in Human Ecology:
• Child Development;
• Community Health Education;
• Family Studies;
• Human Resource Development;
• Nutrition;
• Recreation and Tourism Management.

The curricula in the following majors lead to a Bachelor of Science in Service Management:
• Hotel and Restaurant Administration;
• Retail and Consumer Sciences.

COLLEGE POLICIES
Degree requirements for all majors within the College of Human Ecology:
1. Comply with all University degree requirements as stated under “Academic Policies” in the Undergraduate Catalog.
2. Meet all requirements specified by the major.
3. Complete at least 48 credit hours in courses numbered 300 or above.
4. Earn a minimum grade of C in all major-prefix courses. Individual majors may require a C or above in additional specified courses. See curriculum and progression information for details.

All students in the College take Child and Family Studies 220—Marriage and the Family: Roles and Relationships or Retail and Consumer Sciences 341—Family and Consumer Behavior; and Human Ecology 410—Human Ecological Systems. These courses help students understand the nature of the profession and its role in serving individuals and families in the environments in which they live and to integrate this knowledge into their areas of specialization.

TRANSFER STUDENTS
Freshmen students (those who have completed fewer than 30 hours) may enter the College of Human Ecology if their cumulative grade point average is at least a 2.0. Transfer students (those with 30 or more hours completed) from other institutions or from other colleges within the University may transfer to the College of Human Ecology if their cumulative grade point average is at least a 2.3. See “Progression Requirements” for details about specific major requirements.

MAXIMUM COURSE LOADS
Course loads over 19 hours must be approved by the Dean’s office prior to registration. The maximum course load in Summer Term is 12 hours. Overloads in any semester are normally not approved for a student whose grade point average is below a 3.0.

SATISFACTORY/NO CREDIT GRADING
The Satisfactory/No Credit grading option applies only to non-specified elective hours. No course that is part of the specified requirements of the student’s major can be taken under this option unless the course is only offered S/NC.

ADVISING
Students typically are assigned to a faculty advisor in the major after completing 30 hours of credit. New transfer students are advised initially by the college Advising Center and then are assigned faculty advisors. Students meet with academic advisors each semester. These conferences are designed to help students achieve academic success by identifying career choices, attaining a balance between general education and professional studies, and identifying problems and potential solutions early in the academic program.

SELECTION OF GENERAL EDUCATION ELECTIVES IN HUMAN ECOLOGY CURricula
Some curricula may specify particular courses to fulfill the University’s general education requirements. Unless specified by the major, the following courses will be acceptable.

Natural Science Electives: Any two courses from those areas listed below:
• Astronomy, Biology, Botany, Chemistry, Geography, Geology or Physics.

Social Science Electives: Courses chosen from Psychology, Sociology, Anthropology, Political Science, African American Studies, Medieval Studies, Women’s Studies, University Studies, or Economics.
Humans Electives: Survey courses chosen from Art History, Classics, Music History, Literature, Philosophy, Foreign Language at the 200 level or above, Religious Studies or Speech Communication.

History Electives: Unless specified by the curriculum, any two History-prefix courses may be chosen. A sequence is not required, nor is a non-U.S. History required. Students may choose any two from the nearly 100 courses offered by the History department.

**PROGRESSION REQUIREMENTS**

Most programs in the College have specific requirements for progression.

**CHILD DEVELOPMENT MAJOR**

For progression into Early Childhood Administration and Early Childhood Development:

**STEP 1:**
1. Complete CFS 110, 211, and Human Resource Development 210 for admission to CFS 350. (Note: Human Resource Development 210 may be taken as a co-requisite to CFS 350).
2. Attain a cumulative GPA of at least 2.3/4.0 (transfer hours included) for admission to CFS 350.
3. Complete at least 30 semester hours.

**STEP 2:**
1. Complete Student Information Form in CFS 350.
2. Each applicant will be screened by the University’s Conduct Office. Applicants who have established in the past, or established during the program, records of inappropriate conduct will be evaluated by CFS faculty and Student Conduct Office staff.
3. Complete a Self-disclosure Form which allows the University’s personnel office to conduct a background check; a negative report on the background will be evaluated by the Child Area faculty in conjunction with the Department Head and Dean.
4. Complete an application for practicum experience (during CFS 350), accompanied by an Advising Plan.

**For progression into Early Childhood Education for Teacher Licensure (Pre-K-4), students must meet the following criteria:**

**STEP 1:**
1. Attain a cumulative GPA of at least 2.3/4.0 (transfer hours included) for admission to CFS 350.

**STEP 2:**
1. Complete at least 60 semester hours.
2. Attain a minimum grade of C in all required CFS courses and Education courses.
3. Earn a cumulative GPA of at least 2.7/4.0 (transfer hours included) for admission to Teacher Education.
4. Successfully complete an interview, which includes evaluation of written and oral communication skills, with the Early Childhood Education Review Panel or the Board of Admissions in the College of Education during the first methods course CFS 350. (See Admissions Requirements under College of Education.)

**For progression into Student Teaching, students much meet the following criteria:**

**STEP 3:**
1. Progress into the major.
2. Complete CFS 110, 211, 350, and 351.
3. Complete at least 90 hours (senior standing).
4. Complete an application to student teaching (during CFS 350).
5. Attain a minimum of C in all required CFS courses and Education courses.
6. Earn and maintain a cumulative GPA of at least 2.7/4.0.
7. Attain successful participation experiences and satisfactory evaluations in CFA 350 and 351.

Note: Students are expected to exhibit written and oral communication skills appropriate to the program. If these skills are not exhibited, students may choose to participate in remedial activities through the University Hearing and Speech Center and/or the University’s Writing Center, or may be referred by a course instructor.

**COMMUNITY HEALTH EDUCATION**

For progression into Community Health Field Experience H483, students must meet the following criteria:

1. Earn a grade of C or better in Chemistry 100, 110; EEB 230, 240; Psychology 110, 210, and 430; all Health (H) and Public Health (PH); and Safety courses.
2. Attain a cumulative GPA of 2.3 for credit hours attempted at UT.
3. Complete an application/interview with the instructor prior to the end of the fifth week of the semester preceding the field experience.

**FAMILY STUDIES MAJOR**

For progression into the Family Studies major, students must meet the following criteria:

1. Complete at least 15 semester hours at UT.
2. Complete CFS 205 with a satisfactory grade. Application for progression while enrolled in CFS 205 is PREMATURE.
3. Attain a minimum grade of C in all CFS and HE courses.
4. Attain and maintain a cumulative GPA of 2.5/4.0 (transfer hours not included).

**For progression into the Family Studies internship, students must meet the following criteria:**

1. Progress into the major.
2. Complete courses in Family Studies Core.
3. Complete at least 90 hours (senior standing).
4. Complete an application to intern (during CFS 345 or CFS 360).
5. Complete CFS 405, HS 380 and one additional 3 hour course in the Interactional and Conflict Resolutions Skills pod.
6. Attain a minimum of C in all CFS courses and HE courses.
7. Earn and maintain a GPA of 2.5/4.0.

**TEACHER EDUCATION LICENSURE PROGRAMS**

Early Childhood Education, Early Childhood Special Education, Family and Consumer Sciences, Business, Marketing, and Technology Teacher Education students must earn a 2.7 undergraduate cumulative GPA (including transfer work) and must otherwise meet teacher education requirements of the College of Education and apply to be admitted to Teacher Education (See College of Education).

**HOTEL AND RESTAURANT ADMINISTRATION MAJOR; RETAIL AND CONSUMER SCIENCES MAJOR**

Students should apply for progression into their chosen majors after completing Retail and Consumer Sciences 210, Hotel and Restaurant Administration 210 or Hotel and Restaurant Administration 211 and prior to entering Retail and Consumer Sciences Hotel and Restaurant Administration 390. Applications for progression are available in the department office.

**For progression into each major, students must meet the following criteria:**

1. Cumulative grade point average 2.3 or greater for at least 30 semester hours.
2. Grade of C or better in all Retail and Consumer Sciences and/or Hotel and Restaurant Administration prefix courses, English 101, 102, Math 119 or 123, 125.
3. Complete 300 post-secondary school hours of industry related work for the chosen major. A list of appropriate work experiences is available in the department office.

For graduation, students must earn a grade of C or better in all Retail and Consumer Sciences and/or Hotel and Restaurant Administration courses.

**HUMAN RESOURCE DEVELOPMENT MAJOR**

1. Students must achieve and maintain a minimum of a 2.3 overall GPA for progression into and retention in the major.
2. Students must achieve a GPA of 2.7 in order to enroll in Human Resource Development 479.
Family Resource Management, 360 Family at the upper division level from among CFS 240 Human Sexuality, and 12 additional hours (Pre-K—grade 4) in the State of Tennessee are encouraged to determine their interest in licensure very early in their college careers and to seek appropriate advising. Teacher licensure is granted upon successful completion of the fifth year (Professional Year). 12 additional hours may be taken to complete the Master's degree. For details contact the Human Ecology Advising Center or the Child and Family Studies Department.

NUTRITION MAJOR

Students should apply for progression after completing NTR 302 and CHM 350 and prior to entering NTR 313. Applications for progression are available in the departmental office.

For progression into the major, students must meet the following criteria:
1. Cumulative grade point average 2.4 or greater.
2. Grade of C or better in each required NTR prefix course.

For graduation, students must earn a grade of C or better in all required Nutrition courses.

RECREATION AND TOURISM MANAGEMENT MAJOR

1. Students must achieve and maintain a minimum of a 2.3 overall GPA for progression into and retention in the major.
2. Students must have a cumulative GPA of 2.3 in order to enroll in RLS 310 and 490.
3. Students must complete RLS 290 and 390 before enrolling in 490.

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 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. 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 and Family: Roles and Relationships (3); 320 Parent Education (3); 350 Consumers in the Service Industry (3); 341 Family and Consumer Science (3); and 360 Family Resource Management (3); 420 Family Diversity (3).

A minor in Child Development consists of 18 credit hours: 210 Human Development (3); 211 Development in Infancy and Early Childhood (3); 240 Human Sexuality (3); 312 Adulthood and Aging (3); 345 Family Resource Management (3); 420 Family Diversity (3).

A minor in Family Resource Management 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 Diversity in Family, School, and Community Relations (3); and 360 Family Stress (3); and 3 credit hours selected from: 211 Development in Infancy and Early Childhood (3); 240 Human Sexuality (3); 312 Adulthood and Aging (3); 345 Family Resource Management (3); 420 Family Diversity (3).
### EARLY CHILDHOOD ADMINISTRATION

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
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<tbody>
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<td>Child and Family Studies 110, 211</td>
</tr>
<tr>
<td>1</td>
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</tr>
<tr>
<td>Math 110, 115</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>Natural Science Elective</td>
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<tr>
<td>Psychology 110</td>
<td>3</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Accounting 201</td>
</tr>
<tr>
<td>1</td>
<td>History Elective</td>
</tr>
<tr>
<td>1</td>
<td>Humanities Elective</td>
</tr>
<tr>
<td>Human Resource Development 210</td>
<td>3</td>
</tr>
<tr>
<td>Nutrition 100</td>
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</tr>
<tr>
<td>Psychology 210</td>
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<td>Junior</td>
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<td>Health 310</td>
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<td>Speech 240</td>
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<td>Senior</td>
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<td>Human Resource Development 471, 475</td>
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<td>Elective</td>
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</table>

**Total: 125 hours**

1. Courses are to be chosen from two of the following categories: literature, speech or oral interpretation; art or music appreciation; philosophy or religious studies.
2. One of the following sequences is to be chosen: Astronomy 151 and 152, Biology 101 and 102, Botany 110 and 120, Chemistry 100 and 110, Chemistry 120 and 130, Geography 131 and 132, Geology 101 and 102, Physics 101 and 102.

### EARLY CHILDHOOD DEVELOPMENT

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<th>Hours</th>
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<td>English 101, 102</td>
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<td>Elective</td>
<td>6-8</td>
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</table>

**Total: 124 hours**

1. Courses are to be chosen from two of the following categories: literature; speech or oral interpretation; art or music appreciation; philosophy or religious studies.
2. One of the following sequences is to be chosen: Astronomy 151 and 152, Biology 101 and 102, Botany 110 and 120, Chemistry 100 and 110, Chemistry 120 and 130, Geography 131 and 132, Geology 101 and 102, Physics 101 and 102. 
3. One semester of American History and one semester of another history-prefix course.
4. ECD Restricted Electives: Students must select 6 semester hours of restricted electives. See advisor or Advising Center for list of recommended and restricted electives.
5. At least 48 hours in 300-400 level courses are required.

### DUAL LICENSURE: EARLY CHILDHOOD EDUCATION/EARLY CHILDHOOD SPECIAL EDUCATION

<table>
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<th>Credit</th>
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<td>Child and Family Studies 211</td>
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<td>Child and Family Studies 351</td>
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<td>History Elective</td>
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<tr>
<td>Social Science Electives</td>
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<td>Junior</td>
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<td>Foreign Language Elective</td>
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<td>Information Sciences 330</td>
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<td>Education 401</td>
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<td>Instructional Technology, Curriculum, and Evaluation 486</td>
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<tr>
<td>Early Childhood Education 445</td>
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</table>

**Total: 125 hours**

1. Courses are to be chosen from two of the following categories: literature, speech or oral interpretation; art or music appreciation; philosophy, or religious studies.
2. One semester of another course with a history prefix.
3. Must be at the 200 level or above.
4. One semester of American History and one semester of another course with a history prefix.
5. Select at least 3 hours from either political science, economics, psychology, sociology, geography or anthropology. Additional courses can be taken from applied fields such as nursing, social work, human services and health.
FAMILY STUDIES MAJOR

The Family Studies major is designed for students whose educational and career goals are focused on studying and working with individuals and families within educational programs and community services. The major is designed to accommodate special interests or strengths of students and allows for flexibility and individualization. All students take a basic core with individualization taking place within the pods selected by the student including an internship pod. The student may design a program in consultation with an advisor, making selections from the recommended pods, channeling the course of study in a particular direction so that all students graduating with a Family Studies major will have depth in family knowledge, a broad integrative perspective and means for application. Graduates of the Family Studies major who have completed Child and Family Studies courses 210, 220, 240, 345, 360, 405, 420, 430, 440 and 480 as well as Human Ecology 410, are eligible to make application for Full or Provisional designation as a Certified Family Life Educator (CFLE) through the National Council on Family Relations.

A pod is basically coursework focusing on a concept that relates to the study of the family. Course work to support the concepts comes from many areas across the university. Pods are referred to as restricted electives within the curriculum description and will constitute a minimum of 36 hours for each student's program, of which 9 credit hours are earned through enrollment in the Interactional and Conflict Resolution Skills pod and 9 credit hours are earned through enrollment in the Internship pod in the Senior year. Choices for the two remaining pods are: Adulthood and Aging, Families and Youth at Risk, Family and Community Services, Health and Wellness, Human Development, Instructional Programs, Life Management, Management of Human Service Agencies, Mass Media and Writing, Multi-Cultural, Public Policy, Research, and Women and Families.

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>English 101, 102 ................................................. 6</td>
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<td>Natural or Physical Sciences ................................... 6-8</td>
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<td>Advanced Social Science Elective .......................... 3</td>
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<td>Child and Family Studies 345, 360 ............................ 6</td>
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<td>Advanced Social Science Electives ......................... 3</td>
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<tr>
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<td>Human Ecology 410 ............................................... 3</td>
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</table>

Total: 128-130 hours

1 Courses are to be selected from at least two of the following categories: literature, art appreciation, music appreciation, philosophy, or religious studies.
2 Students must select one of the following sequences: Sociology 110-120 or Psychology 110-120.
3 CFSC 210 requirement waived if the student selects the Human Development Pod; replace with 3 hours of general electives.
4 Students must select one of the following sequences: Astronomy 151-152, Botany 110-120, Chemistry 120-130, Geography 101-102, Geology 101-102, Physics 101-102.
5 36 hours must be chosen, in consultation with a faculty advisor, from a list of courses meeting departmental requirements for restricted electives given below.
6 Students must select a total of 6 credit hours from the following courses: Political Science 311, 320, 330, 350, 365, 370, 374, or 461; Psychology 330, 370, 400, 415, 424, 430, 434, 440, 470; Sociology 340, 350, 351, 352, 375; Psychology 360.
7 At least 48 hours in 300-400 level courses are required.
8 6-10 credit hours of a sequence of modern foreign language study. This requirement also may be met by Rehabilitation and Deafness 223-226 (American Sign Language I-II) or Latin 111-112.

HOTEL AND RESTAURANT ADMINISTRATION

The Hotel and Restaurant Administration concentrations focus 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. A business minor is built into the degree requirements.

The Hotel and Restaurant Administration concentrations require extensive field experience. The curriculum provides a strong base in management and computation. The general education electives help students to sharpen their analytical, conceptual, and communications abilities. Graduates may start as management trainees in restaurants, foodservice, hotels, support industries, or in tourism operations with subsequent upward mobility into management or staff positions.

HOTEL/TOURISM MANAGEMENT

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>English 101, 102</td>
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<tr>
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<td>History Elective</td>
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<tr>
<td></td>
<td>Natural Science Elective</td>
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<tr>
<td></td>
<td>Math 119, or 123, or 125</td>
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<tr>
<td></td>
<td>Humanities Electives</td>
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<tr>
<td></td>
<td>Hotel and Restaurant Administration 119</td>
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<tr>
<td></td>
<td>Electives</td>
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Sophomore

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<tr>
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<tbody>
<tr>
<td>History Elective</td>
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<td>Accounting 201, 202</td>
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<td>Statistics 201</td>
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<td>Economics 201</td>
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<tr>
<td>Psychology 110</td>
<td>3</td>
</tr>
<tr>
<td>Business Administration 201</td>
<td>3</td>
</tr>
<tr>
<td>Human Resources Development 210</td>
<td>3</td>
</tr>
<tr>
<td>Retail and Consumer Sciences 341</td>
<td>3</td>
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<tr>
<td>Hotel and Restaurant Administration 211</td>
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Junior

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<thead>
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<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>History Elective</td>
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<tr>
<td>Marketing 300</td>
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<td>Management 300</td>
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</tr>
<tr>
<td>Finance 301</td>
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<tr>
<td>Accounting 420</td>
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<tr>
<td>Hotel and Restaurant Administration 326, 311, 323, 341, 376, 390</td>
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<td>Hotel and Restaurant Administration 420</td>
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Senior

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<tr>
<td>Human Ecology 410</td>
<td>3</td>
</tr>
<tr>
<td>Hotel and Restaurant Administration 410, 425, 445</td>
<td>12</td>
</tr>
<tr>
<td>Hotel and Restaurant Administration 481 or 485</td>
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</tbody>
</table>

Total: 128-130 hours

Hotel and Restaurant Administration electives:
Select 3 hours from the following courses: HRA 211, 324, 335, HE 310, RCS 411

RECREATION AND TOURISM MANAGEMENT

The professional disciplines that comprise Recreation and Tourism Management (RTM) prepare students for management and leadership positions in Service Management (Commercial Recreation and Tourism enterprises), sport and tourism enterprises. The RTM curriculum is one of only two programs in the state of Tennessee that is accredited in General Recreation and the only program accredited in Therapeutic Recreation by the National Recreation and Park Association’s Council on Accreditation.

The Service Management concentration is designed to assist students in gaining knowledge, responsibility and creativity to meet the changing environment of complex management in the recreation industry in the 21st century. A business minor is built into the degree requirements. Graduates are prepared for employment in travel and tourism agencies, convention bureaus, resorts, corporate sectors, public/quasi public recreation agencies, voluntary and religious organizations.

The Therapeutic Recreation concentration prepares students for employment in management and leadership positions with agencies that deliver health care services. Graduates fulfill the eligibility requirements for National Therapeutic Recreation Society certification. Graduates are successful in securing employment in psychiatric institutions, physical rehabilitation units, drug and alcohol treatment centers, and community based programs.

A minimum of a 2.3 GPA is required for progression to and retention into the program.

RECREATION AND TOURISM MANAGEMENT: SERVICE MANAGEMENT CONCENTRATION

(Accredited in General Recreation by NRPA/AALR)

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>English 101, 102</td>
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<tr>
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<td></td>
<td>Human Ecology</td>
</tr>
<tr>
<td></td>
<td>Math 125 or 141</td>
</tr>
<tr>
<td></td>
<td>Hotel and Restaurant Administration 311</td>
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<td></td>
<td>Hotel and Restaurant Management 410</td>
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<tr>
<td></td>
<td>Recreation and Tourism Management 376</td>
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<td>Recreation and Tourism Management 390</td>
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Sophomore

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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</thead>
<tbody>
<tr>
<td>Accounting 201, 202</td>
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<tr>
<td>Economics 201</td>
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</tr>
<tr>
<td>Statistics 201</td>
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Junior

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>History Elective</td>
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<td>Marketing 300</td>
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<td>Management 300</td>
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<tr>
<td>Finance 301</td>
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<tr>
<td>Speech 240</td>
<td>3</td>
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<tr>
<td>Hotel and Restaurant Administration 326, 311, 323, 341, 376, 390</td>
<td>16</td>
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<tr>
<td>Hotel and Restaurant Administration 420</td>
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Senior

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Human Ecology 410</td>
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<tr>
<td>Hotel and Restaurant Administration 410, 425, 445</td>
<td>12</td>
</tr>
<tr>
<td>Hotel and Restaurant Administration 481 or 485</td>
<td>12</td>
</tr>
</tbody>
</table>

Total: 128-130 hours

1. All upper division (300 level or above) business course work must be taken at UT.
2. Select any two courses from this block.

NOTE:
A. 2.3 GPA is required for college affiliation and progress in the major.
B. Recreation 290 and 390 are for recreation majors only and are required prior to enrolling in internship.
C. 2.3 GPA is required for enrollment in RTM 310 and RTM 490.
D. 2.3 GPA is required for internship and for declaring a major in Recreation and Tourism Management.
E. A minimum of 48 upper division hours are required for graduation.

RECREATION AND TOURISM MANAGEMENT: THERAPEUTIC RECREATION CONCENTRATION

(Accredited in General Recreation and Therapeutic Recreation by NRPA/AALR)

<table>
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<tr>
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<tbody>
<tr>
<td>Freshman</td>
<td>English 101, 102</td>
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<td>History Electives</td>
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<td></td>
<td>Human Resource Development 210</td>
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<tr>
<td></td>
<td>Recreation and Tourism Management 201</td>
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<tr>
<td></td>
<td>Psychology 110</td>
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Sophomore

<table>
<thead>
<tr>
<th>Hours</th>
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<tbody>
<tr>
<td>Classics 273</td>
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<td>Child and Family Studies 210</td>
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<tr>
<td>Ecology &amp; Evolutionary Biology, Biology Electives</td>
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<td>Ecology and Evolutionary Biology 230</td>
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<tr>
<td>Speech 210 or 240</td>
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<tr>
<td>Health 310</td>
<td>3</td>
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<tr>
<td>Recreation and Tourism Management 290</td>
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<tr>
<td>Recreation and Tourism Management 320, 325</td>
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<tr>
<td>Philosophy 345</td>
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<tr>
<td>Electives</td>
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Junior

<table>
<thead>
<tr>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>Exercise Science 332</td>
<td>3</td>
</tr>
<tr>
<td>Ecology and Evolutionary Biology 240</td>
<td>3</td>
</tr>
<tr>
<td>Psychology 230</td>
<td>3</td>
</tr>
<tr>
<td>Sociology 1 or Psychology Electives</td>
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<tr>
<td>Professional Support Electives</td>
<td>6</td>
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<tr>
<td>Recreation and Tourism Management 310, 425</td>
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<tr>
<td>Recreation and Tourism Management 390</td>
<td>2-3</td>
</tr>
<tr>
<td>Electives</td>
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</table>
HEALTH AND SAFETY SCIENCES

Professors:
D. E. Smith (Interim Head), Ph.D. Oklahoma State; June Gorski, Dr. P.H. California (Los Angeles); Charles B. Hamilton, Dr. P.H. Oklahoma; Robert H. Kirk, H.S.D. Indiana; Bill C. Wallace, Ed.D. Colorado State.

Associate Professors:
Barbara Clark, Ph.D. Tennessee; Martha Keel, M.S. Tennessee; Robert J. Pursley, Ph.D. Iowa; Paula C. Carney, Ph.D. Wayne State.

Assistant Professors:

Instructor:
Rosa Emory Thomas (Adjunct), MPH North Carolina.

Internship Coordinator:
Kathleen C. Brown, MPH Tennessee.

The department fosters development of pre-professional and professional competencies by those interested in the disciplines of health education/promotion, public health, and safety. The Health and Safety Sciences academic programs emphasize health promotion (lifestyle behaviors) and health protection (regulatory, environmental, and safety) strategies for improving individual and community well-being directly relating to two University of Tennessee thematic areas of strength, Health and Biomedical Sciences and Children and Families. The faculty are committed to the educational value of community-based service learning, applied research, and community outreach. For more information: http://hsse.utk.edu.
FAMILY AND CONSUMER SCIENCES EDUCATION

A teacher education program for secondary vocational family and consumer sciences teachers is available within the College. Undergraduate students should follow the Teacher Education Concentration for Family and Consumer Sciences Education in the Department of Human Resource Development. Potential teachers must meet teacher education requirements of the College of Education and apply to be admitted to Teacher Education (see College of Education). Teacher licensure is granted at the successful completion of the fifth year or Professional Year. Fifteen additional hours may be taken to complete the Master’s Degree. For details, see the Graduate Catalog.

Students who have a B. S. degree and want family and consumer sciences teacher licensure may obtain a list of the prerequisite course work for entering the professional year. Individuals interested in careers with the Extension service may follow the Family and Consumer Sciences Education curriculum in Human Resource Development, or may follow the Family Studies curriculum in the Department of Child and Family Studies.

HUMAN RESOURCE DEVELOPMENT

Professors:
- Michael L. Morris (Interim Head), Ph.D.
- Tennessee CLFE; E.W. Brewer, Ed.D.
- Tennessee; C.P. Campbell (Emeritus), Ed.D.
- Maryland; G.D. Cheek (Emeritus), Ph.D.
- Kansas State; C.B. Coakley (Emeritus), Ph.D.
- Wisconsin; D.G. Craig (Emeritus), Ed.D.
- Cornell; J.O. De Jonge (Emeritus), Ph.D.
- Iowa State; R.W. Haskel (Emeritus), Ph.D.
- Purdue; S. Hastings (Extension), Ph.D.
- Oklahoma State; G.C. Petty, Ph.D.
- Missouri.

Associate Professors:
- A.P. Chesney (Adjunct), Ph.D.
- Case Western Reserve University (Ohio); R. Hanson (Emeritus), Ph.D.
- Purdue; V. Kuplitz, Ph.D.
- Virginia Tech; J.H. McInnis (Emerita), Ph.D.
- Florida State; V.J. Stout, Ed.D.
- Tennessee.

Assistant Professors:
- S.J. Bartley, Ph.D.
- Tennessee; C.
- Hollingsworth (Adjunct), Ph.D.
- Tennessee; D.
- Luecking (Adjunct), Ed.D.
- Tennessee; D.
- Lim, Ph.D.
- Illinois; D.L. Mackey (Interimship Coordinator), Ph.D.
- Tennessee; D.
- Peccolo (Adjunct); R. Pierce, Ph.D.
- Ohio State.

The Human Resource Development Department offers teacher licensure and credentialing programs for professionals in the integrated use of training and development, organization development, and organizational effectiveness.

The B.S. degree teaching options in HRD have the general focus of preparing students for licensure and careers as secondary and postsecondary teachers of business/marketing education, family and consumer sciences education, and technology education.

The B.S. degree option in training serves individuals who wish to work as industrial training specialists, supervisors, managers, and persons employed in other industrially-related occupations. The program is designed to develop the expertise needed by those in the private sector involved in training and human resource development.

TEACHER EDUCATION CONCENTRATION

(Business and Marketing, Family and Consumer Sciences, Technology Education)

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<thead>
<tr>
<th>Course</th>
<th>Hours</th>
<th>Credit</th>
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<tbody>
<tr>
<td>English 101, 102</td>
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<tr>
<td>Mathematics Electives</td>
<td>4</td>
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<tr>
<td>Natural or Physical Science Electives</td>
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<td>History Electives</td>
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<td>Child and Family Studies 213</td>
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<tr>
<td>Retail and Consumer Sciences 341</td>
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<td>6</td>
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<tr>
<td>Teaching Specialty Courses</td>
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<td>6</td>
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<tr>
<td>Human Resource Development 201</td>
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<td>Teaching Specialty Courses</td>
<td>4</td>
<td>6</td>
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<td>Human Resource Development 335, 452</td>
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<tr>
<td>Education 400, 401, 402</td>
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<td>6</td>
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<td>Human Ecology 410</td>
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<td>Human Resource Development 591</td>
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<tr>
<td>Human Resource Development 504, 521, 522</td>
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</table>

Undergraduate Total: 125 hours

Total: 128 hours

TRAINING AND DEVELOPMENT CONCENTRATION

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<tr>
<td>English 101, 102</td>
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<tr>
<td>Mathematics Electives</td>
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<td>6</td>
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<tr>
<td>Natural or Physical Science Electives</td>
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<tr>
<td>Economics 201</td>
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<tr>
<td>Child and Family Studies 213</td>
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</tr>
<tr>
<td>Retail and Consumer Sciences 341</td>
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<tr>
<td>Human Resource Development 504, 521, 522</td>
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<td>6</td>
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</tbody>
</table>

Undergraduate Total: 125 hours

1. Students seeking licensure in Business and Marketing Education must take Math 125 and one other math course.
2. Students seeking licensure in Family and Consumer Sciences Education must take Chemistry 101, Biology 102, and CFS 220. Technology Education students are encouraged to take Physics.
3. Family and Consumer Sciences Education: CFS 211, 240, 415, 360, 420, 430, HE 310; Nutr 100, 302; HRA 101; TS 220; RCS 215, 201; Speech 210 (14 hours); Business and Marketing Education: Bus Admin 201; Acct 201, 202; Finance 301; Bus Law 301; Management 300; Marketing 300, 310, 420; HRD 330; 415, 430, 440; RCS 350, 421; an Economics Elective and Statistics 201 (51 hours).
4. Technology Education: Comm 100; HRD 161, 163, 300, 305, 306, 361, 370, 371, 441, 442; RCS 350, 6 hours of technical electives (42 hours)
5. See department for a list of suggested electives.
6. Requires admission to Teacher Education.

(NOTE: Students must earn at least a grade of C in teaching specialty courses and required HRD courses.)
a clearly defined base of professional knowledge. The foundation for the major includes basic sciences, i.e., chemistry, microbiology, 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. In addition, students with a strong research interest may prepare for research-oriented careers in laboratories or as graduate students in nutrition or other biomedical disciplines.

### NUTRITION

This major is designed for students interested in basic and applied sciences. Students are expected to acquire advanced education in chemistry, biology, food science, and behavioral sciences. The B.S. in Nutrition is currently granted approval status by the Commission of Accreditation/Approval for Dietetics Education 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 clinics and private practice. Extension Service and food companies are also avenues of employment.

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**College of Human Ecology**

### Professors:
- R.E. Beauchene, Ph.D. (Emeritus), Kansas State
- B.R. Carruth (Emeritus), Ph.D., Missouri
- M. Karlstad, Ph.D. Loyola
- D.S. Sachan, Ph.D. Illinois
- J.R. Savage
- E. Widmer
- W. Benner
- M. Zemel (Head), Ph.D. Wisconsin

**Associate Professors:**
- J.W. Bailey, Ph.D. Iowa State
- J. Whelan, Ph.D. Penn State
- M.B. Zemel (Head), Ph.D. Wisconsin

**Assistant Professors:**
- J. Chencharick (Emeritus), Ph.D. Maryland
- Jung-Han Kim, Ph.D. Tennessee
- Gary Truett, Ph.D. Georgia

**Instructor:**
- Sandra Shepherd, Ph.D. Tennessee
- Melissa Hansen-Petrik, Ph.D. Tennessee

**Lecturer:**
- K. Balnicki Wetherall, M.S. Boston

**Extension—Associate Professors:**
- Janie Burney, Ph.D. Tennessee
- Betty Greer, Ph.D. Tennessee

The Department of Nutrition promotes an understanding of nutrition for the enhancement of the physiological and social well-being of individuals and families across the lifespan through teaching, research and service. 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 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, both as professionals and as responsible citizens.

The professional discipline of Nutrition is rooted firmly in general education and provide
The College of Nursing at the University of Tennessee 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 campus with those of the university’s comprehensive teaching hospital and other 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 Accrediting Commission that may be contacted for information about tuition, fees, and length of program at 61 Broadway, New York, New York 10006, phone 1-800-669-9656. The program is also unconditionally approved by the Tennessee Board of Nursing.

The baccalaureate nursing program has as its central foci the person, health, environment, and nursing. 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, an 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. One-hundred twenty-three semester hours are required for graduation. The program also accommodates registered nurses who hold associate degrees in nursing or who are graduates of diploma nursing programs. All upper division courses, with the exception of 202, 314, 351, 406, and 480, are restricted to students who have been approved for progression. (See Progression Policies and Procedures.)

PROGRESSION POLICIES AND PROCEDURES

Current standards are available from the Director of Student Services, College of Nursing, room 203. Students, including registered nurses, who are admitted as nursing students in their freshmen or sophomore years must apply for progression to the upper division prior to their junior year.

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 Services Office. Applicants for upper division nursing should submit their Petition for Progression with transcripts for all colleges attended no later than January 20. Students will be selected on the basis of: (a) cumulative GPA for courses completed; (b) cumulative GPA for required science, social science, math, and English courses; (c) number of course withdrawals and repetitions; (d) grade improvement over time; (e) probability of completing all lower division requirements prior to the following fall; and (f) the availability of space.

2. If a student is selected for progression but then fails to successfully complete all lower division requirements (except for humanities, history, and multicultural/integrative studies electives) prior to the fall semester,
the student will not progress and must submit another petition for progression the following year.

3. Registered nurses must be licensed to practice in the state of Tennessee.

GRADING AND CONTINUATION POLICIES

1. The minimum acceptable grade for all courses in the curriculum is a C.
2. No nursing course may be repeated more than once. If a D, F, or NC 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, F, or NC for more than one nursing course will be required to withdraw from the program even if the previous course for which D or F was awarded has 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 in cardiopulmonary resuscitation are included in the Undergraduate Student Handbook.

APPROVED ELECTIVES

The BSN program includes 6 hours in humanities (Philosophy 345 and elective) and 6 hours in multicultural or integrative studies. Courses in the following areas are accepted to satisfy elective requirements.

HUMANITIES


MULTICULTURAL OR INTEGRATIVE STUDIES

Anthropology 100-499; Architecture 406; Child and Family Studies 220, 240; Comparative Literature 100-499; Economics 100-499; Geography 100-499; Health 100-499 (excluding 230, 310, 325); Human Services 100-499; Nursing 202, 314, 453, 480 (restricted to upper-division nursing students only), 470, 480; Political Science 100-499; Psychoeducational Studies 460; Psychology 330; Recreation and Tourism Management 110, 425; University Studies 100-499; Sociology 415; Foreign Language (intermediate level or higher); Chinese 231, 232; Classics 261, 264 (Greek), 251, 252 (Latin); Japanese 251, 252; Arabic 221, 222; Hebrew 241, 242; Persian 261, 262; French 211, 212, 217, 218; German 201, 202; Italian 211, 212; Portuguese 211, 212; Russian 201, 202; Spanish 211, 212, 217, 218.

HISTORY REQUIREMENTS


NURSING SUBSTITUTIONS

Math 115 or any statistics course; Math 110 or any other college math course; Any two semesters of history; Child and Family Studies 210 or Psychology 300; Chemistry 100-110 or 120-130; Microbiology 210 or 310 with 319 lab.

GERONTOLOGY MINOR

An interdisciplinary undergraduate Gerontology minor is available and requires 12 hours from the following: CFS 312: Families in Middle and Late Adulthood (3); HLTH 406: Health, Dying, and Bereavement (3); HLTH 465: Aging and Health (3); Sociology 415: Sociology of Aging (3); University Studies 321: Aging and Society (3); and Practicum Experience (3), taken by registering for Nursing 470: Special Topics.

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 professional liability insurance program. All registered nurses must provide proof that they have appropriate professional liability insurance coverage. Specific information concerning these requirements will be provided to the students at appropriate times by the nursing faculty and/or the Director of Student Services.

COURSE LOAD

The maximum credit hours per semester for which a nursing student may register without special permission is 19.

THE BACHELOR OF SCIENCE IN NURSING CURRICULUM

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Hours</th>
<th>Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101, 102 ......................................... 6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics 110 or higher ......................... 3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics 115 or any Statistics Course ........ 3</td>
<td></td>
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</tr>
<tr>
<td>Chemistry 100-110 or 120-130 ..................... 8</td>
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<td></td>
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<tr>
<td>Anatomy .................................................. 3</td>
<td></td>
<td></td>
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<tr>
<td>Psychology 110 ........................................ 3</td>
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<td></td>
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<tr>
<td>Sociology or Anthropology ......................... 3</td>
<td></td>
<td></td>
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<tr>
<td>Multicultural or Integrative Studies .......... 3</td>
<td></td>
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<tr>
<td>Sophomore</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Biochemistry and Cellular and Molecular Biology 240 (Anatomy) .......... 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Biochemistry and Cellular and Molecular Biology 230 or Ecology and Evolutionary Biology 230 (Physiology) .... 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microbiology 210 ..................................... 3</td>
<td></td>
<td></td>
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<tr>
<td>Nutrition 300 ........................................ 3</td>
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</tr>
</tbody>
</table>

Child and Family Studies 210 ....................................... 3
Multicultural or Integrative Studies .......................... 3
Introduction to Nursing 201 .................................... 3
History .................................................. 6
Philosophy 345 ........................................ 3
Junior Nursing 311, 319, 333, 341, 351, 361, 381, 382 ........................................ 32
Senior Nursing 403, 406, 421, 451, 452, 461, 482, 490 ........................................ 27

Total: 124 hours

The following courses are open to all university students: 202, 314, and 480.
*Transfer students need a total of at least 8 credit hours in Anatomy+Physiology.

RN TRACK FOR BACHELOR OF SCIENCE IN NURSING

1. RNs must complete the same non-nursing requirements as other students. They are exempt from the sophomore level N201 Introduction to Nursing course and will be given proficiency credit based on RN status (S/NC).
2. Students will take the NLN ACE examinations prior to starting upper division coursework. If a decision score of 100 is achieved (per section) the student will receive proficiency credit for four of the major clinical nursing courses exclusive of Community Health. Courses for which credit can be obtained in this manner include 361, 403, 461, and 421, and are indicated with a double asterisk (S/NC).
3. All students take the Community sequence 382 and 482.
4. RN-BSN students can elect to challenge N333 Health Assessment by taking the NLN Physical Assessment Examination and passing a “hands on” lab demonstration of assessment skills. Indicated with an asterisk. (S/NC).
5. Proficiency credit can be obtained in several other courses by passing instructor-made exams or preparing a portfolio as specified by the faculty. These courses include N319 Pathophysiology of Health Deviations, N351 Pharmacology I, N406 Pharmacology II, and N451 Professional Leadership Issues II (indicated by an asterisk). Eligibility for challenge of N451 Professional Leadership Issues II is based on documented employment in a nursing leadership position for at least one year within the last five years. Challenge of N451 Professional Leadership Issues II carries an S/NC grade. All proficiency credit not designated as S/NC carries a letter grade.
6. The entire upper-division nursing curriculum can be completed in one calendar year. Students not enrolled in nursing courses for two consecutive semesters, excluding summer, will be administratively withdrawn from the program. Those seeking re-entry must reapply to the College of Nursing. Students already accepted into the Masters’ Program may be exempted from Multicultural/Integrated Studies (3 hours) and Nursing Electives/Independent Study (5 hours) if they have 123 undergraduate hours. Students accepted for the Masters’ Program can begin part time graduate level study while in the final semester of the undergraduate program.
### COURSES FOR BS IN NURSING: RN TRACK

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>N201 Introduction to Nursing</td>
<td>3</td>
</tr>
<tr>
<td><em>(proficiency credit for all RNs)</em></td>
<td></td>
</tr>
<tr>
<td>*N333 Health Assessment</td>
<td>3</td>
</tr>
<tr>
<td>*N351 Pharmacology I</td>
<td>2</td>
</tr>
<tr>
<td>N305 Transitions to Professional Nursing</td>
<td>5</td>
</tr>
<tr>
<td>N471 Nursing Research</td>
<td>3</td>
</tr>
<tr>
<td>*N319 Pathophysiology of Health Deviations</td>
<td>4</td>
</tr>
<tr>
<td>**N403 Health Promotion and Maintenance in Childbearing Families</td>
<td>5</td>
</tr>
<tr>
<td>**N361 Health Maintenance and Restoration Across the Life Span</td>
<td>5</td>
</tr>
<tr>
<td>*N406 Pharmacology II</td>
<td>2</td>
</tr>
<tr>
<td>**N461 Health Restoration Across the Life Span</td>
<td>5</td>
</tr>
<tr>
<td>*N451 Professional Leadership Issues II</td>
<td>2</td>
</tr>
<tr>
<td>N382 Health Promotion and Maintenance in Community</td>
<td>4</td>
</tr>
<tr>
<td>N482 Health Promotion, Maintenance, and Restoration in Community</td>
<td>4</td>
</tr>
<tr>
<td>**N421 Health Maintenance and Restoration in Mental Health</td>
<td>4</td>
</tr>
<tr>
<td>N490 Specialty Preceptorship</td>
<td>4</td>
</tr>
<tr>
<td>Nursing Electives or Independent Study</td>
<td>5</td>
</tr>
<tr>
<td>**N452 Professional Leadership Issues III</td>
<td></td>
</tr>
<tr>
<td>N490 Specialty Preceptorship</td>
<td>4</td>
</tr>
<tr>
<td>Nursing Electives or Independent Study</td>
<td>5</td>
</tr>
</tbody>
</table>

Total Upper Division: 62 hours

Total: 123 hours

Courses with asterisk(s) may receive proficiency credit or be challenged.

More information about the RN-BSN track can be obtained from the College of Nursing Student Services Office or from the faculty advisors for registered nurses.

### GRADUATE

General requirements for the Master of Science in Nursing degree are given in the Graduate Catalog.
College of Social Work

Karen M. Sowers, Professor and Dean, Ph.D. Florida State University

Professors:
Muramet Cetingok, Ph.D. Washington University; Catherine Faver, Ph.D. University of Michigan; Charles A. Glison, Ph.D. Washington University; Roger M. Nooe, DSW Tulane University; William Nugent, Ph.D. Florida State University; John Orme, Ph.D. Washington University; Karen M. Sowers, Ph.D. Florida State University; John Wodarski, Washington University.

Associate Professors:
Paul M. Campbell, DSW University of Alabama; Terri Combs-Orme, Ph.D. Washington University; David Dupper, Ph.D. Florida State University; Marcia Egan, Ph.D. University of Maryland; Colleen Galambos, Ph.D. Catholic University; David A. Patterson, Ph.D. University of Utah; Mary Rogge, Ph.D. Washington University; Frank J. Spicuzza, MSSW University of Tennessee; Hugh Vaughn, Ed.D. Memphis State University.

Assistant Professors:
Brian Bride, Ph.D. University of Georgia; Stan Bowie, Ph.D. Barry University; Sherry Cummings, Ph.D. University of Georgia; Cindy Davis, University of California (Los Angeles); Vaughn DeCoster, Ph.D. Louisiana State University; Catherine Dulmus, Ph.D. SUNY-Buffalo; Rod Ellis, Ph.D. Florida International University; Theoera Evans, Ph.D. University of Minnesota; Samuel MacMaster, Ph.D. Case Western Reserve University; Michael Sullivan, Ph.D. University of Georgia; Marlys Staudt, Ph.D. Washington University.

Field Coordinators:
Phyllis Betz, MSSW University of Tennessee; Debra Bowers-Mitchell, MSSW University of Tennessee; Peggy Enochs, MSSW University of Texas, Arlington.

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 potential. The primary mission of the undergraduate social work program is to develop generalist social workers who are strategic thinkers, lifelong learners, and opinion shapers. It is the purpose of the College to provide an education which enhances individual and career development and fosters involvement on behalf of social and economic justice.

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 needs 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 1983, and reaffirmation was given in 1992 and 2001. The program was transferred to the College of Social Work in September 1985.

The three programs, BSSW, MSSW and Ph.D., in the College represent the full continuum of social work education.

FACILITIES
The College of Social Work is housed in Henson Hall, located on the corner of Cumberland Avenue and Volunteer Boulevard on the UT campus. This building houses the administrative and faculty offices, along with classrooms for the BSSW, MSSW and Ph.D. programs. Video and computer resources are available to facilitate instruction.

GRADUATE PROGRAM
The College of Social Work offers a fully accredited two year graduate professional degree at the master’s level (MSSW). The College also offers a graduate program leading to a Doctor of Philosophy in Social Work (Ph.D.). Information concerning graduate programs is given in the College of Social Work Bulletin and also in the Graduate Catalog.

GRADING POLICY
The satisfactory/no credit option is not permitted in the major. The minimum acceptable grade for all social work courses is a C.

The College of Social Work offers a fully accredited two year graduate professional degree at the master’s level (MSSW). The College also offers a graduate program leading to a Doctor of Philosophy in Social Work (Ph.D.). Information concerning graduate programs is given in the College of Social Work Bulletin and also in the Graduate Catalog.

GRADING POLICY
The satisfactory/no credit option is not permitted in the major. The minimum acceptable grade for all social work courses is a C.

COURSES
The maximum credit hours per semester allowed for any student is 19. 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.
5. Completion of fifty (50) clock hours in community service at one public/private social service agency. The community service is to take place after enrollment in a higher education institution and in the twenty-four month period prior to application for initial progression.

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.

*Initial progression is also determined by the number of available field practice slots in social service agencies and classroom space. If the number of students who fulfill the above criteria exceeds the number of students that can be accommodated, students will be selected on the basis of cumulative GPA for courses completed, the grades received in SW 200, 250, evaluation of community service, and writing skills demonstrated in the application essay.

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CURRICULUM

<table>
<thead>
<tr>
<th>Freshman</th>
<th>Hours Credit</th>
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</thead>
<tbody>
<tr>
<td>English 101, 102 ........................................ 6</td>
<td></td>
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<tr>
<td>Mathematics 110 or Math 119 ........................... 3</td>
<td></td>
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<tr>
<td>Biology 101-102 .......................................... 8</td>
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<tr>
<td>Anthropology 130 ......................................... 3</td>
<td></td>
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<tr>
<td>Political Science 101 .................................... 3</td>
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<tr>
<td>Women’s Studies 220, 453, 375, or 382 ............... 3</td>
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<tr>
<td>Sophomore</td>
<td>Hours Credit</td>
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<tr>
<td>Information Sciences 310 ................................ 3</td>
<td></td>
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<tr>
<td>Humanities (Literature Package) ........................ 6</td>
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<td>Humanities (Philosophy) .................................. 3</td>
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<tr>
<td>History 241-242 or 261-262 .............................. 6</td>
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<tr>
<td>Psychology 220 .............................................. 3</td>
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<td>Social Work 200, 250 ..................................... 6</td>
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<tr>
<td>Economics 201 .............................................. 4</td>
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<td>Junior</td>
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<td>Social Work 312, 313, 314, 316 ........................... 12</td>
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<td>Foreign Studies .............................................. 3</td>
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<tr>
<td>Math 115 or Psychology 385 ............................... 3</td>
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<td>Social Work 310, 380 ....................................... 6</td>
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<td>Child and Family Studies 220 ............................ 3</td>
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<td>Senior</td>
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<td>Social Work 412, 416 ....................................... 6</td>
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<td>Social Work 480, 481 ....................................... 12</td>
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<td>Social Work 460 .............................................. 2</td>
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<tr>
<td>Regional Studies ............................................ 3</td>
<td></td>
</tr>
<tr>
<td>Electives ................................................. 11</td>
<td></td>
</tr>
<tr>
<td>Total: 124 hours</td>
<td></td>
</tr>
</tbody>
</table>

1. Rehabilitation and Deafness 223 - American Sign Language I (3), and 226 - American Sign Language II (3) will fulfill the foreign language requirement.
2. The following Literature packages may be selected: Classics 253-254; English 201-202; English 221-222; two courses from English 231, 232, 233; Germanic and Slavic Languages 221-222; Religious Studies 312-313; French 291-292; Spanish 291-292.
3. One course selected from: Classics 221; Classics 222; Philosophy 110; Philosophy 111; Philosophy 120; Philosophy 121; Philosophy 240; Philosophy 344; Philosophy 380; Philosophy 382.
4. One course selected from: Anthropology 313; Anthropology 314; Classics 381; Classics 382; English 302; Geography 372; Geography 373; Geography 375; Geography 379; German 363; History 320; History 360; History 361; History 374; Philosophy 326; Political Science 350; Political Science 361; Religious Studies 332; Religious Studies 386; French 432; Spanish 431; Spanish 471; Sociology 446; Women’s Studies 360.
6. Anthropology 312; Geography 363; History 444; History 449; Political Science 315; Religious Studies 351.
Elizabeth S. Aversa, Director

Professors:
Elizabeth S. Aversa, Ph.D. Drexel; Carol Tenopir, Ph.D. Illinois; P.C. Wilson (Emeritus), Ph.D. Michigan.

Associate Professors:
Patricia Fisher, Ph.D. Florida State; J. Michael Pemberton, Ph.D. Tennessee; Richard Pollard, Ph.D. Brunel (UK); William C. Robinson, Ph.D. Illinois; Gretchen Whitney, Ph.D. Michigan.

Assistant Professors:
Dania Bilal, Ph.D. Florida State; Douglas Raber, Ph.D. Indiana; Peiling Wang, Ph.D. Maryland; Jinx Watson, Ed.D. Vanderbilt.

Established in 1971, the School of Information Sciences provides a graduate program for the preparation of librarians and other information professionals for work in all types of information environments. The program offers the Master of Science degree. In addition, the School of Information Sciences provides elective courses at the undergraduate level.

UNDERGRADUATE PROGRAM

The undergraduate courses support a heightened awareness of today's information-rich environment. Increasingly, college graduates must understand the nature of information: sources, value, creation, organizing principles, transfer, and uses in society. Those who thrive in the information society must know how to identify and respond to their information needs. First as students, and then as professionals and citizens, graduates need to apply techniques and technologies in the search, retrieval, and evaluation of relevant information to meet their information needs. They must prepare to use a rapidly increasing array of information systems and technologies to seek and to manage information resources. These abilities, which add value to any field of study, constitute information survival skills in the twenty-first century. Graduates need to know when they can help themselves and when they should seek assistance from various information professionals.

The undergraduate courses are planned for the following groups of people:
1. Students who wish to develop a better understanding of the role of information in society.
2. Students whose academic major stresses understanding and use of information in society.
3. Students whose academic major and/or minor requires significant use of research libraries.
4. Students who are prospective candidates for the graduate program in library and information science.

For information about undergraduate courses, contact the School of Information Sciences.

GRADUATE PROGRAM

The School of Information Sciences offers a graduate professional degree program accredited by the American Library Association. Information concerning the graduate program is given in the Graduate Catalog.

COMPUTER FACILITIES

The School of Information Sciences provides a teaching demonstration computer laboratory at Temple Court. The laboratory includes a large-screen display system and more than 20 networked computers. The laboratory is designed to reflect the current computing environment. The laboratory serves as a classroom for undergraduate and graduate courses offering hands-on instruction in information technology. Equipment is available for individual use when the laboratory is not reserved for class instruction. The computers are connected to the SIS Local Area Network (LAN). In addition, the computers are connected to the campus ethernet network from which they access all the increasingly important communications and information resources of the Internet. Networked laser printing is included in the laboratory.

The advanced laboratory is designed to serve the research and curriculum needs of the school. Equipment includes high-end Macintosh Quadra, and IBM PC computers. The advanced laboratory provides a web server, high-level database and information retrieval software, and multimedia authoring and display tools.
ELIGIBILITY

Students who are the recipients of designated merit scholarships or who are transferring from other honors programs affiliated with the National Collegiate Honors Council are eligible to participate in the University Honors Program. Additionally, students with a superior academic record, including completion of at least one honors course by the end of the freshman year, are encouraged to contact the program office for information concerning admission at the beginning of the sophomore year. Honors Scholars may pursue any academic major.

Scholarship awards are typically made to entering freshmen or transfer students and include competitive and guaranteed scholarships. Competitive scholarships include Honors Scholarships (Oldham, Whittle, and Manning Scholarships) and University Scholarships (Bonham, Holt, Neyland, and Roddy). Competitive scholarships awarded by academic colleges include the Haslam (Arts and Sciences, Business Administration) and the McClanahan (Agricultural Sciences and Natural Resources). Criteria for selection of these awards include academic performance, academic and professional promise, involvement in school and community activities, and originality and creativity in the application essays. For all of these awards, the Application for Undergraduate Admission and Entering Freshmen Academic Scholarship Application must be submitted prior to November 1 of a student’s senior year in high school (for entering freshmen) or of a transfer student’s final year prior to attending the University of Tennessee. Recipients of Honors Scholarships and University Scholarships are Honors Scholars in the University Honors Program, and recipients of Haslam and McClanahan Scholarships are eligible to apply to become Honors Scholars.

Guaranteed scholarships available to entering freshmen, which include the Presidential, Tennessee Math Contest, African American Achiever, and Bicentennial, require submission of the completed Application for Undergraduate Admission prior to January 15 of the student’s senior year in high school.

These awards are made primarily on the basis of students’ high school grades and test scores. All recipients of these guaranteed scholarships who have a minimum high school GPA of 3.5 and an ACT score of 27 (SAT of 1210) are invited to apply to join the University Honors Program as Honors Scholars.

The University’s most prestigious competitive scholarship awards are the Honors Scholarships which honor and recognize the generosity and leadership of friends and graduates of the University of Tennessee.

The Oldham Scholarships are funded by a generous gift from Mr. and Mrs. Dortch Oldham. Mr. Oldham is a retired entrepreneur in the publishing industry. Each year, approximately three Oldham Scholarships are awarded to outstanding high school seniors. Those students may pursue any academic major and are selected on the bases of leadership experience and skills, academic achievement, and citizenship. Students receive a substantial four-year scholarship that includes annual travel grants and a summer travel stipend.

The Whittle Scholarships are made possible by a gift to the University by Chris Whittle, a 1969 alumnus. Each year, approximately ten outstanding high school seniors will be invited to be Whittle Scholars. These students may pursue any major and are selected on the bases of leadership experience and skills, academic performance and potential, and extracurricular activities and community service. Whittle Scholars receive a substantial four-year scholarship that includes a stipend for an additional semester of study or internship abroad.

The Manning Scholarship honors 1998 alumnus Peyton Manning. Each year, an outstanding high school senior will be selected to be the Manning Scholar. That student may pursue any major and is selected on the bases of leadership experience, academic performance, and extracurricular activities and community service. Manning Scholars receive a substantial four-year scholarship that includes a stipend for an additional semester of study or internship abroad.
RETENTION IN THE UNIVERSITY HONORS PROGRAM

Scholars are selected on the bases of past academic performance; extracurricular activities, and their potential for academic excellence. As University Honors Scholars, they are expected to adhere to the written policies and requirements of the University Honors 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 Program will not be concerned if grades in occasional courses fall below the superior range. However, University Honors Scholars are expected to maintain a cumulative grade point average of 3.25.

A student in the University Honors 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 of its benefits unless the student can demonstrate extenuating circumstances to the Director of University Honors.

SENIOR PROJECT DEADLINES IN THE UNIVERSITY HONORS PROGRAM

The following is a list of deadlines for the senior project in the University Honors Program:

1. No later than the end of the third year in residence, a student should choose a UT faculty member to serve as mentor for the senior research or creative project.

2. At the beginning of the fourth or final year in residence, a student must submit a written prospectus for the senior project to his/her faculty mentor for suggestions and approval.

3. During the final year in residence, each student must complete the Senior Honors Seminar, which consists of oral presentations and written samples of the student's senior research or creative project.

4. Prior to the end of a student's final semester, he or she will be expected to present the completed project to the student's faculty mentor or 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 project has been completed and has been approved. One copy of the project must be filed in the University Honors Office and additional copies should be given to the student's faculty mentor and committee.

Failure to meet these guidelines will result in the delay of a student's graduation.

UNIVERSITY HONORS COURSES AND SEMINARS

Courses (3 credit hours) and seminars (1 credit hour) are offered each semester that focus on various topics, issues, and problems. Class size is generally limited to 20 students. These are taught by faculty from all ten undergraduate colleges and schools and may be repeated. University Honors courses are open to undergraduate students on the basis of high school GPA, ACT/SAT scores, UT GPA of 3.25 or better, or by professorial recommendation. University Honors seminars are required of and limited to students in the University Honors Program or by approval of the Director of University Honors. "Contract Honors" courses are required of and limited to students in the University Honors Program. Additional information is available from the University Honors Program office.
Barbara I. Dewey, Dean
Aubrey H. Mitchell, Associate Dean

Professors:

Associate Professors:

Assistant Professors:
Atkins, David P., M.A.I.S. Wisconsin; Behrend, Linda, M.S.L.S. Tennessee; Berry, Teresa, M.S.L.S. Tennessee; Casado, Margaret M.S.L.S. Tennessee; Davis, Troy M.L.I.S. North Carolina; Kracker, Jacqueline, M.S.I.S. Tennessee; Manoff, Maribeth, M.L.I.S. South Carolina; Mellinger, Margaret, M.S.I.S. Tennessee; Pemberton, Anne, M.S.I.S. Tennessee; Purcell, Aaron, M.L.S., M.A. Maryland; Ratledge, David, M.S.L.S. Tennessee; Read, Eleanor, M.S.I.S. Tennessee; Smith, Anthony D., M.S.I.S. Tennessee; Starmer, Mary Ellen, M.L.I.S. Kentucky; Williamson, Jeanine, M.L.S., Ph.D. North Carolina.

The University of Tennessee Libraries' own approximately 2.2 million volumes and subscribe to more than 13,300 periodicals and 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 University Libraries consists of the main library (John C. Hodges Library), and four branches on the Knoxville campus (Agriculture-Veterinary Medicine Library, Map Library, Music Library, and Special Collections), and the Social Work Library in Nashville.

The Hodges Library has over 300 graduate student carrels, and 200 faculty studies, and comfortable study space for more than 2,000 people.

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. Most of the publications of the U.S. Department of Agriculture and the State Agricultural Experiment Stations and Extension Services are collected.

The Map Library (Room 15, Basement of Hodges Library, Cumberland Avenue and 15th Street) houses a collection of sheet maps, atlases, journals, and books related to cartography. Materials in print, film, and digital formats are acquired from commercial sources as well as the Government Depository program.

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 Social Work Library (Room 292, 193-E Polk 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 of the University of Tennessee is accessible to all students and faculty of the university.
Neil Greenberg, Chair

The University Studies Program has three general objectives: (1) to foster interdisciplinary teaching and scholarship, especially across departmental and collegiate boundaries; (2) to promote active and integrative learning; and (3) to nurture the scholarly and creative development of faculty, staff, and students.

In pursuit of these objectives, University Studies sponsors several activities. Faculty Colloquies are on-going, structured, interdisciplinary conversations on a topic or nexus of topics. Colloquies explore important contemporary issues which involve faculty and students from several disciplines and colleges. Advanced undergraduate and graduate students may attend by permission of colloquy coordinator.

Current colloquies include: Technology, Society, and the Common Good; Aging and Society; the Interdisciplinary Rhetoric Group; Psychoanalysis and the Humanities; Evolution and Culture; the Creative Group; the Critical Theory Group; Appalachian Forum; Cultural Diversity; Values in Higher Education; The Great Conversation; Spirituality and Health; and Intellectual Property. Colloquies continue as long as they have faculty involvement and new colloquies form each year.

Interdisciplinary Undergraduate Courses are innovative undergraduate offerings that are typically collaborative or team-taught. Most courses stem from the interdisciplinary Colloquy discussions. There are several honors offerings for undergraduates. In addition, University Honors students are encouraged to take a University Studies (200-level or higher) course during their first two years to help fulfill their four honors course requirement.

Centripetals are monthly faculty and staff luncheons held over the academic year designed to encourage conversation among faculty and staff about their creative and scholarly work. University Studies also works with other units across campus to facilitate visits by distinguished scholars of multidisciplinary interest. Such Visiting Scholars work with Faculty groups on specific projects, participate in interdisciplinary forums, or present special lectures.

For further information, contact:
Dr. Neil Greenberg, Chair
F239 Walters Life Science Building
PHONE: (865) 974-8177
FAX: (865) 974-2665
E-MAIL: unistudy@utk.edu
WEBSITE: http://www.bio.utk.edu/unistudy.nsf
Reserve Officers Training Corps (ROTC)

DEPARTMENT OF MILITARY SCIENCE AND LEADERSHIP

ARMY ROTC

Professor of Military Science:
Lieutenant Colonel Bill Woodcock, B.S., United States Military Academy; M.S. University of Southern Mississippi.

Assistant Professors:
Captain Derek Bean, B.S. Columbus State University; Lieutenant Colonel Ron Borden, B.S. Northern Michigan University; Major Robert Reed, B.S. Austin Peay State University.

Senior Army Instructors:
SGT Eldridge Cunningham; SFC Randolph Grakes; MSG Robert Lucero.

MISSION
To commission the future officer leadership of the U.S. Army and motivate young people to be better citizens.

PURPOSE
Army ROTC is an educational program designed to provide the college student an opportunity to earn an Army commission as a Second Lieutenant while completing the University requirements for a bachelor's degree. The program provides education and training that will develop the skills and attitudes vital to the professional Army officer. Upon successful completion of the program and graduation from the University, graduates are commissioned as Second Lieutenants and enter either the active duty, Army Reserve, or Army National Guard.

ARMY ROTC AT THE UNIVERSITY OF TENNESSEE

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 U.S. military academy 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 War Between the States, 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 U.S. military academy 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 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.

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.

THE PROGRAM

BASIC COURSE

Students entering the Basic Course register for classes at the same time and in the same manner as they enroll in their other college courses. All four classes (MS 110, 120, 210, 220) are available to any UT student as an elective course without any military obligation. Completion of the Basic Course or graduation from Basic Camp (MS 200) qualifies students for entry into the Advanced Course, which is normally taken during the last two years of college.

ADVANCED COURSE

The Course is designed to develop and mentor "leaders of character," who, upon degree completion, will accept a commission in the U.S. Army. The Advanced Course requirement is that applicants have two academic years remaining at either the undergraduate or graduate levels, or a combination of both. Students normally enter the Advanced Course during the last two years of their degree program (junior year for undergraduates, first year of masters program for graduate level students). The Advanced Course is made up of six Military Science classes (MS 310, 320, 400, 410, 420, 430) and takes two years to complete. All classes except MS 400 are offered during spring/fall semesters. MS 400 is a "paid" five-week summer camp held in Seattle, Washington.

Army ROTC develops students under the "whole person" concept. Cadets must maintain academic standards while taking on the additional responsibilities of ROTC. Advanced
course students are required to participate in organized physical fitness sessions. Students enrolled in the Advanced Course are required to be full-time students, taking at least 12 hours each semester.

**PLACEMENT CREDIT AND COURSE SUBSTITUTION**

Placement credit and/or course substitution may be granted by the Professor of Military Science on the basis of previous honorable active military service, participation in a Junior ROTC program, completion of MS 200, or completion of basic training and advanced individual training. A student may request placement credit for a portion or the entire Basic Course. Military Science courses taken at other colleges or universities are transferable as approved by the Professor of Military Science.

Military Science 200 is a "paid" four-week Summer Leader's Training Course offered to any University of Tennessee student without any military obligation. Students completing this course receive four academic credits, qualify for the Advanced Course by receiving Basic Course credit, and can compete for two years of academic “tuition” scholarships.

**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 graduation and commissioning (waiverable).
   e. Be enrolled as a full-time student, either at the University of Tennessee or at a nearby institution in a partnership 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 successfully completed:

- **Military Science 310 (4)—Advanced Military Studies I**
- **Military Science 320 (4)—Advanced Military Studies II**
- **Military Science 400 (4)—National Advanced Leaders’ Course**
- **Military Science 410 (4)—Command and Staff Functions**
- **Military Science 420 (4)—Military Ethics and Law**
- **Military Science 430 (3)—U.S. Military History**

In addition to a baccalaureate degree, there are required and recommended courses in designated fields of study that students must complete prior to commissioning. Students must meet these prerequisites by successful completion of required and elective courses taken from the university curriculum in the required areas of concentration.

Courses in the following designated fields of study are required of students seeking a commission in the United States Army.

- a. One course in written communications.
- b. One course in human behavior.
- c. One course in math reasoning.
- d. 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 Officer. Students enrolled in the ROTC Advanced Course receive uniforms and equipment plus a monthly allowance during the academic year. While attending the ROTC summer studies each cadet receives approximately $740 for Advanced Summer Studies, $740 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 Army ROTC who are interested in the Army as a career. Each scholarship provides for free tuition, textbooks subsidy, and laboratory fees in addition to a monthly subsistence allowance for the period that the scholarship is in effect. Scholarships may be awarded for either two, three or four years. High school seniors should contact their guidance counselors early in August or September of their senior year to apply for the four-year scholarship. Two- and three-year scholarship applicants should contact the Professor of Military Science for further information. Other privately financed scholarships and grants are also available to ROTC cadets.

**LEADERSHIP GRANT PROGRAM**

The University of Tennessee ROTC Leadership Grants are designed to attract and retain high quality/caliber students to the Army ROTC program for future positions of leadership within their service and our country. These grants are intended to complement other ROTC and University scholarships by provid-

**RESERVE OFFICERS TRAINING**

**MILITARY SCIENCE CURRICULUM**

<table>
<thead>
<tr>
<th>Hours Credit</th>
<th>Normal Course</th>
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<tbody>
<tr>
<td>Freshman</td>
<td>Military Science 110, 120</td>
</tr>
<tr>
<td>Sophomore</td>
<td>Military Science 210, 220</td>
</tr>
<tr>
<td>Junior</td>
<td>Military Science 310, 320</td>
</tr>
<tr>
<td>Senior</td>
<td>Military Science 410, 420, 430</td>
</tr>
</tbody>
</table>

Total: 32 hours

**EVALUATION**

Evaluations are made annually by the Professor of Military Science who will evaluate each candidate in the following areas:
- ACT/SAT scores; leadership activities;
- and recommendations from high school personnel and community leaders.

**Simultaneous Membership Program**

The “SMP” option combines the Army ROTC living allowance 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 participation with National Guard or reserve forces is one weekend per month and two weeks each year.

**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, and UT Color Guard. 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 to develop such military skills as Small Unit Tactics.

**Physical Fitness Training**

The Cadet Battalion conducts physical fitness training Monday-Wednesday-Friday. The exercises focus on flexibility, muscular strength, and cardiorespiratory endurance. Any UT student may take the course by registering for Army Conditioning Program 130.

**MILITARY SCIENCE CURRICULUM**

<table>
<thead>
<tr>
<th>Hours Credit</th>
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<td>Freshman</td>
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<tr>
<td>Senior</td>
<td>Military Science 410, 420, 430</td>
</tr>
<tr>
<td>Total</td>
<td>32 hours</td>
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</tbody>
</table>
Variations to these sequences of study may be approved by the Professor of Military Science on a case-by-case basis. Lower division credit hours granted by the University for military service are dependent upon time spent in service and service schools attended.

**PROGRESSION REQUIREMENTS**

1. Minimum semester hours/GPA for entrance into Basic Military Studies—Practicum (Military Science 200): 30 semester hours/2.00 GPA.
2. Minimum overall GPA for entrance into the advance course (Military Science 310, 320, 400, 410, 420, 430): 2.00.
3. Minimum GPA in Military Science Courses: 2.00.
4. Minimum overall GPA for commissioning: 2.00.
5. Semester counseling sessions with military advisor required for Advance Course and scholarship students only.

**DEPARTMENT OF AIR FORCE**

**AIR FORCE ROTC PROGRAM**

Professor of Air Force Aerospace Studies: Colonel Charles F. Schreck, Head, M.A. Webster University

Assistant Professors:
- Lieutenant Colonel John Cherry, M.A.
- Chapman University; Lieutenant Colonel Stan Shrader, M.A.S.
- Golden Gate University; Major David Wims, M.A. University of Alabama.

**PURPOSE**

The Air Force Reserve Officers Training Corps (AFROTC) is an educational program designed to provide the college student an opportunity to earn an Air Force commission as a Second Lieutenant while completing the University requirements for a bachelor’s degree. The program provides education that will develop the skills and attitudes vital to the professional Air Force officer. Upon successful completion of the program and graduation from the University, students are commissioned as Second Lieutenants and enter active duty.

**THE PROGRAMS**

The Four-Year Program: Students entering the Four-Year Program may register for the program at the same time and in the same manner as they enroll in their other college courses and there is no military obligation. During their freshman and sophomore years, students enroll in the General Military Course (GMC). They then may compete for entry into the Professional Officer Course (POC) which is normally taken during the last two years of college. Selection into the POC is highly competitive and is based on being medically qualified; physically fit; term and cumulative grade point averages; 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 five weeks. Additionally, every POC applicant must agree to take and successfully complete a course in mathematical reasoning or its equivalent before graduation and commissioning. Courses previously completed may be used to satisfy this requirement.

Since the processing procedure must be completed several months in advance of intended enrollment, interested students must apply early in the fall semester of 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.

AFROTC develops students under the “whole person” concept. Cadets must maintain academic standards while taking on the additional responsibilities of AFROTC. These responsibilities include being physically fit, of good moral character, acting responsibly and with integrity. Cadets normally participate in approximately two hours per week of physical activity outside of class requirements.

**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 stipend ranging from $200 to $400 each month during the school year while on scholarship status.

High School Students: Competitive four-year scholarships are available to high school students who enroll in certain scientific and engineering career fields. Some scholarships are also available to 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 or from any high school counselor.

College students: Other scholarship opportunities exist for students already in college. 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.

**LEADERSHIP GRANT PROGRAM**

The University of Tennessee AFROTC Leadership Grants are designed to attract and retain high quality students to the Air Force ROTC program for future positions of leadership within their service and our country. These grants are intended to complement other AFROTC and University scholarships by providing funds to offset costs for such areas as: room and board; out-of-state tuition; and first year expenses for 3-year AFROTC scholarship winners.

Up to ten (10) $1,000 Leadership Grants are available each year and are open to 3- and 4-Year scholarship winners and any full-time student enrolled in the AFROTC program. Awarding of these Leadership Grants will be determined by the Professor of Aerospace Studies who will evaluate each candidate in the following areas: ACT/SAT scores; AFOQT test scores; GPA; physical fitness scores; leadership activities; and recommendations from people who can attest to the applicant’s leadership experience and skills.

**PAY AND ENTITLEMENTS**

All cadets enrolled in AFROTC are furnished texts and uniforms. Qualified sophomore, junior, and senior cadets with a cumulative grade point average (GPA) of 2.0 receive a $1,500 scholarship that is applied toward their tuition and books. Additionally, these cadets receive a monthly stipend ranging from $200 to $450. 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.

This information is subject to change. For the most up-to-date information regarding AFROTC, contact AFROTC Detachment 800, 974-3041.
AIR FORCE AEROSPACE STUDIES CURRICULUM

To receive a commission as a 2nd Lieutenant in the United States Air Force through the Air Force ROTC program, a student must successfully complete a 4- or 5-week Field Training encampment and take or receive credit for the following courses. Attendance at a 5-week Field Training encampment satisfies all freshman and sophomore level course requirements.

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours/Credit</th>
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<tbody>
<tr>
<td>Aerospace Studies 101, 102</td>
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</tr>
<tr>
<td>Aerospace Studies 103, 104</td>
<td></td>
</tr>
<tr>
<td>(Leadership Laboratory)</td>
<td>1,1 (s/nc)</td>
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<tr>
<td>Aerospace Studies 201, 202</td>
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<tr>
<td>Aerospace Studies 202, 204</td>
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<tr>
<td>(Leadership Laboratory)</td>
<td>1,1 (s/nc)</td>
</tr>
<tr>
<td>Aerospace Studies 301, 302</td>
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<tr>
<td>Aerospace Studies 303, 304</td>
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<tr>
<td>(Leadership Laboratory)</td>
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<tr>
<td>Aerospace Studies 401, 402</td>
<td>3,3</td>
</tr>
<tr>
<td>Aerospace Studies 403, 404</td>
<td></td>
</tr>
<tr>
<td>(Leadership Laboratory)</td>
<td>0.0</td>
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</table>

PROFESSIONAL DEVELOPMENT TRAINING PROGRAMS

To help cadets gain knowledge of the challenges in leadership and human relations encountered by a junior Air Force officer and to motivate them toward an Air Force career, cadets have the opportunity to participate in a variety of summer professional development training programs. Some of these programs are:

- **Academy Freefall Parachute Training**: A 12-day program conducted at the US Air Force Academy—successful completion of program results in cadet receiving parachutist rating.

- **Air Force Academy Soaring**: A 15-day program designed to give cadets the chance to experience the basic fundamentals of flight in non-powered glider operations. Cadets receive instruction in basic flight through ground school and actual flight, leading up to and possibly including cadet solo.

- **Army Airborne Training**: Training lasts for 24 days and is physically and mentally demanding. Upon successful completion, cadets are awarded the parachutist rating. All training is conducted at Fort Benning, Georgia.

- **ASSIST**: Rising sophomore cadets spend two weeks touring an active duty Air Force base and ‘shadowing’ junior officers in various career fields.

- **British Exchange**: Cadets are attached to a British University Air Squadron for 17 days of training and orientation at various Royal Air Force Bases in the United Kingdom.

- **Combat Survival Training**: A 20-day program incorporating combat, basic aircrew, and water survival training. Training is conducted at the US Air Force Academy, Colorado Springs, Colorado.

- **Field Engineering and Readiness Lab**: Provides opportunities for cadets with entry level civil engineering courses to get hands-on work experience in the Civil Engineering career field.

- **Foreign Language Immersion**: Provides cadets majoring in a foreign language the opportunity to receive intensive language and cultural training. Training lasts for four weeks in various overseas countries.

- **Nurse Orientation Program**: During a four-week internship program at Wilford Hall USAF Medical Center, Lackland AFB Texas, nursing cadets receive hands-on experience and practical knowledge of Air Force nursing.

- **Operation Air Force**: A three-week program of general orientation and ‘shadowing’ of junior officers in various career fields. Program conducted at Air Force installations throughout the United States and overseas.

- **Pentagon Internship Program**: A three-week program to provide cadets an opportunity to work in the Pentagon. Students selected for the program gain problem-solving experience working with both military and civilian personnel on real world issues and participate as a team member with professionals in their chosen field of study.
THE COLLEGE OF LAW

Thomas C. Galligan, Jr., Dean
John Sobieski, Jr., Associate Dean
Rachael E. Inman, Assistant Dean

The College of Law has, since 1890, continuously sought to provide high quality legal education in a University community. The college offers a professional curriculum leading to the degree of Doctor of Jurisprudence. Two dual degree programs are available in conjunction with the College of Law: the J.D.-MBA 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 from the Admissions Office, The University of Tennessee, College of Law, 1505 W. Cumberland Avenue, Knoxville, Tennessee 37996-1810. The completed application should be received before February 1 of the year of requested admission.

COLLEGE OF VETERINARY MEDICINE

Michael J. Blackwell, Dean
James J. Brace, Associate Dean

The College of Veterinary Medicine, established in 1974, offers a professional curriculum leading to the degree of Doctor of Veterinary Medicine (D.V.M.). The college offers graduate studies leading to the degrees of Master of Science (M.S.) and Doctor of Philosophy (Ph.D.) with a major in Comparative and Experimental Medicine. Residency training programs in the various clinical specialties are also offered.

The Graduate Catalog contains complete information concerning the programs in the college. Forms and instructions for making application for admission may be obtained beginning June 1 from the Office of the Associate Dean, The University of Tennessee, College of Veterinary Medicine, 2407 River Drive, Room A102, Knoxville, Tennessee 37996-4550. Applications must be received by the Veterinary Medical College Application Service (VMCAS) by November 1 of the year prior to requested admission. All pre-veterinary requirements must be completed by the end of the spring term of the year in which the student plans to enroll in the college.

OFFICE OF GRADUATE STUDIES

Anne Mayhew, Vice Provost and Dean of Graduate Studies
S. Kay Reed, Assistant to the Dean

The University of Tennessee is the land-grant institution of the State of Tennessee with its main campus in Knoxville. UT is the state’s largest and most comprehensive institution, and is a Carnegie One Research Extensive institution. A wide range of graduate programs leading to the Master’s and doctoral degrees is available. The University offers Master’s programs in 76 fields of specialization and doctoral work in 44. Approximately 6,000 graduate students are enrolled, both on and off campus.

The Office of Graduate Student Services, in conjunction with Admissions and Records, develops procedures to implement policies formulated by the Graduate Council. Much of the day-to-day administration of graduate study is conducted by department heads or faculty advisors and committees responsible for particular programs. In addition to departmental units, numerous interdisciplinary programs, institutes and centers have been developed on campus and in locations throughout the state.

Graduate Studies brings together faculty and graduate students as a community of scholars with a common interest in creative work and advanced study. Graduate programs are available to students desiring to work toward the Master’s and doctoral degrees or professional certification, those interested in continuing education for updating and broadening knowledge, and those pursuing postdoctoral research.

Complete information concerning graduate study at the University of Tennessee is available in the Graduate Catalog published annually on the Graduate Studies website: http://web.utk.edu/~gsinfo.
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University Outreach and Continuing Education

Robert Leiter, Dean
Norvel L. Burkett, Associate Dean and Director of Conferences
Gayle Cooper, Assistant Dean
Professional and Personal Development
Robert Jackson, Assistant Dean for Technology and Development
M.K. Warden, Assistant Dean for Credit Programs

The University of Tennessee is committed to its land-grant mission of public service. The institution meets that mission by extending its continuing education services and programming resources through outreach initiatives. University Outreach and Continuing Education works with UT academic departments to offer courses, educational services and programs to students, teachers and faculty. The division offers programs using a variety of modes, helping people of all ages achieve degrees and certificates, accomplish professional development goals, and pursue recreational and intellectual interests.

Programs and courses are based upon student needs and desires, whether for self-motivated learning; for leisure and recreational programs; or for professional promotion, certification, licensure, relicensure, or mid-career changes. The Division provides these educational opportunities through program coordination and development of the six departments: Department of Conferences, Department of Distance Education and Independent Study, English Language Institute, University Evening School, Summer School and Special Programs, and UT Professional and Personal Development. Specific programs and services of each department are described on the following pages.

For more information, contact:
University Outreach and Continuing Education
1534 White Avenue
Knoxville, TN 37996-1526
Phone: (865) 974-3181
Fax: (865) 974-6629
E-mail: outreach@utk.edu
Website: www.outreach.utk.edu

DEPARTMENT OF CONFERENCES

Associate Dean of Non-Credit Programs and Director:
Norvel Burkett, Ed.D. Mississippi State University

Assistant Director:
Robert Gibbs, B.S. Tennessee

Program Coordinators:
Barbara Benjamin, M.S. Tennessee
Heather McNeal, M.S. Tennessee

Conference Specialists:
Jeremy Easterday, B.S. Tennessee
Margaret Harris, B.S. Missouri
Barry Neal, B.S. Tennessee

UT Conferences, housed in the Conference Center Building in downtown Knoxville, provides management services to UT departments and faculty or outside groups who desire to hold a conference or meeting in Knoxville or anywhere in the United States. Utilizing the UT Conference Center, major hotels and convention centers across Tennessee and the U.S., UT Conferences assists organizations in designing and managing programs to meet the needs of attendees. The staff provides professional guidance and management for small group meetings as well as for major conventions of several thousand delegates. Consulting and support services can include planning and budgeting, lodging, food services, promotional materials, registration, meeting site management, and all details to ensure a successful event. Some programs qualify for Continuing Education Units (CEUs), which become a permanent record maintained by the Division.

Professional groups and interested individuals can request interactive videoconferencing to locations worldwide. Arrangements can also be made to receive (downlink) programming or transmit (uplink) programming via satellite.

Additional information may be obtained from:
UT Conferences
P.O. Box 2648
Knoxville, TN 37901
Phone: (865) 974-0250
Fax: (865) 974-0264
E-mail: conferences@utk.edu
Website: www.outreach.utk.edu/conferences

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. Classes meet 3-5 periods each day with emphasis on 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 pronunciation, test-taking strategies, U.S. culture orientation, and university study skills.

Additional information may be obtained at: English Language Institute 907 Mountain View Street Knoxville, Tennessee 37996-3505 Phone: (865) 974-3404 FAX: (865) 974-6383 E-mail: eli@utk.edu Website: www.outreach.utk.edu/ELI

UT PROFESSIONAL AND PERSONAL DEVELOPMENT

Acting Director: Gayle Cooper, Assistant Dean and Director, Ed.D. Tennessee

Assistant Director: Nissa Dahlin-Brown, M.S. Tennessee

Coordinator: Mary F. Jerger, M.S. Eastern Michigan University

UT Professional and Personal Development provides a comprehensive array of non-credit courses, certificates, and seminars designed to serve the needs of individuals and businesses in Knoxville and surrounding communities. Courses are offered on the University campus, at off-campus locations, and on-line. Courses are taught by University faculty, staff, and community experts. Courses also are delivered “on-site” for business clients, with instructional services tailored to the needs of each individual group.

Business certification topics include: Healthcare Management, Lean Sigma, Supervisory Management, Multimedia Development, Canine Rehabilitation, Call Centers, and Marketing and Media Relations. Personal interest topics range from business and computers to art, dance, gardening, music, and sports. There are also courses which meet requirements of the state or other agencies for licensure in real estate and financial planning.

Special programming also includes Kids U, providing summer hands-on workshops for elementary and secondary education students; Seniors for Creative Learning, a membership-based program focuses on issues and courses for senior adults; and the Smoky Mountain Field School a program co-sponsored with The Great Smoky Mountains National Park.

For further information or to register, contact:

UT Professional and Personal Development
1534 White Avenue
Knoxville, TN 37996-1526
Phone: (865) 974-0150
FAX: (865) 974-0154
E-mail: ProfessionalPgms@utk.edu
Website: www.outreach.utk.edu/ppd

DEPARTMENT OF DISTANCE EDUCATION AND INDEPENDENT STUDY

Assistant Dean and Director: Robert Jackson, MBA Tennessee

The Department of Distance Education and Independent Study, in concert with academic departments at UT, offers internet-based, web-delivered classes, certificates and degrees. Information Services, Nuclear and Civil Engineering, and the College of Business offer flexibly-delivered Masters degrees, while the Department of Statistics, the College of Engineering, the Department of Counseling, Deafness, and Human Services offer credit certificate programs. Other undergraduate and graduate classes and programs are in development and a variety of individual courses in many disciplines are available. Current course availability can be found on the Web at anywhere.tennessee.edu.

The department provides services and support for faculty, students, and industry interested in flexibly-delivered education.

The department also administers the program of Independent Study by correspondence for all campuses of the University. The program includes undergraduate 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, audiotapes, CD-ROMs, and web-delivery as well as traditional print materials. 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 (available online at: anywhere.tennessee.edu).

The Internet eLearning Institute provides certificate programs, professional development courses, and training for information technology professionals or individuals wanting expertise in internet technology. Courses are offered over the world wide web in the areas of e-Commerce, web databases, webmastering, network systems engineering, administrative technology, technical sales, and instructional technology.

For information and registration forms, contact the Distance Education Program at:

Distance Education and Independent Study
1534 White Avenue
Knoxville, TN 37996-1525
Phone: (865) 974-9311 or (800) 670-8657
FAX: (865) 974-4684
E-mail: DistEducation@utk.edu
Website: www.anywhere.tennessee.edu

UNIVERSITY EVENING SCHOOL

Assistant Dean for Credit Programs: M.K. Warden, Ed.D. Tennessee

Associate Director: Dulcie Peccolo, Ph.D. Tennessee

Assistant Directors: L.U. Jurand, M.S. Tennessee

The University Evening School administers on- and off-campus, undergraduate and graduate courses in a variety of nontraditional formats. All courses are approved and offered in conjunction with academic colleges and departments. Support services are provided to assist working adult students in their educational pursuits.

On-Campus Evening Program

Courses are offered during the late afternoon and evening hours for those students who work or have other commitments during the day. The following undergraduate majors are available:

- College of Business Administration — Bachelor of Science in Business with majors in Accounting, General Business, Economics, Finance, Public Administration, Management or Marketing.
- College of Arts and Sciences — Bachelor of Arts with majors in American Studies, Anthropology, Economics, English, History, Political Science, Psychology, Public Administration or Sociology.
- College of Human Ecology — Bachelor of Science in Human Resource Development or Child and Family Studies.

Some departments within the Colleges of Arts and Sciences, Business Administration, Communications, Education, Engineering and Human Ecology offer all courses required for an advanced degree during the evening.

Mini-Term

The University Evening School offers a Mini-Term during May. Students may enroll in one concentrated 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 offerings suited to an intensive program of study.

Off-Campus Programs

The Evening School conducts undergraduate and graduate courses in a number of locations away from the Knoxville campus. All course offerings and instructors are approved by the appropriate academic departments, and the credit awarded is resident credit. The Master of Science in Human Resource Development (College of Human Ecology) is available in Nashville. The Master of Science in Education is available in Anderson and Hamblen Counties. The Ed.D. in Education is available in Chattanooga.

The Evening School administers off-campus courses in Oak Ridge leading to advanced degrees in Chemical, Environmental, Industrial, and Nuclear Engineering, as well as Safety Education.

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. Workshops offer flexibility of timing, location, and content. Summer workshops are particu-
larily popular with teachers and school administrators. Although most workshops are held on the University’s Knoxville campus, geography is not a limiting factor.

Southern Appalachian Science and Engineering Fair
The Fair brings between 400 and 500 students from East Tennessee middle and high schools where projects have been chosen to compete at the regional level. The event lasts 3-4 days with judging occupying one afternoon and evening. Projects are displayed for public viewing after the competition until the awards ceremony. Senior grand prizewinners advance to international competition.

Student Services
A comprehensive program of services is provided by the University Evening School for both on- and off-campus students:
Registration Priority registration by touchtone, regular phone, mail, web, or FAX is offered as a convenience to current Evening School students. Final registration at both on- and off-campus locations is available by phone, web, or in person.
Fee Payment The Evening School functions as a Bursar’s office. Fees may be paid in person, by mail or by phone (with a credit card).
Advising Advising is available for the benefit of all Evening School students who need assistance with academic or related matters. The program can accommodate students during regular daytime hours and in the evenings by appointment, as well as at several centralized off-campus locations. The Colleges of Arts and Sciences, Business Administration, Communications, Education and Engineering cooperate with the Evening School to provide advising appointments after work hours.
Financial Aid Evening School undergraduate students may be eligible for assistance through the need-based Evening School Scholarship Program. Interested students may also obtain applications for the Pell Grant in the Evening School office.
Fee Waiver Program for Senior and/or Disabled Citizens
The Evening School administers this state-legislated program for UT. Senior or totally disabled Tennessee citizens who wish to take UT credit courses may audit these free of charge or, upon admission, may pay a reduced rate to receive regular credit. Specific information about the program may be obtained in the Evening School office.

Additional information may be obtained from:
University Evening School
451 Communications Building
Knoxville, TN 37996-0341
Phone: (865) 974-5361 or 1-800-676-8657
FAX: (865) 974-2027
E-mail: eveningschool@utk.edu
Website: www.outreach.utk.edu/evening

SUMMER SCHOOL
Assistant Dean for Credit Programs: M.K. Warden, Ed.D. Tennessee
The Summer School offers a wide range of educational opportunities to regular students of The University of Tennessee and to visiting students from a variety of backgrounds. More than 1,000 different summer courses are offered by the departments in the School of Information Sciences, and the Colleges of Agricultural Sciences and Natural Resources, Architecture and Design, Arts and Sciences, Business Administration, Communications, Education, Engineering, Human Ecology, Law, Nursing, and Social Work.
One full term of ten weeks and two five-week sessions are offered during the summer. The principle mission of the Summer School is to enhance the academic program for undergraduate and graduate students, attract students from other colleges to the Knoxville campus, and utilize the cultural and natural attractions of the area to further enrich students’ summer experience.
The summer faculty is composed largely of regular University faculty. In addition, some visiting faculty members may be invited to teach each session. The rank and experience of the summer session faculty is representative of the University faculty.
To obtain more information about UT Summer School, please contact us.
UT Evening School
451 Communications Building
Knoxville, TN 37996-0349
Phone: (865) 974-5361 or 1-800-676-8657
FAX: (865) 974-2027
Website: www.outreach.utk.edu/evening

SPECIAL PROGRAMS

The University of Tennessee offers a number of special programs on its Knoxville campus. Many of the Special Programs may be of interest to K-12 and college teachers and students.

Tennessee Governor’s School for the Sciences
The annual Governor’s School brings between 130 and 150 high school students from Tennessee to the campus for a four-week residential program which emphasizes skill development in writing, computer use and analytical thinking skills. The school also provides the opportunity for students to spend half of their time in a choice of seven programs with focused topics in contemporary science, engineering and mathematics.

East Tennessee Academic Decathlon
This event brings high school teams of nine students and their coach(es) to campus for a day of competitive test taking. Approximately ten teams register and pay an annual entry fee for the privilege of competing for medals and trophies.

Tennessee Science Olympiad
Having won regional competitions, approximately 270 middle and high school students and their coaches from around the state participate in this event. The daylong competition involves approximately 25 events in each of the two school levels. Some events require intellectual performance in timed competitions, while other events require that a contrivance, prepared in advance or during the competition, be made to perform to standards which are not announced until competition time.

The Academy for Teachers of Science and Mathematics
This annual event brings teachers and school administrators to the Knoxville campus. Teachers participate in a four-week residential program and administrators attend a three-day workshop. Emphasis is placed on the exploration of the experiential nature of ideas in science and mathematics and the profound interdependence of these two fields of human endeavor. The goal is to teach new, exciting ways of presenting math and science. In addition, the alumni are networked through the Internet and via annual meetings. Operating since 1991, the Academy presently has approximately 850 alumni located in 21 states and eastern Canada.

Directory of Special Programs
Each year, the Special Programs office compiles a directory containing as many programs as can be identified on the University’s Knoxville campus that may be of interest to K-12 and college teachers and students.

If you are interested in receiving a directory or additional information on Special Programs contact:
Special Programs
210 Hoskins Library
Knoxville, TN 37996-4012
Phone: (865) 974-3594
Website: www.acad.utk.edu/specprog
Courses of Instruction

Following certain course descriptions in this catalog are the designations: F, Sp, Su, A-O, A-E, E. These indicate the semester(s) in which the course is normally offered and are intended as a guide to students planning their programs of study.

ACCOUNTING (009)

201 Principles of Financial Accounting (3) Introduction to financial accounting theory and practice with emphasis on the role of financial information in business decisions. Prerequisite to all other courses in Accounting. E

202 Principles of Managerial Accounting (2) 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 Accounting for Primary Business Activities (3) Study of financial accounting for the primary activities of a business corporation: primary financial statements; revenue-accounts receivable-cash cycle; inventories-accounts payable-cash cycle; cost of goods sold; debt and equity financing. Prereq: 202. Prereq or Coreq: Finance 301. Coreq: Business Administration 342.

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. Coreq: Business Administration 342. 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: 202; junior standing. Coreq: Business Administration 342. Major exam may be given during the last class meetings. F, Sp

411 Financial, Compliance, and Operational Auditing (3) Role of auditing in society from an internal and external perspective, the IIA Code of Ethics, the IIA Standards for the Professional Practice of Internal Auditing, auditing methodology, role of internal control and statistical sampling in auditing, fraud auditing, operational auditing, compliance auditing, and applications of auditing procedures to specific transaction cycles. Prereq: 202.

414 Non Business Entities: Acquisitions; Mergers; and Foreign Operations (3) Investments; revenue recognition; accounting changes; error correction; statement of cash flows; introduction to leases, pensions, and deferred taxes; mergers; acquisitions; consolidated financial statements; foreign exchange and translation. Prereq: 311 with a C or better.

415 Governmental and Nonprofit Accounting (3) Advanced study of governmental and nonprofit entities. Governmental accounting principles, revenues and expenditures, budgeting, and financial reporting; accounting principles and reporting models of nonprofit organizations. Integration of economic and social issues with reporting and decision making for governmental and nonprofit organizations. Prereq: 414 or permission of the instructor.

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. F, Sp

451 Operational Auditing and Consulting (3) Approaches auditors might use to evaluate an entity’s efficiency and effectiveness in a variety of settings and techniques auditors might use in consulting to provide the entity a competitive advantage.

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.

340 Advertising Research Methods (3) Secondary data and primary research techniques for advertising decisions. Prereq: 250 and Statistics 201.

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. Communications 100 or Speech Communication 100.


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.

470 Advertising Campaigns (3) Group-based development, execution and evaluation of an advertising campaign for a regional or national client. Prereq: 450.

480 Advertising Issues (3) Examination of the role of advertising in society and controversies surrounding economic, social, cultural and ethical aspects of advertising. Emphasis on written and oral exposition of different viewpoints. Prereq: 340.

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 multicultural advertising.

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 grading only.

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 African-American Studies (3) Multidisciplinary approach to the African-American experience through the Civil War period which examines such issues as traditional African societies, the institution of slavery, the development of African-American culture, the beginnings of African-American protest tradition, and the Civil War and Reconstruction.

202 Introduction to African-American Studies (3) Multidisciplinary approach to the African-American experience from the Civil War through the Civil Rights era which focuses on such topics as African-American rural and urban societies, the African-American church and education and African-American intellectual and protest movements.

233 Major Black Writers (3) (Same as English 233.)

235 Introduction to African Studies (3) Multidisciplinary approach to the study of African traditions, cultures, religions, political economies, precolonial democracies, and states form the first through the sixteenth century.

236 Introduction to African Studies (3) The Multidisciplinary study of Africa and its incorporation into the world economy between the sixteenth and the twentieth century. Includes the rise of nationalism, post-colonial dependency, contemporary problems, and current liberation struggles in various areas of the continent.

310 Introduction to African-American Music (3) (Same as Music History 310.)

315 The African Diaspora (3) (Same as Anthropology 315.)

319 Caribbean Cultures and Societies (3) (Same as Anthropology 319 and Latin American Studies 319.)
Agricultural and Extension Education (042)

201 Field Experience in Agricultural and Extension Education (1) Field observation/experience in potential agricultural and extension education career fields. Grade requirements: daily journal, formal written report, complete required hours, seminar. Prereq: Consent of instructor (may include off-campus experience). May be repeated if changing concentrations. E, F, Sp

211 Foundations of Agricultural and Extension Education (3) History and philosophy of agricultural education and extension education. Major areas of emphasis include the historical development of education in the public schools and the federal extension education system. Formal and non-formal methods of education used, audiences served, organizational structure, and programming emphases will be studied by students. Foundation course for departmental majors and service course for those interested in related careers. Sp

301 Non-Formal Youth Development Programs (1-2) Structured experience in administering, organizing, conducting, and evaluating youth education programs in agricultural and extension education. Prereq: Cons- sent of instructor. F, Sp

345 Agricultural Education and Program Planning (3) Overview of the historical and philosophical aspects of agriculture education, the role of teacher and learner, emphasis on SAE, FFA, community service, and summer programs. Prereq: 201, 211 or consent of instructor. Sp

346 Instructional Strategies for Teaching Agricul- tural Education (3) Methods and techniques for teaching agriculture, preparing lesson plans and units of instruction, developing activities for agriculture programs, and utilization of resources, multimedia, and computer technology into instruction. Prereq: 201, 211, 345 or consent of instructor. F, Sp

420 Methods of Teaching Agricultural Mechanics (2) Methods for teaching high school agricultural education students. Special competencies for planning, conducting and evaluating an agricultural mechanics program. Prereq: Biosystems Engineering Technology 202 or consent of instructor. F, Sp

435-36 Student Teaching in Agricultural and Extensi- on Education (6.6) Full-time teaching practicum in an approved high school program. Applied practices needed by the teaching education teacher. Prereq: Admission to Teacher Education and AEE 201, 211, 345, and 346: Coreq: 435 for 436; 436 for 435. F, Sp

492 Internship in Agricultural and Extension Educa- tion (1-6) Pre-approved off-campus supervised experience in county Extension offices, agricultural businesses, or agricultural related agencies. (Requires liv- ing off-campus for a specified time.). May be repeated up to a maximum of 6 hours. Prereq: 211, or Consent of Instructor. E

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. Consent of instructor may be re- peated for credit. Maximum 6 hours. E

Agricultural Economics (047)

210 Introduction to Agricultural Economics (3) Applica- tion of economic principles of demand, supply, price determination, and market structure to agriculture, natural resources, rural community development, and international relations and development. Emphasis on 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

212 The Agribusiness Firm (3) Introduction to agribusiness firm characteristics and decision-making. Overview of economic principles and the basic functions of management, planning, organizing, directing, and marketing. Specific topics include firm structure, forecasting, marketing and selling, budgeting, break-even analysis, use of financial statements, capital investment, supervision, staffing, and evaluation. F, Sp

310 The Agricultural Employment Process (1) Career planning, job markets in the agricultural industry, and techniques to obtain employment including recruitment/ interviewing, and job offer evaluation/analysis. F

320 Agricultural Microeconomics (3) Application of microeconomics to agriculture. Production, consump- tion, firm behavior, and efficiency in the food and fiber industries. Prereq: Economics 201 and Agricultural Economics 212. F

342 Farm Business Management I (3) Principles and procedures for determining most profitable business options and systems. Determination of crop and livestock production in traditional and nontraditional agricultural enterprises and businesses; nature of managerial processes; busi- ness records and their uses; budgeting; acquisition, management of capital, land, labor and machinery; farm business planning. Prereq: Economics 201 and Agricultural Economics 212. Sp

350 The Agricultural Marketing System (3) Survey of U.S. food and fiber marketing system; marketing func- tions; industry structure; market channels; marketing options of farmers; basic analysis of marketing prob- lems. Prereq: Economics 201 and Agricultural Economics 212. F, Sp

355 Agribusiness Marketing and Professional Selling (3) Role of marketing in the agribusiness organization, planning marketing efforts, and the strategic selling process. Topics include identification of market opportuni- ties, targeting, marketing mix, and personal selling in agribusiness. Prereq: Economics 201 and Agricultural Economics 212. F, Sp

356 Marketing Team Participation (1-2) Participation in the development of a total marketing plan for a product sold to or by farmers. Includes product identification, market research, and development of an action plan involving an extensive analysis and financial, marketing, sales analysis, and evaluation. Requires preparation of final plan for presentation in written, oral and visual formats. Plan to be presented in national competition or as part of the National AgMarketing Conference. May be repeated up to a maximum of 6 hours. Prereq: Consent of instructor. F, Sp

360 Rural Economic Development (3) Use of economic principles and analytical concepts in understanding the theory and process of rural economic development at the regional and subregional levels. Integrating historical and current information, student should explore the inputs of efficiency and equity as driving forces behind public sector and private sector initiatives to induce, manage and forecast development. Prereq: Economics 201. F

410 Seminar in Agricultural Economics and Business (1) Restricted to Agricultural Economics and Business majors in their senior year. Practice of critical thinking, ethical behavior, teamwork, and conflict resolution within the content of agribusiness decision making. Analysis of empirical data and reality of the world of agricultural economics. F

412 Agricultural Finance (3) Macro-financial, financial objectives, acquisition of debt and equity funds, capital investment, capital allocation, debt repayment, credit analysis, borrower and lender loan application analysis, insurance strategies, computer applications, kinds and sources of agricultural credit, and financial intermediation. Prereq: Economics 201 and Agricultural Economics 212. F
420 International Agricultural Trade and Marketing (3) Introduction to real and monetary aspects of international trade effect on agricultural commodity flows; partial equilibrium analysis of international trade in agricultural products; institutional aspects of international marketing of agricultural products. Prereq: 320 or consent of instructor. F
430 Agricultural Policy (3) Values, goals and policy process. Economic rationale and effects of policy. Historical development and current characteristics of commodity, credit, food, and trade policy. Prereq: 320 or consent of instructor. Sp
442 Agribusiness Management (3) Applications of advanced decision analysis concepts and tools to analyze management decision problems in farm and nonfarm agricultural businesses. Case study of work on strategic planning; assessing cost structure using budgeting and breakeven analysis; evaluating profitability, liquidity, and solvency using financial statements; analyzing investments using capital budgeting; etc. Prereq: 342 or consent of advisor. F
450 Agricultural Industry Analysis and Forecasting (3) Analytical tools for decision making in the agricultural sector; analysis of commodity supply and demand conditions; economic modeling; market forecasting; analysis of temporal and spatial patterns. Prereq: 320 and Statistics 201 or consent of instructor. F
470 Natural Resource Economics (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; improving environmental quality. Prereq: Economics 201. F
492 Off-Campus Internship (1-3) Pre-approved supervised experience with firm or organization in the field. May be repeated for a different experience up to a maximum of 6 hours. Prereq: Junior standing or consent of advisor. S/N/C/E
493 Independent Study (1-3) Directed individual or team research and report writing. Special courses in specific topics arranged with instructors before registering. May be repeated up to a maximum of 6 hours. Maximum 6 hours. Prereq: Junior standing. E

AGRICULTURE AND NATURAL RESOURCES (088)
100 Orientation to Studies in Agricultural and Natural Resources (1) Orientation to academic advising and procedures. Information about the College will be emphasized. Various invited guests will review University resources available to help students succeed at their studies. Attendance by all freshmen and advisor-student sessions are included to discuss the CASNR orientation. Enrollment is restricted to freshmen and transfer sophomores. Grading is S/N/C. F
290 Computer Applications to Problem Solving (3) Use of computer technology to analyze and report problems related to agricultural sciences and natural resources. The use and integration of computer applications such as spreadsheets, databases, presentation graphics, word processing, and other applicable software as needed for problem analysis and reporting. Prereq: Satisfactory performance on a skills/placement test. For details, see advisor. 2 hours and 1 lab. S
317 Agriculture and Natural Resources Honors Seminar (1) Discussion of selected topics, issues and problems influencing national and international food, agriculture, and natural resources systems. Primarily for College Scholars students. May be repeated. Maximum of 4 hours. Satisfactory/No Credit. F
333 Food, Forests and the Environment (3) Overview of the environmental tradeoffs that have been, are, and will be required to feed the world, fiber and other products needed to feed, cloth and house a growing world population. Topics to include basic natural resources, current practices in agriculture, forestry, and food handling, and practices related to quality of life issues, such as wildlife and landscape design. This course may not be used by College of Agricultural Sciences and Natural Resources students to satisfy directed elective requirements.
341 International Experience in Agriculture and Natural Resources (1-15) Credit for formalized international experiences related to agricultural sciences and natural resources. Determination of credit based on nature of the proposed experience. Student should discuss the opportunity with their faculty advisor prior to the trip to determine if it is appropriate for credit. Credit hours will be determined by the department and college depending on the extent of activity and types of projects and/or presentations to be completed by the student upon return. S/N/C.
497 Honors Independent Project (1-4) For students participating in the CASNR Honors Research and Creative Achievement Programs. Consists of independent work with a faculty member. Prereq: Participation in the CASNR Honors Program. F, Sp
498 Honors Presentation (1) For students participating in the CASNR Honors Program. Final written report and oral presentation of the honors project. Prereq: Participation in the CASNR Honors Program.

AIR FORCE AEROSPACE STUDIES (094)
101-102 The Air Force Today (1,1) AS100 is a survey course that introduces the organizational structure and mission of the Air Force, its culture and professional atmosphere; and includes an introduction to communicative skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies; financial, health and physical fitness, and drill and ceremonies is mandatory.
103-104 Leadership Laboratory (1,1) Leadership Laboratory includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instruction in writing, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.
201-202 The Development of Air Power (1,1) AS200 focuses on factors contributing to the development of air power from its earliest beginnings through two world wars; the evolution of air power concepts and doctrine; and a assessment of communicative skills. A weekly Leadership Laboratory (LLAB) consisting of Air Force customs and courtesies, Air Force environment, drill and ceremonies, and field training orientation is mandatory.
203-204 Leadership Laboratory (1,1) Leadership Laboratory includes a study of Air Force customs and courtesies, drill and ceremonies, and giving military commands; instruction in writing, correcting, and evaluating the preceding skills; studying the environment of an Air Force officer; and learning about opportunities available to commissioned officers.
205 Field Training (Academic Program) (1,4) Role of United States Air Force commissioned officers with particular attention to the United States Air Force, its organization and mission, various component forces of U.S. military power, organization of America's defense structure, policies of major powers, and elements and processes in making of defense policy. Conducted at Field Training bases throughout the country. Open only to two-year program applicants.
301-302 Air Force Leadership and Management (3,3) AS 300 is a study of leadership and quality management fundamentals, professional knowledge, leadership ethics, and communicative skills required of an Air Force officer. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory weekly Leadership Laboratory (LLAB) provides advanced leadership experiences in office-type activities and gives students the opportunity to apply leadership and management principles to this environment.
303-304 Leadership Laboratory (0,0) Leadership Laboratory consists of activities classified as advanced leadership experiences. They involve planning, organizing, staffing, coordinating, and controlling, and practical activities of the cadet corps; preparation and presentation of briefings and other oral and written communications; and providing interviews, guidance, and information which will increase the understanding, motivation, and performance of other cadets.

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.
312 Popular Culture and American Politics (3) (Same as Political Science 312.)
320 American Cultures (3) (Same as Anthropology 320.)
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.)
356 The 1960s in America (3) (Same as History 356.)
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 Behavior (3) (Same as Political Science 420.)
423 Geography of American Popular Culture (3) (Same as Geography 423.)
442 American Humor (3) (Same as English 442.)
450 Seminar in American Studies (3) Intensive study of a major issue in American Studies scholarship.
456 History of Sports in the United States (3) (Same as History 456.)
469 Freedom of Speech (3) (Same as Speech Communication 469.)
491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)

ANIMAL SCIENCE (113)
160 Introduction to Animal Science (3) Preparation of academic plans and career discussion. Introduction to structure and production principles of the food animal and horse industries. Overview of companion and alternative livestock. Market classes and grades of cattle, poultry and poultry products, lamb and wool, and swine. 3 labs. F, Sp
220 Anatomy and Physiology of Farm Animals (3) Skeletal and joints; muscles; blood and microcirculation, the nervous, endocrine, cardiovascular, respiratory, and digestive systems; demonstrations of physical-chemical phenomena. Prereq: Biology 120 or 130. 2 hours and 1 lab. F
319. Caribbean Cultures and Societies (3) Anthropological approaches to key aspects of Caribbean history, sociocultural pluralism, racial and class stratification, patterns of economic development, and national-political processes. Prereq: 130 or consent of instructor. Writing-emphasis course. (Same as African and African-American Studies 319 and Latin American and Caribbean Studies 319.)

320. American Cultures (3) Anthropological perspectives on cultural diversity in America, including the immigrant experience and expressions of ethnicity, intercultural relations, occupational and interest group subcultures. Writing emphasis course. (Same as American Studies 320.)

321. Indians of Northwest North America (3) Survey of American Indian cultures found in the Northwest Coast, Columbia Plateau, and Northern Great Basin culture areas. Writing emphasis course.

357. Junior Honors in Anthropology (3) Analytical, integrative review of current directions of research and theory in Anthropology. Open to students with an overall GPA of 3.2 who have fulfilled all progression requirements to declare a major in Anthropology.

360. North American Prehistory (3) Prehistoric cultures of North America from initial occupation of the continent to European contact. Writing-emphasis course.

361. Historical Archaeology (3) Historical archaeology of Euro-American occupation, and Asian and African cultures in the United States from 15th to 20th centuries.

362. Principles of Archaeology (3) Research strategies used in developing method and theory, constructing cultural histories, identifying site function and settlement-subistence patterns, and evaluating explanations of cultural change. Prereq: 120 or consent of instructor.

363. Prehistory of Tennessee (3) Archaeological principles and theory illustrated in history of archaeological research in Tennessee and through survey of prehistoric Indian cultures from initial occupation of the state to European contact. Recommended: 360. Writing emphasis course.

373. African Religions (3) (Same as Religious Studies 373 and African and African-American Studies 373.)

400. Readings in Anthropology (1-6) Problem-oriented directed readings in anthropology. Prereq: Anthropology majors with senior standing or consent of instructor. May be repeated. Maximum 6 hours.


411. Linguistic Anthropology (3) Basic linguistic concepts applied to research in cultural anthropology, particularly investigations of relationships between language and culture. Prereq: 130 or Linguistics 200. (Same as Linguistics 411.)

412. Folklore in Anthropology (3) Introduction to anthropological study of folklore, using folklore and folkloric materials from various tribal, peasant, and complex societies. Prereq: 130 or consent of instructor.

413. Dynamics of Culture (3) Definition and in-depth study of major forms of culture change, ranging from evolution and diffusion to religious revitalization and political revolt. Continuity and change in diverse cultural settings examined through use of archaeological, ethnographic, and contemporary cases. Prereq: 130 or consent of instructor.

414. Political Anthropology (3) Examination of the organization and dynamics of power and politics in both stateless and state-level societies. The role of symbols, rituals, and ideologies in producing and reproducing power relations. The relationship between actors (individuals, groups) and the encapsulation of traditional political forms and systems within modern states. Prereq: 130 or consent of instructor. Writing-emphasis course.

416. Applied Anthropology (3) Introduction to principles, problems, and applications of anthropology applied to practical problems in non-academic settings. Overview of career opportunities in various domains of applied anthropology. Prereq: 130 or consent of instructor.

430. Fieldwork in Archaeology (3-9) Practicum work in archaeological data recovery and analytical techniques. Prereq: Consent of instructor. May be repeated. Maximum 9 hours.

431. Ethnographic Research (3) Conceptual and practical exploration of methods and techniques cultural anthropologists use in fieldwork. Prereq: 130 or consent of instructor.

435. Historical Archaeology Laboratory (3) Laboratory procedures for the processing, identification, and interpretation of artifacts from historical sites. Artifactual material from historic East Tennessee sites will be used for class projects. Prereq: 361 recommended.

440. Cultural Ecology (3) Concepts and methods in studying dynamic relationships between prehistoric and present day cultures and their environments. Topics include ecological theory, methods of analysis, and review of case study cases. Prereq: 120, 130, 410, or consent of instructor.


457. Senior Honors in Anthropology (3) Research and writing of the senior honors thesis. Open to students with overall GPA of 3.2 and an Anthropology GPA of 3.5 who have completed Anthropology 357 with a grade of B or better.

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, or consent of instructor.

462. Early European Prehistory (3) Origins and evolution of human culture in Europe through the beginnings of settled life. Focus on Paleolithic/Mesolithic chronology and lifeways. Prereq: 120 or consent of instructor. Writing-emphasis course.

463. Rise of Complex Civilizations (3) Development of complex societies in Old World from origins of agricultural economies to rise of States. Focus on Mesolithic, Neolithic, and Metal Age lifeways in Africa, Europe, and Asia. Prereq: 120 or consent of instructor. Writing-emphasis course.

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 use of comparative collections. Prereq: 120 or consent of instructor.

465. Urban Archaeology (3) Field archaeology and interpretation of archaeological remains on historic urban sites in the United States. Course content sites include cultural landscapes and field and laboratory research on urban sites in East Tennessee. Prereq: 361 recommended.

480. Human Osteology (4) Intensive examination of the human skeleton. Prereq: 110 or consent of instructor. 3 hours and 1 hour lab.

481. Museology I: Museums, Purpose and Function (3) (Same as Art 481.)

482. Museology II: Exhibition Planning and Installation (3) (Same as Art 482.)

484. Museology III: Field Projects (1-12) (Same as Art 484.)


490. Primate Evolution (3) Living and fossil primate taxonomy, ecology, and comparative anatomy. Survey of primate fossil record with emphasis on the origin or major primate lineages. Prereq: 110 or consent of instructor.

491. Foreign Study (1-15)

492. Off-Campus Study (1-15)

493. Independent Study (1-15)

494. Primate Behavior (3) Social organization and behavior of selected primates including group composition, size, and structure; patterns of mating; other social interactions; communication; and cultural behavior. Application of primate studies to human ethology. Prereq: 110 or consent of instructor.

495. Human Paleontology (4) Intensive survey of the human fossil record from the earliest hominid remains to the earliest origins of modern human form. Prereq: 110 or consent of instructor.

496. Biology of Human Variability (3) Introduction to human populations; human adaptation, biological features of major human races, relationships of major groups to one another. Prereq: 110 or consent of instructor. (Same as African and African-American Studies 496.)

ARABIC (127)

121-122 Elementary Modern Arabic I, II (5,5) Same as Asian Studies 121-122.

221-222 Intermediate Modern Arabic I, II (5,5) (Same as Asian Studies 221-222.)

ARCHITECTURE (133)

101. Introduction to the Built Environment (3) Scope and development of building technology and its relationship to contemporary society, building industry, and allied design professions. Architectural design as a creative process. Orientation to courses and programs of the school. Coreq: 171, F.


111. Architecture and the Built Environment (3) An introduction to architecture and the built environment for non-architecture majors. Significance of our surround-ings and how they are created. Creative aspects of design. Survey of examples from local to global. Strategies for individual and collective involvement.

121. Drawing and Perception (2) Exploration of drawing as a means of visual thinking and method of communication, addressing perceptual phenomena. Exploration of different media, concentrating on freehand drawing. Includes line drawing, tone, shade, shadow, depth cues. Compositional principles will be introduced. Drawings based on observation, including figure drawing and campus visits. Coreq: 171, F.


180. Introduction to Architecture (2) Introduction to architecture as an intellectual discipline. Design as a creative endeavor central to the discipline and its profession.

181. Introduction to Graphic Skills (4) Introduction to freehand drawing and orthographic techniques emphasizing visualization and simulation. The work will be explored and developed in the studio (4 credit hour studio).

182. Introduction to Basic Design (6) Introduction to basic design principles in both two and three dimensions. The work will be explored in a seminar format and developed in the studio (1 credit hour seminar and 5 credit hour studio).

212 History and Theory of Architecture II (3) Architectural thought and ideas of building and community form. English Renaissance, late Renaissance in Italy, France and Spain through the mid-twentieth century. Prereq: 211.


231 Computer Applications in Design I (3) Introduction to computer-aided design and hardware, and three application in architecture. Emphasis on learning how the computer can assist in the design process by modeling, visualizing and analyzing building designs. Introduction to drafting, three-dimensional modeling, and desktop publishing.

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.

271 Architectural Design I (6) Introduction to contextual determinants in architectural design. Role of the city and the landscape in architectural design. Methods of analyzing place and form in determining design strategies. Representative skills developed including drawing, diagramming and modeling techniques. Prereq: 172. F.

272 Architectural Design II (6) Studies in architectural space. The role of function, habitation, movement, structure and design as determinants of spatial form explored through a series of design projects ranging in scale from furniture to dwellings. Development of design processes, including analytical skills, diagramming, and determining design organizational strategies. Use of computer-aided visualization techniques. Prereq: 271. Sp.

281 Principles of Architectural Form I (6) Principles of architectural form emphasizing building configuration and order. Design of simple buildings which explore possibilities of site, use, shape materials and color. (1 credit hour seminar and 5 credit hours studio). Prereq: 182 or equivalent.

282 Principles of Architectural Design I (6) Principles of architectural design emphasizing site, function, circulation, structure, technology, context and expression of building (1 credit hour seminar and 5 credit hours studio). Prereq: 281.


340 Advanced Architectural Structures I (3) Philosophical study of building materials and their role in design. Study of materials, properties, and design of building materials and their use in architectural design. Prereq: 323 or equivalent.

344 Structures in Architecture I (3) Introduction to the structural properties of materials, foundations and simple statically determinant assemblies of buildings. Prereq: 180 and M. Arch Admission.

346 Structures in Architecture II (3) Continuation of analysis and design of simple structures in wood, steel and concrete. Study of building codes, loading tables and handbooks for selection of structural members. Prereq: 335 or special permission.


349 Structures in Architecture IV (3) Architectural structures in design practice in late twentieth century. Examples of contemporary works and review of theoretical issues. Prereq: 212.

350 Structures in Architecture V (3) Continuation of analysis and design of simple structures in wood, steel and concrete. Study of building codes, loading tables and handbooks for selection of structural members. Prereq: 335 or special permission.

341 Environmental Control Systems I (4) Heating, ventilating, and air-conditioning systems, including passive and active solar energy systems. Plumbing and fire-protection systems. Prereq: 231 and 232. F.


343 Principles of Environmental Control I (3) Introduction to heating, ventilating, air-conditioning, solar energy, plumbing and fire-protection systems. Prereq: 180 and M. Arch Admission.

344 Principles of Environmental Control II (3) Introduction to heating, ventilating, air-conditioning, solar energy, plumbing and fire-protection systems. Prereq: 180 and M. Arch Admission.


401 Architectural History/Theory I (3) Architectural History/Theory I (3) Survey of architectural history and theory from earliest beginnings to about 1800 CE in Europe. Ancient, Classical, Medieval, Renaissance. Emphasis on theoretical ideas, building forms, and urban patterns in cultural and historical context. Prereq: M.Arch admission or consent of instructor. Open to undergraduates with consent of instructor. Sp.

402 Architectural History/Theory II (3) Architectural History/Theory II (3) Survey of architectural history and theory from about 1800 CE through the present day. Examination of theoretical ideas, building forms, and urban patterns in cultural and historical context. Prereq: 401, and M.Arch admission or consent of instructor. Open to undergraduates with consent of instructor. Sp.

403 Introduction to Preservation (3) History, theory, and legal aspects of architectural preservation and restoration.

404 Preservation Technology (3) Techniques of preservation: methods of analysis, history of materials and technology used in old buildings. Prereq: 403.

405 Descriptive Analysis of Historic Buildings (3) Identification and analysis of characteristic elements of buildings from various architectural periods, with emphasis on American architecture. Survey techniques.

406 Ideas in Architecture (3) Historical and critical review of the major ideas of architecture through the ages. Open to all students.

410 History and Theory of Urban Form (3) Patterns of community development. Selected historical and contemporary urban form examples examined through lectures, readings, essays, and sketch studies including historical change in urban form and design.

412 Non-Western and Indigenous Architecture (3) Building forms to climatic variability, and economic level, as designed by anonymous builders. Examples from prehistoric times to the present including the fertile Crescent; 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, discussion, and field trips. Historical research using primary material.

414 History of Architectural Technology (3) Building materials and construction techniques from antiquity to the present.

415 Medieval Architecture (3) History of architecture from the fall of Rome to the beginning of the Renaissance. (Same as Medieval Studies 415.)

417 The International Style (3) A survey of architecture of the early modern movement, primarily in Europe and America, covering the years 1900 to 1940.


420 American Architecture, 1840-1940 (3) Stylistic periods from the Gothic Revival through the Twentieth Century.

421 History of Landscape Architecture (3) Intellectual, societal, and geographical influences which provide the theoretical basis for design throughout history. Selected examples of landscape architecture analyzed in terms of design.

422 Modern East European Architecture (3) Twentieth century architecture in Russia, Czechoslovakia, Poland, Hungary, East Germany, Rumania, Bulgaria, Yugoslavia.

425 Special Topics in Architecture (1-6) Faculty initiated courses. Topics vary. May be repeated. Maximum credit 12 hours. Prereq: consent of instructor. E.

431 Structural and Mechanical Applications (3) Case study analysis and selection of structural and mechanical systems, investigating the conceptual integration of technical information into a unified design solution. Prereq: 332, 342. Coreq: 471. F.


433 Computer Applications in Design II (3) Advanced computer-aided design using computer systems - software and hardware, and their application in architecture. Emphasis on learning how the computer can assist in the design process by modeling, visualizing and analyzing building designs. Introduction to drafting, three-dimensional modeling, and desktop publishing.

441 American Historical Control Systems (3) Interior analysis and innovative concepts in design of heating, ventilating, and air conditioning. Prereq: 341.

445 Advanced Lighting (3) In-depth analysis and innovative concepts in design of lighting. Prereq: 341.

462 Professional Practice (4) Management and organizational theories and practices for delivering professional 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 obligations and privileges of the design professional. Sp.

463 Architectural Development (3) Principles and practice of design as the architect as a designer. Concepts of urban development, urban design, urban planning, urban design, urban design, urban design.

464 Architectural Development (3) Principles and practice of design as the architect as a designer. Concepts of urban development, urban design, urban design, urban design.

465 Building Energy Analysis (3) Balancing heat flows through external skin of residential and small and large commercial buildings; local climate evaluation; site planning; 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 external and internal load dominated buildings. Prereq: 341.

466 Advanced Environmental Control Systems (3) Interior analysis and innovative concepts in design of heating, ventilating, and air conditioning. Prereq: 341.

467 Advanced Lighting (3) In-depth analysis and innovative concepts in design of lighting. Prereq: 341.

471 Architecture Design V (6) Design project from conceptual through design development phase. Specification and cost estimating. Study of building structure, materials, energy, and urban form in the design and development of real estate. Open to all students.

472 Architecture Design VI (6) Order and form in complex buildings developed to address programmatic, structural, energy and environmental issues. Prereq: 471. Sp.

473 Architectural Photography (3) Architecture as a design, research, and presentation medium. Application of photographic techniques, printing and processing, color, black and white.

480 Comprehensive Design I (3) Preparation and Programming for Projects. (3) Formation of project statement, documentation and analysis of project data. Preparation of background and program information. Goals and criteria set forth. To be taken the semester preceding 482.

481 Advanced Architectural Design Topics (6) Faculty initiated design projects. Advanced architectural topics not covered under 483, 484, 485, 486, or 489. Prereq: 471. F.
300 Inter-area Portfolio Review (0) Review of prior studio work. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173, all with a grade of C or better. Prereq/Coreq: Art 295 with a grade of C or better. Art: Art Coreq 221, satisfactory/No credit only.

321 Ceramics: Handbuilding II (3) Continued investigation of handbuilding with an emphasis on the development of individual ideas and expression. Prereq: 320.

322 Ceramics: Throwing II (3) Continued investigation of throwing with an emphasis on the development of individual ideas and expression. Prereq: 320.


422 Ceramics: Advanced Throwing (4) Continued, in depth investigation of ceramic form with an emphasis on the development of individual direction. Prereq: 321 and 322. May be repeated. Maximum 12 hours.


429 Ceramics: Special Topics (3) Student or instructor initiated courses to be offered at convenience of department. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

493 Independent Study (1-15) Prereq: Consent of instructor.

494 Individual Problems (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.

ART DESIGN/GRAPHIC (136)

1511 Graphic Design History (3) Major movements and pivotal artists/designers and directors, 1850 to the present, and their impact on current graphic design trends. (Cannot be used to fulfill art history requirement.)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.

251 Beginning Graphic Design I (3) Introduction to the elements and principles of graphic design including typography, layout. Survey of graphic design tools, materials, and processes. May be repeated. Maximum 6 hours. Prereq: Art 101 and 103. Art Design/Graphic 151, all with a grade of C or better.

252 Beginning Graphic Design II (3) Survey of graphic design from concept through production. Emphasis on visual problem-solving. May be repeated. Maximum 6 hours. Prereq: 251 with a grade of C or better.

254 Black and White Illustration (3) Black and white media and production techniques as applied to product and editorial illustration. Prereq: Art 101.

256 Individual Projects in Graphic Design (3) Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

259 Special Topics: Graphic Design (3) Student or instructor initiated course offered at discretion of department. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

350 Graphic Design Portfolio Review (0) Review of prior work in graphic design. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173, all with a grade of C or better. Coreq: Art 254. May be repeated. Satisfactory/No credit only.


352 Intermediate Graphic Design II (3) Investigation of sign, symbols, marks and identity systems. Prereq: Art Design/Graphic 351 with a grade of C or better.

354 Color Illustration (3) Flat and process color media and production techniques as applied to product and editorial illustration. Prereq: 254 and successful completion of any portfolio review.

356 Graphic Design Production (3) Traditional and computer-generated techniques for the production of print media in graphic design. Introduction to computer systems, software and techniques.

396 Airbrush Painting (3) Techniques of airbrush painting; skills and creative applications emphasized. Prereq: Art Drawing 211.

405 Computer Enhanced Graphic Design (3) Exploration of new technologies and their application to graphic design. Prereq: 351, 356 with a grade of C or better and consent of instructor. May be repeated. Maximum 6 hours.

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.

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.

295 Intermediate Design and Color (3) Further exploration of basic techniques of two-dimensional design, with emphasis on color theory and technique. Prereq: 101, 103.

299 Special Topics (3) Student or instructor-initiated course offered at convenience of department. May be repeated. Maximum 12 hours.
ART EDUCATION (141)

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, Su.

302 Multiculturalism in Visual Art (3) Selected cognitions and experiences involving multicultural visual art. Prereq: Permission of instructor. Sp.

303 Concepts of Sculpture and Crafts (3) Processes in teaching of sculpture and crafts including pertinent literature and research. Prereq: 301. F

350 Field Experience (1) Tasks related to teaching and to teacher roles. May be repeated. Maximum 2 hours. Prereq: Admission to Teacher Education Program. Satisfactory/No credit only. F, 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. Sp.

ART HISTORY (139)

162 Art of Africa, Oceania, and Pre-Columbian America (3) Survey of the traditional arts of the cultures of Africa, Oceania, and the Americas (focusing primarily on the period before the European conquest). Sculpture, painting, pottery, textiles, architecture and human adornment will all be examined. F

172 Western Art (3) Major monuments in Western Art with emphasis on Europe from prehistory through the Middle Ages. Two-hour lecture and one-hour discussion each week. F

173 Western Art (3) Major monuments in the history of European and American Art from the Renaissance to the present. Two-hour lecture and one-hour discussion each week. S

177 Honors: Western Art I (3) Consent of Department required. Major monuments in Western Art with emphasis on Europe from prehistory through the Middle Ages. Study grounded in reading, writing, and discussion. Writing-emphasis course. F

178 Honors: Western Art II (3) Consent of Department required. Major monuments in the history of European and American Art from the Renaissance to the present. Study grounded in reading, writing, and discussion. Writing-emphasis course. S

183 Asian Art (3) Selected works of painting, sculpture, architecture, and other forms in India, China, Japan, and to a lesser extent, Korea and Southeast Asia from antiquity through the 20th century. Prereq: 173 or Consent of Instructor. S

279 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. F

376 Seminar in Art History (3) Variable theme; emphasis on methodology and skills in writing. Required for Art History majors. Prereq: junior or senior standing and completion of at least 12 hours in art history, or consent of instructor. May be repeated with consent of instructor for a maximum of 6 hours. Writing-emphasis course. F

403 History of Photography (3) Survey of the history of photography from the introduction of the daguerreotype and calotype to more recent trends. Emphasis will be placed on aesthetic and social use of photography as a medium for artistic expression. S

ART DRAWING (137)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.


212 Drawing II: Life Drawing (3) Development of drawing and observational skills with special emphasis on structure and dynamics of the human figure and of the figure in environment. Prereq: 211. May be repeated. Maximum 6 hours.

219 Special Topics in Drawing/Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

311 Drawing III (4) Development of personal drawing techniques and concepts through class problems. Prereq: 212 and 312 or consent of instructor. May be repeated. Maximum 8 hours. Total of 8 hours required for students in the Drawing concentration.

312 Drawing Portfolio Review (0) Review of prior work in drawing. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173 with a grade of C or better. Satisfactory/No credit only.

411 Drawing IV (6) Individualized pursuit of personal drawing techniques and concepts, supplemented by individual and group critiques and weekly life drawing sessions. Prereq: 8 hours of Art Drawing 311 with a grade of C or better or consent of instructor. May be repeated. Minimum of 12 hours required for undergraduate students in the Drawing concentration.

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: Consent of instructor. May be repeated. Maximum 12 hours.

493 Independent Study (1-15) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.

ART HISTORY (139)

162 Art of Africa, Oceania, and Pre-Columbian America (3) Survey of the traditional arts of the cultures of Africa, Oceania, and the Americas (focusing primarily on the period before the European conquest). Sculpture, painting, pottery, textiles, architecture and human adornment will all be examined. F

172 Western Art (3) Major monuments in Western Art with emphasis on Europe from prehistory through the Middle Ages. Two-hour lecture and one-hour discussion each week. F

173 Western Art (3) Major monuments in the history of European and American Art from the Renaissance to the present. Two-hour lecture and one-hour discussion each week. S

177 Honors: Western Art I (3) Consent of Department required. Major monuments in Western Art with emphasis on Europe from prehistory through the Middle Ages. Study grounded in reading, writing, and discussion. Writing-emphasis course. F

178 Honors: Western Art II (3) Consent of Department required. Major monuments in the history of European and American Art from the Renaissance to the present. Study grounded in reading, writing, and discussion. Writing-emphasis course. S

183 Asian Art (3) Selected works of painting, sculpture, architecture, and other forms in India, China, Japan, and to a lesser extent, Korea and Southeast Asia from antiquity through the 20th century. Prereq: 173 or Consent of Instructor. S

279 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. F

376 Seminar in Art History (3) Variable theme; emphasis on methodology and skills in writing. Required for Art History majors. Prereq: junior or senior standing and completion of at least 12 hours in art history, or consent of instructor. May be repeated with consent of instructor for a maximum of 6 hours. Writing-emphasis course. F

403 History of Photography (3) Survey of the history of photography from the introduction of the daguerreotype and calotype to more recent trends. Emphasis will be placed on aesthetic and social use of photography as a medium for artistic expression. S

411 Art of South and Southeast Asia (3) A survey of the art and architecture of the Indian subcontinent and Southeast Asia from 2000 B.C. to the 20th century. The major achievements of each period are examined in relation to their religious, political, and social contexts. Writing emphasis course.

415 Art of China (3) A survey of the art and architecture of China from the neolithic period to the 20th century. The major achievements of each period are examined in relation to their religious, political, and social contexts. Writing emphasis course.

419 Art of Japan (3) A survey of the art and architecture of Japan from the neolithic period to the 20th century. The major achievements of each period are examined in relation to their religious, political, and social contexts. Writing emphasis course.

425 Early Christian and Byzantine Art to 1350 (3) Art in Italy and the Eastern Empire from the beginnings of Christianity to the year 1350. Prereq: Consent of Department.

431 Medieval Art of the West, 800-1400 (3) Western European art of the “Dark Ages,” Romanesque, and Gothic periods. Writing-emphasis course. (Same as Medieval Studies 371 and Judaic Studies 425.)

441 Northern European Painting, 1350-1600 (3) From court art of late Middle Ages to Northern Renaissance. Prereq: Knowledge of European art to the year 1350. Prereq: Consent of Department.

442 Art of North America, 1600-1675 (3) Concentrated study of Bruegel, Rubens, Rembrandt, Georges de La Tour, Rembrandt, Poussin, and Hals. Writing-emphasis course.

451 The Art of Italy, 1250-1450 (3) Development of naturalism. Revival of antiquity and development of theories of perspective in the Early Renaissance, including Duccio, Giotto, Masaccio, Donatello, Botticelli. Writing-emphasis course. (Same as Medieval Studies 372.)

452 Art of Italy, 1475-1575 (3) Concentrated study of Leonardo da Vinci, Michelangelo, Titian, Raphael, Titian, and Giorgione. Writing-emphasis course.

453 Art of Southern Europe: 1575-1700 (3) Concentrated study of Caravaggio, Bernini, and Italian Baroque developments in all media. Spanish Baroque painting and sculpture with special attention to Velazquez. Writing-emphasis course.

454 Renaissance and Baroque Theory (3) Addresses the theory of Western art in the early modern period with emphasis on the development and evolution in European art during the Renaissance and Baroque periods. Prereq: Art History 172 and 173 (or their Honors equivalents), or consent of instructor. Writing emphasis course.

461 Art of Southern and Eastern Africa (3) Art traditions of the eastern and southern regions of Africa. Sculpture, painting, pottery, textiles, architecture and human adornment will be examined. Some ancient Stone and Iron Age traditions will be examined, but the main emphasis will be on the diverse ethnic and regional art traditions practiced in the area from the 19th century to the present. Writing emphasis course.

462 Art and Archaeology of Ancient Africa (3) Historical art traditions of sub-Saharan Africa. Topics to be covered include rock art, rock sculpture, rock paintings, the major prehistoric rock art sites and ancient kingdoms. The time period covered ranges from the first and second millennia B.C. for some of the terracotta sculpture and rock paintings, the 11th through 19th centuries A.D. for the later ancient kingdoms. Writing emphasis course.

463 Arts of the African Diaspora (3) Examines the aesthetic, philosophical and religious patterns of the African artistic expressions of Brazil, Surinam, the Caribbean and the United States. Emphasis will be placed on the full range of art forms, including the sculptural and performance traditions as well as architecture, textile, basketry, pottery and print form. Writing-emphasis course.

471 History of North American Art (3) Survey of landmarks in painting, architecture, sculpture, and design from prehistory to 1900. Writing-emphasis course.

472 History of 20th Century American Art (3) Developments in architecture, painting, and design from 1900. Writing-emphasis course.
433 History of Modern Art and Film (3) Study of the development and interaction between the cinematic arts and the visual arts within the context of modern art history. Available for Art History credit. (Same as Cinema Studies 433.)

436 Video Art (3) Continued development of concepts and techniques for the creation of video art. Prerequisite: 236 and 330 or permission of instructor. May be repeated. Maximum 9 hours. (Same as Cinema Studies 436.)

439 Special Topics in Media Arts (3) Student or instructor initiated course offered at convenience of department. May be repeated. Maximum 12 hours.

441 Digital Photography II (4) Continuation of exploration and implications of use of computer in photography. Prerequisite: 341, and permission of instructor.

442 Large Format Photography I (4) Studio course that continues the exploration of the use of the large format camera in photography. Prerequisite: 342 and permission of instructor.

493 Independent Study (1-15) Prerequisite: Consent of instructor. May be repeated. Maximum 6 hours.

494 Individual Problems (3) Prerequisite: Consent of instructor. May be repeated. Maximum 12 hours.

ART PRINTMAKING (132)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.

231 Photography I (3) Art of black and white photography. Field and studio shooting, history of photography, basic developing, and enlarging techniques.

235 Introduction to Cinematography as Art (3) Development of basic concepts and techniques for the creation of film as an art form. Prerequisite: Core 231 or consent of instructor. (Same as Cinema Studies 235.)

236 Introduction to Video Art (3) Development of basic concepts and techniques for the creation of video works as an art form. (Same as Cinema Studies 236.)

239 Special Topics in Media Arts (3) Student or instructor-initiated course offered at convenience of department. May be repeated. Maximum 12 hours.

310 Media Arts Portfolio Review (0) Review of prior work in media arts. Successful completion required prior to registration for junior and senior courses. Prerequisite: Art History 172 and 173 with a grade of C or better.

311 Introduction to Lithography as Art (3) History and practice of lithography. Field and studio shooting, history of lithography, basic developing, and enlarging techniques.

312 Lithography I (3) Stone-and-aluminum plate lithography for non-art majors. Technical emphasis. Prerequisite: 101 and at least one quarter of Art History. Successful completion required prior to registration for junior and senior courses. Prerequisite: History 172 and 173 with a grade of C or better.

361 Lithography II (3) Advanced lithography. Includes more advanced techniques of lithography, such as etching, drypoint, aquatint, mezzotint, and color methods. Prerequisite: 360 and consent of instructor.

362 Intaglio I (3) Metal plate intaglio printing in traditional and contemporary techniques of etching, softground, drypoint, aquatint, and color methods. Prerequisite: 361 and consent of instructor.

429 Special Topics in Media Arts (3) Student or instructor initiated course offered at convenience of department. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (3) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 12 hours.

ART PAINTING (138)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.

213 Painting I: Introduction (3) Capacities of oil and acrylic painting on canvas. Prerequisite: 101, 103 for art majors; none for non-art majors.

214 Painting II (3) Techniques of expression in oil and/or acrylic. Prerequisite: Painting 213. Prerequisite: 101, 103 for art majors; none for non-art majors.

215 Watercolor I: Introduction (3) Capacities of transparent watercolor. Prerequisite: 101, 103 for art majors; none for non-art majors.

216 Watercolor II (3) Capacities of transparent watercolor, with attention to individual exploration of surface, space, and color. Prerequisite: Painting 215. May be repeated. Maximum 6 hours.

219 Special Topics in Drawing/Painting (3) Student or instructor-initiated course offered at convenience of department to enhance and expand the painting, drawing, and watercolor curriculum. Prerequisite: Consent of instructor. May be repeated. Maximum 12 hours.

313 Painting III (4) Individual expression with varied media on canvas. Prerequisite: 214 and 314 or consent of instructor. May be repeated. Maximum 8 hours. Total of 9 hours required for students in the Painting concentration.

314 Painting Portfolio Review (0) Review of prior work in painting. Successful completion required prior to registration for junior and senior courses. Prerequisite: Art History 172 and 173 with a grade of C or better. Prerequisite: 101, 103 for art majors; none for non-art majors.

315 Watercolor III (4) Individual expression with varied water-based media on paper. Prerequisite: 216 and 315 or consent of instructor. May be repeated. Maximum 8 hours. Total of 9 hours required for students in the Watercolor concentration.

316 Watercolor Portfolio Review (0) Review of prior work in watercolor. Successful completion required prior to registration for junior and senior courses. Prerequisite: Art History 172 and 173 with a grade of C or better. Prerequisite: 101, 103 for art majors; none for non-art majors.

436 Painting IV (6) Advanced painting stressing individual concepts and personal expression with varied media. Prerequisite: 315, and consent of instructor. May be repeated. Maximum 12 hours. Total of 12 hours required for undergraduate students in the Painting concentration.

415 Watercolor IV (6) Advanced painting with water-based media on paper stressing individual concepts and personal approaches. Prerequisite: 315. May be repeated. Maximum 12 hours. Total of 12 hours required for undergraduate students in the Watercolor concentration.

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. Prerequisite: Consent of instructor. May be repeated. Maximum 12 hours.

493 Independent Study (1-15) Prerequisite: Consent of instructor.

494 Individual Problems (3) Prerequisite: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.
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.

493 Independent Study (1-15) Prereq: Consent of instructor.

494 Individual Problems (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.

ART SCULPTURE (143)

191 Introduction to Studio Art: Various Media (3) Individual sections for various artistic disciplines. For Non-majors only. Courses may be repeated, medium may not be repeated. Maximum 12 hours.

241 Sculpture I (3) Problems which explore basic materials and techniques including clay modeling, plaster construction, moldmaking. Limited work in plastics, wood, or metal.

242 Life Sculpture (3) Modeling techniques in clay and wax, working from figure. Possibilities of expression with human figure as subject. Modeling process as both observational and material handling technique. Prereq: 101, 103, or consent of instructor. May be repeated. Maximum 6 hours.

243 Metal Cast Sculpture I (3) Metal casting methods in bronze or aluminum. May include lost wax, styrofoam, sand, ceramic shell casting methods. May be repeated. Maximum 6 hours.

245 Steel Sculpture I (3) Problems to introduce steel as a material for the creation of sculpture. Development of welding techniques.

246 Mixed Media Sculpture I (3) Use of two or more materials, and a variety of sculptural techniques, joined to create dimensional form. May include carving, modeling, molding, construction, and found objects.

249 Special Topics in Sculpture (3) Student on instructor-initiated course offered at convenience of department. Prereq: Art 101 and 103 with a grade of C or better. May be repeated. Maximum 12 hours.

340 Sculpture Portfolio Review (0) Review of prior work in sculpture. Successful completion required prior to registration for junior and senior courses. Prereq: Art History 172 and 173 with a grade of C or better. 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.

343 Metal Casting II (3) Further exploration of casting methods for bronze and aluminum. Prereq: 243 and 340 or consent of instructor.

345 Steel Sculpture II (3) Further exploration of construction in steel and other metals. Prereq: 245 and 340 or consent of instructor.

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.

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: Successful completion of any Portfolio Review (Art 300, or Art Ceramics 320, or Art Design Graphic 350, or Art Drawing 312, or Art Media Arts 330, or Art Painting 314, or Art Painting 316, or Art Printing 360, or Art Sculpture 340). May be repeated. Maximum 12 hours.

493 Independent Study (1-15) Prereq: Consent of instructor.

494 Individual Problems (3) Prereq: Consent of instructor. May be repeated. Maximum 12 hours.

495 Visiting Artist Seminar (2) Study and discussion of contemporary art issues conducted by different visiting artists each semester. (Does not apply toward art history requirement.) May be repeated. Maximum 8 hours.

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.

ASIAN LANGUAGES (144)


199 Chinese and Japanese Language and World Business (3) Examine the importance of foreign trade at the local, state, and national levels. Interdisciplinary faculty from the Colleges of Business Administration and Arts and Sciences provide an overview of the value of language study and international cultural awareness in the program in Language and World Business. See Director for further information. F, Sp.

231-232 Intermediate Chinese I, II (5,5) Prereq: 131-132 or equivalent or consent of instructor. Must be taken in sequence.


311-312 Chinese Literature in English Translation (3,3) 311-Classical literature. 312-Vernacular and modern literature. Writing-emphasis course.


331-332 Advanced Chinese I, II (4,4) Prereq: 231-232 or equivalent or consent of instructor. Must be taken in sequence.

351-352 Advanced Japanese I, II (4,4) Includes conversation, drill, and composition practice with native speaker as well as reading and translation. Prereq: 251-252. Must be taken in sequence.

431 Readings in Chinese Literature (3) Prereq: Mastery of intermediate-level of Chinese or consent of instructor. May be repeated. Maximum 9 hours.

451 Readings in Japanese Literature (3) Prereq: Mastery of intermediate-level of Japanese or consent of instructor. May be repeated. Maximum 9 hours.

490 Chinese and Japanese Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For Language & World Business majors only. Satisfactory/No Credit only.

491 Chinese and Japanese Foreign Study (1-15)

ASIAN STUDIES (145)

101-102 Asian Civilization (3,3) Comparative study of development of religion, social institutions, and high culture in India, China, Japan, and the Islamic world. 101-India and the Islamic World. 102-China and Japan. Writing-emphasis course.

121-122 Elementary Modern Standard Arabic I, II (4,4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.

141-142 Elementary Modern Hebrew I, II (4,4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.

161-162 Elementary Persian (4,4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.

211-222 Intermediate Modern Standard Arabic I, II (4,4) Taped language program. Must be taken in sequence. Enrollment by permission of instructor.

241-242 Intermediate Modern Hebrew I, II (4,4) Taped language program. Prereq: 141-142 or equivalent or consent of instructor. Must be taken in sequence.

261-262 Intermediate Persian (4,4) Taped language program. Prereq: 161-162 or equivalent or consent of instructor. Must be taken in sequence.

332 Classical Islam (3) (Same as Religious Studies 332).

333 Islam in the Modern World (3) (Same as Religious Studies 333).

471 Selected Topics in Asian Studies (3) Content varies. May be repeated. Maximum 9 hours.

491 Foreign Study (1-15)

492 Off-Campus 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; light of current knowledge and scientific reasoning; stellar birth, evolution and death as a chain of events; characteristics of galaxies and the origin of the universe examined in light of modern astrophysics and particle physics. A minimum of mathematical analysis. Must be taken in sequence. 4 hours lecture-demonstration and star chart field work. Only one of the three sequences 151-152, 161-162, or 217-218 may be taken for credit.
461 Introduction to Language Pathology in Children (3) Nature, etiology and treatment of language retardation in children; observations of language therapy required. Prereq: 300 or consent of instructor.

473 Introduction to Audiologic Assessment (3) Basic principles of clinical audiometry; pure tone, speech, masking and overview of special auditory tests. Prereq: 303.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

494 Aural Habilitation/Rehabilitation of the Hearing Impaired (3) Introduction to psychosocial aspects, amplification components/characteristics, assistive device, speech perception, speechreading, parent-infant, preschool school years of children, communication impediments/handicaps/ remediation of adults, effects of aging/remediation on the elderly, and case studies. Prereq: 305 and 473, or equivalents or consent of instructor.

499 Senior Seminar in Communication Sciences and Disorders (3) Capstone Experience; A writing emphasis course exploring the forces shaping the profession of communication disorders in the past, present and future. Prereq: Consent of instructor and senior standing.

BIOCHEMISTRY AND CELLULAR AND MOLECULAR BIOLOGY (188)

230 Human Physiology (5) Fundamentals of human physiology, primarily from the perspective of cellular and organ systems. Prerequisite may not be applied toward BCMB major. Prereq: One year of college chemistry. 4 hours and one lab.

280 Modern Medicine and You (3) New biomedical advances in internal medicine, surgery, obstetrics and gynecology, infectious diseases, cancer treatment, genetics, and medical genetics. Prereq: Consent of instructor. 2 hours lecture, 2 to 3 hours lab. Coreq: Math 141 or 150 or equivalent. Credit given for only one sequence of lower division astronomy. This sequence satisfies the Arts and Sciences 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 approaches include considerations of quasars, pulsars, black holes and current developments in the field. Acceptable for major credit in physics. Prerequisite: Physics 136 or 138 or 222 or 232 and consent of instructor.

490 Special Topics in Astronomy (1-3) Topics of current interest in Astronomy and Astrophysics. May be repeated for fewer than 2 semester hours. Acceptable for major credit in physics. Prerequisite: Consent of instructor and senior standing.

Courses of Instruction 159
250 General Ecology (4) Relations between organisms and their environment, including human environmental problems. Topics include population, communities, and ecosystems; energy flow in biological systems; and impact of pollutants. May be repeated. Prereq: 410.

265 Human Genetics (3) Genetic and molecular principles and problems of human inheritance. Prereq: Biology 240.

471-481 Biophysical Chemistry (3,3) Physicochemical principles with applications to biological systems. 471: Thermodynamics; chemical equilibrium; solutio- n chemistry; transport; electrochemistry; kinetics; enzyme catalyzed reactions. 481—Elementary quantum chemistry; interactions of molecules and light; magnetic spectroscopy; light scattering; case studies of selected macromolecules. Prereq: Calculus, Organic Chemistry, and consent of instructor. (Same as Chemistry 471-81.) F,Sp

480 Physiology of Exercise (3) (Same as Exercise Science 480.)

492 Off-Campus Study (1-6) No more than two credits of 492 will count toward the Biological Sciences: BCMB major. Satisfactory/No Credit grading.

462 Junior/Senior Seminar (1) Lecture/discussion on the application of biochemical principles and techniques in the research, clinical, diagnostic or therapeutic environment. May be repeated. Prereq: Freshmen and sophomores. F,Sp

465 Human Genetics (3) Genetic and molecular principles and problems of human inheritance. Prereq: Biology 240.

101-102 Human Kind in the Biotic World (4,4) Introduction to the principles of biodiversity and the effects of the impacts of plants, animals, and microbes on human life, and the impact of humans on the biosphere, intended for students not majoring in the biological or pre-health sciences. 101 surveys life from the cell to topics in human health. Topics include: macromolecules and cells, energy flow in biological systems, genetics and information flow from generation to reproduction, biotechnology and genetic engineering, sex and sexuality, human physiology, cancer, drugs—use and misuse. 102 fo- cuses on the diversity of the Earth’s biota and the interdependence among components. Topics include: surveys of biodiversity from bacteria to higher plants and animals, genetics and evolutionary processes, popula- tion biology, and human impact on the environment, including world population, and global climate change. Each course is 3 hours lecture, 1 hour discussion laboratory. Laboratories involve a mix of skills-oriented exercises and assignments focused on topics. Although not required, it is strongly recommended that 101-102 be taken in sequence.

130 Biodiversity (4) Unifying concepts and principles of biology, illustrated with diversity of life, intended for science majors. Properties of life, molecular basis, origin of life, cells, genetics, introduction to kingdoms, origins of multicellularity in plants and animals, ideas about evolution, man’s place in nature. Emphasis on common themes in living systems (e.g., metabolism, protein and nucleotide sequence similarities, morphol- ogy, phylogeny, cell cycle phases, and spermatogenesis) and animal groups. Writing and analysis of lab activities required. 3 hours lecture, 1 hour lab each week. Credit not available to students who credit for both 101 and 102.

140 Organization and Function of the Cell (4) Topics include: basic organic chemistry and biomolecules, cell structure—membranes, cell walls, and internal organelles; energetics—respiration and photosynthesis; cell divi- sion—mitosis, and molecular biology. Labs will stress basic laboratory skills and procedures such as measuring pipetting and mixing solutions, as well as introduce modern methods of molecular biology such as electrophoresis and centrifugation. Prereq: 130, Chemistry 120; coreq: Chemistry 130.

202-203 Inside the Biological Sciences (1,1) Presentations by faculty and other biology professionals emphasizing recent biological research. Familiarizes students with diverse nature and current applications of biology. Open to freshmen and sophomores. Satisfac- tory/No Credit only. May be repeated.

240 General Genetics (4) Classical and modern prin- ciples of heredity, early and modern theories of transmission- genetics; molecular genetics and gene expression; population and evolutionary genetics. Laboratories will be an integral part of the course. May be repeated if subject matter varies. Includes both computer based simulations and hands-on experi- ence with model genetic systems. Emphasis on develop- ment of analytical skills. Prereq: 130-140 or Bot 110- 120; Chemistry 120-130.

411 Mechanical Systems Engineering (3) Fundamen- tals of power delivery systems and simple mechanisms; selection and design of mechanical, hydraulic, and thermal systems. May be repeated. Prereq: 431, Computer Engineering 231 and 321. 2 hours and 1 lab. Sp

412 Natural Resource Engineering (3) Introduction to hydrologic cycle; movement of water and interaction with environment through such processes as erosion and contaminant transport. Impacts through estimation and management, and controlling impacts through engineer- ing design. Specific designs: waterways, erosion and sediment control structures, waste management sys- tems; decision making, and monitoring systems. Prereq: 321, Environmental and Soil Sciences 210, Civil Engineering 390 or Aerospace Engineering 341, 2 hours and 1 lab. F

431 Bioprocessing Engineering (3) Application of basic engineering principles to processing and handling of biological materials: physical, chemical, biological prop- erties; materials handling; material conversion opera- tions; drying; heat processing and bioprocessing. Prereq: 431, 4 hour lab. F

432 Organic Systems Engineering (3) Design of controlled environments to optimize conditions for organism growth and development: growth equations and population dynamics; plant growth systems; microbial growth systems; ten- sional growth systems. May be repeated. Prereq: 411, Com- puter intensive course. Hands-on experience. Prereq: 411, 1 hour and 2 labs. F

441 Life Systems Engineering (3) Design of controlled environments to optimize conditions for organism growth and development: growth equations and population dynamics; plant growth systems; microbial growth systems; ten- sional growth systems. May be repeated. Prereq: 411, Com- puter intensive course. Hands-on experience. Prereq: 411, 1 hour and 2 labs. F

451 Electronic Systems (4) Basic electronics with biological applications. Analog and digital electronics; sensing and controlling physical and environmental parameters; sensor selection and interfacing; signal conditioning; process control. Includes laboratory ex- periences and design project. Prereq: 411. 3 hours and 1 lab. Prereq: Electrical Engineering 301. 3 hours and 1 lab. Sp

470 Special Problems in Biosystems Engineering (1- 3) Selection, analysis solution and report of project. May be repeated. E

480 Selected Topics in Biosystems Engineering (1-3) Current trends and problems in agricultural engi- neering. May be repeated. E

492, 493 Off-Campus Study (1-6) No more than two credits of 492 will count toward the Biological Sciences: BCMB major. Satisfactory/No Credit grading.

BIOLOGICAL SCIENCES (100)

104 Design Apprenticeship (1) Exposure to design in biosystems engineering, through apprenticeship with senior design teams in Biosystems Engineering 402. Apprentices will maintain a journal describing their activi- ties in assisting the senior design engineers, and will make an oral presentation summarizing the design project with which they assisted. Grading will be based on journal submis- sions, contributions to the design team, and the final presentation. Prereq: Engineering Fundamentals 101, 2 hour lab. Sp

201 Career Opportunities (1) Activities and opportuni- ties in the fields of specialization; required training for each area; projected career activities. 1 hour. F

221 Mass and Energy in Biosystems (3) Introduction to thermodynamic concepts for biological systems (energy, mass, energy input and output), psychrometrics and psychometric processes; biological systems and the biosphere (bioenergetics, hydrologic cycle), animal growth systems and systems modeling. Prereq: Chemistry Engineering Fundamentals 102, 2 hours and 1 lab. F

231 Biothermodynamics, Heat and Mass Transfer (3) Application of thermodynamics to biological systems; heat transfer, with emphasis upon conduction and convection applications; introduction to diffusion mass transfer. Coreq: Mathematics 241. Prereq: 221, Nuclear Engineering 203. 2 hours and 1 lab. Sp

401 Biosystems Engineering Design I (3) First course of a capstone design sequence. Review of fundamental engineering principles, time and project management, ethics, contemporary issues in biosystems engineering, portfolio review, and design proposal generation. Design proposal will be approved by core faculty and undergone preliminary analyses. Prerequisite: 451 and senior stand- ing or consent of instructor. Coreq.: 403 or 423 or 430 or 433. F

402 Biosystems Engineering Design II (6) Culmination of capstone design sequence. Emphasis on exper- ience on project chosen and approved in Biosystems Engineering 401. Analysis, construction, testing, evalua- tion and reporting required. Technical Pressure stresses, office and design projects, studies, and technical support required on the chosen design project. Weekly oral and written reports. Submission of design to external engineering consultant required. Prerequi- site: 401. 2 hour lecture, 2 hour recitation (weekly project reports) and 4 hour lab. Sp

436 GIS/GPS Applications in Agriculture and Environ- mental Science (3) Introduction to the application of Geographic Information Systems (GIS) and Global Posi- tioning Systems (GPS) in agriculture and in environmental science. Course will be covered with the software and its concepts, GPS receivers, data acquisition, and spatial analysis of data to solve problems. Case studies in agricultural demography, precision agriculture, pasture management, water quality, watershed management, and waste pollution will be used to provide hands-on experi- ence with these emerging technologies. Prereq: Agricul- ture and Natural Resources 290 or equivalent.

414 CAD Applications to Biosystems Engineering Technology (3) Computer Aided Drafting (CAD) applica- tions in agriculture and environmental science. Essen- tials of CAD software to be covered include: components, systems, flow charts, and process diagrams. Applica- tions in mechanical, structural, and biosystems. 2D applications with limited emphasis on 3D applications. Computer intensive course. Hands-on experience. Prereq: Computer proficiency and admission to graduate pro- gram. (Students cannot receive credit for both 414 and 514.) Two 2-hour labs. F
242 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 101 or 221, 2 hours and 1 lab. F

432 Agricultural Machinery and Tractors (3) Functions, selection, matching, and management of agricultural machinery and systems. Design and analysis of power ratings, engine performance and transmission systems, hydraulic systems, hitching, and ballasting. Field and material capacity, field efficiency, cost analysis, work planning and replacement strategies. Functional analyses of tillage operations, planters and drills, no-tillage systems, hay harvest systems, forage and small grain harvesting, and cotton harvesting. Crop drying principles, agricultural machinery safety considerations, and operator ergonomics. Prereq: Mathematics 123 or 125 or consent of instructor. 2 hours and 1 lab. Sp

442 Agricultural Waste Management and Pollution Control (3) Waste renovation fundamentals; characteristics of animal manure and excreta for collection, recycling, storing, and utilizing livestock waste. Prereq: Mathematics 125 or 123 or equivalent. 2 hours and 1 lab. F

452 Small Internal Combustion Engines (3) Theory, concepts and mechanics of small internal combustion engines; theoretical cycles, selection, operation, adjustment, troubleshooting and repair of single-cylinder engines. Prereq: Mathematics 123 or 125 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; equipment design and management; safety considerations; materials handling and disposal methods. Prereq: Mathematics 123 or 125 or consent of instructor. 2 hours and 1 lab. Sp

474 Environmental Instrumentation and Monitoring (3) Equipment and techniques commonly used to measure all aspects of hydrologic cycle: precipitation, runoff, streamflow, subsurface water movement. Sampling of all flows for design of monitoring and management programs. Analysis of data. Prereq: Environmental and Soil Sciences 324, Statistics 201, Math 152, or consent of instructor. (Students cannot receive credit for both 474 and 574.) 2 hours and 1 lab. Sp

BOTANY (198)

110-120 General Botany (4,4) 110 - Introduction to taxonomy through tree identification; basic organization and function of cells; respiration; photosynthesis; genetics (including meiosis, mitosis, Mendelian inheritance); survey of introductory plant classification. Prereq: Math 123 or 125, Algebra, Biology, and one year of general chemistry and one year biological science. F, Su

330 Field Botany (3) Principles of taxonomy, basic ecological concepts and the identification, recognition, collection and preservation of local, native and naturalized plants. Prereq: 8 hours in biological sciences. F, Sp, Su

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 selected staff. By application only. May be repeated with consent of department. Maximum 4 hours.

401 Field Studies in Botany: Specific Topic to be announced (1-3) Field experience and taxonomy of special plant groups. Selected field topics will vary and may include: Bryology, Lichenology, Pteridology, Agrostology, Mycology, Physiology, Aquatic Vascular plants, Synantheroxology, Woody Plants, and Botanical Photography. May be repeated, but no specific topic may be repeated for credit. Maximum 9 hours.

404 Plant Molecular Biology (4) Instructions to current research in plant molecular biology and to commonly used techniques and procedures. Lectures include genome structure, gene expression and regulation, transformation, transposable elements, plant development, etc. labs include nucleic acid purification, DNA amplification, hybridization, and preparation of plasmids, PCR amplification of specific sequences, DNA sequencing and transformation. Prereq: Biology 140 and 240 with a grade of A or B and consent of instructor.

412 Plant Anatomy (3) Cells, tissues and organs; their development in vegetative and reproductive structures of vascular plants—emphasis on seed plants. Prereq: 110-110 or Biology 140-140 or equivalent.

419 Science as Method (3) (Same as Ecology and Evolutionary Biology 419 and Phage 419.)

431 Plant Ecology (3) Interactions between individuals, species, communities and their environments. Circulation of energy and matter in ecosystems. Weekly field trips or laboratory periods, and at least two weekend field trips. Prereq: 330 or equivalent. Su (Same as Ecology and Evolutionary Biology 431.)

442-444 Undergraduate Research Participation (1-2,1-2) Experience in active research projects under supervision of staff members. Prereq: Junior or senior standing, minimum grade average 3.0, consent of instructor. May be repeated. Maximum 8 hours.

451 Plant Tissue Culture (3) Methods for the culture of cells, tissues, and organs including media preparation and plant acquisition. Prereq: 110-120 or Biology 130-140 or equivalent and Chemistry 120-130 or equivalent. Recommended: 310, 321, 412, Microbiology 310 or 319, Ornamental Horticulture and Landscaping 400.

471 Senior Seminar (3) A capstone course conducted in seminar format dealing with topics of current interest in plant biology. Written reports and oral presentations are required. Prereq: Senior standing.

499 Evolutionary Ecology (3) Basic concepts in evolutionary and ecological genetics. Biogeography, climate, population genetics, evolution and natural selection, population growth and regulation, competition, niche, experimental ecology, predation, phylogenetics in ecology, biodiversity and conservation. Prereq: General Biology and General Ecology. Students may not receive credit for both 499 and 599. (Same as Ecology and Evolutionary Biology 499.) Sp, A-D

BROADCASTING (202)

275 Introduction to Radio and Television (3) Lecture and lab course providing students with an overview of radio, television, cable and related technologies. Includes history, programming, regulations, and effects of radio and television on society. Prereq: 8 hours in radio/television. Students gain practical experience in radio at WUTK-FM. Prereq: Communications 100 or Speech Communication 100.

310 Radio-TV News (3) Writing and reporting for electronic media. Lecture and lab course with writing emphasis. Includes work experience at WUTK-FM. Prereq: 275.

Courses of Instruction 161


330 Audio/Video Production (3) Emphasis on the function and operation of the primary video and audio tools to develop effective communication. Lecture and laboratory provide experience in studio production process and procedures. Includes concept development, script writing, message design, applied aesthetics, crew management, and producing. Prereq: 275.

360 Radio-TV Performance (3) Development of vocal, visual and performance skills for announcers, interviewers, narrators, reporters, and newscasters. Laboratory hours required. Prereq: 275.

410 Electronic News Gathering (3) Writing, reporting, producing and producing news for television. Lecture and lab course providing students with experience as reporters/producers for a television news program. Includes an overview of electronic news gathering equipment and techniques as well as video editing. Prereq: 310.


430 Electronic Field Production (3) Basic principles of video production on location. Emphasis on the concepts relating to message design, development, and production in the field. Includes concept development, script writing, shooting, graphics, sound design, lighting, and editing. Prereq: 330 or consent of instructor.

440 Corporate Video (3) Examination of special requirements of business, industrial, educational and medical uses of video. Management, budgeting, planning, producing, and evaluating projects. Prereq: 430 or consent of instructor.


460 Broadcast News Operations (3) Production of news program for broadcast on television stations. Electronic news gathering, editing and writing news packages, and studio production. Prereq: 410 or consent of instructor.

470 Cable, Broadcast, and Interactive Digital Media (3) History and structure of cable television and other broadband delivery systems (DBS, Internet, etc.). Development of digital broadcasting, interactive television, and other broadband media systems and digital technologies. Analysis of major issues arising from new media and digital technologies. Prereq: 275 or consent of instructor.


490 Radio and Television Management (3) Business policies and practices of broadcast operations, departmental functions, cost and income analysis, leadership styles and techniques with an emphasis on mid-level management. Capstone course to be taken in student’s last semester. Prereq: 410 and 450.

492 Practicum (1) Work and learning experience at radio, television, cable or non-broadcast facilities. Final written report required. May be repeated once. Prereq: Senior standing and consent of department head. SINC grading only.

494 Special Topics (3) Salient issues in electronic media. Topics vary. Prereq: Consent of instructor. May be repeated. Maximum of 6 hours.
BUSINESS ADMINISTRATION (205)

101 Basic Business Applications (1) An online course with GTA coordination. Covers word processing, data processing systems basics, Lotus Notes GroupWare, and Microsoft Word, Excel, and PowerPoint. Exit testing is in the form of online performance tests in the applications on scheduled examination periods. Not available for credit if Management 203 or equivalent has been completed. S/N Credit only. Required for satisfactory progression to upper-division level in Business. Prereq: Business Pre-major.

320 Business Career Planning (1) Exploration of career opportunities in business. Process of making the career decision, preparing for and conducting a job campaign. Satisfactory/No Credit only. Required for satisfactory progression to upper-division level in Business or the College minor.

331 CBM: Supply Chain Management (2) Coordinating the end-to-end relationships between supply chain members, from inputs to delivery of product/services. Understanding impact of demand and supply information flows across the supply chain. Emphasis on integrating activities through improved processes and relationships to achieve and maintain competitive advantage. Prereq: Progression as a business major in the College of Business Administration and junior standing. Coreq: BA 332.

341 CBM II: Lean Operations (2) Design of the product delivery system in manufacturing and service operations. Dynamics of the supply chain. Managing flows in manufacturing and service processes. Specific techniques for continuous improvement design, such as pull replenishment, cellular layout, standard work, and mixed model sequencing. Prereq: Progression as a business major in the College of Business Administration and junior standing. Coreq: BA 331.

351 CBM III: Business Management: The Marketplace (2) Integrative experiential learning experience to facilitate student learning of the interrelationships between the perspectives of supply chain management, demand management, operations management, and information management. Prereq: BA 331-332, BA 341-342. Must be admitted to a business major in the College of Business Administration and be of junior standing. Coreq: Business Administration 352.

352 CBM III: Organizational Behavior (1) Behavioral processes in organizations; motivation, leadership, decision-making, communication, behavioral consequences. Group behavior, informal organizations, organizational structure, conflict, politics, change and development. Prereq: BA 331-332, BA 341-342. Must be admitted to a business major in the College of Business Administration and be of junior standing. Coreq: BA 351.

361 The Firm in a Global Context (3) Domestic and international factors that impact the decision-making process of the firm; domestic and international macroeconomic and technological change, and its impact on institutional and cultural systems. Emphasis on relationship between theoretical models and actual problems encountered in the conduct of business. Prereq: Business Administration 201.


400 Special Topics (1-9) Topics of current interest in business. Topics announced prior to offering. May be repeated for additional credit provided topic is different. Maximum 9 hours. Prereq: consent of instructor.

470 Honors: Corporate Executive in Residence Seminar (3) Interaction with top corporate executives from a wide spectrum of business disciplines. Domestic and international strategic planning as it is applied in major U.S. Corporations. Executive presentations and small group discussion on goods and services in consumer and industrial settings. Prereq: Senior standing, Finance 301, Business Administration 332 and 341, and consent of instructor.

491 Foreign Study (1-15) Prereq: Consent of instructor.

492 Off-Campus Study (1-15) Satisfactory/No Credit grading only. Prereq: Consent of instructor.

493 Independent Study (1-15) Prereq: Consent of instructor.

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 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


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.: 100 or 130 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 treatment of gas laws, quantitative aspects of solution chemistry, kinetics. 130 - Chemical equilibria, thermodynamics, descriptive chemistry of nonmetallic and metallic elements, introduction to organic and biochemistry. Prereq for 130: 120 or 128. 3 hours and 1 lab. E

128-130 Honors: General Chemistry (4,4) 3 hours and 1 lab. 128-F, 138-Sp

150 Chemistry and Society (3) Food and agricultural chemistry; chemistry in medicine; air and water pollution; energy and fuels. 3 hours lecture. Not a prerequisite for any other chemistry course. F

160 Chemistry and the Home (3) Chemistry and the consumer; household products; chemistry in the kitchen and around the home. 3 hours lecture. Not a prerequisite for any other chemistry course. F

200 Introduction to Chemical Research (1) Participation in an active research program in analytical, inorganic, organic, physical, or polymer chemistry. Students work with researchers to acquire expertise in planning experiments and interpreting results and writing hypotheses. Credits may not be applied toward a major or minor in chemistry. Not a substitute or prerequisite for 400. Prereq or Coreq: 200 or higher level course in chemistry and consent of instructor. May be repeated. Maximum 4 hours.

230 Inorganic Chemistry (3) Periodicity, valence, bonding, and the descriptive chemistry of the elements; coordination compounds; transition elements, inner transition elements. 2 hours and 1 lab. Prereqs: 130 or 138. F

240 Chemical Programming (2) Use of the computer in solving problems encountered in chemistry. Required of and limited to chemistry majors. Prereq: 130 or 138. 1 hour and 1 lab. Sp

301 Industry/Laboratory Internship (3) Supervised by industry/laboratory technical staff at an approved facility. Consists of a full-time “hands-on” individual assignment in a semester as a member of a technical or experimental team. Credits may not be applied toward a major or minor in chemistry. May be repeated. Prereq: 130 or higher and consent of Department Head. S/N grading only. E

310 Analytical Chemistry (3) Principles and practices of quantitative measurements in chemical systems. Acid-base, complexometric, and redox equilibria; applications of titrimetric analysis; potentiometry; spectrophotometry; chromatography; chemical separations including chromatography, ion exchange, and solvent extraction. Prereq: 130 or 138. E

319 Analytical Chemistry/Laboratory (3) Experiments on topics covered in 310. Coreq: 310. E

320 Advanced Analytical Chemistry (3) Modern electroanalytical methods; mass spectrometry; optical spectrophotometric techniques; magnetic resonance methods; advanced chromatographic theory. Prereq. 310. Sp

329 Advanced Analytical Chemistry Laboratory (2) Experiments on topics covered in 320. Coreq: 320. Sp

350-360 Organic Chemistry (3,3) Compounds of carbon and their reactions. Reaction mechanisms, synthesis, spectroscopic and other physical properties. Must be taken in sequence. Prereq: 130 or 138; Coreq for 360. 350, 360. E

369 Organic Chemistry Laboratory (2) Experiments on topics discussed in 350-356. Coreq: 360. 1 hour lecture and 4-hour lab. E

400 Research in Chemistry (3) Open to senior majors with consent of department head. Written reports are required. Advanced students work with faculty on projects requiring knowledge and skills acquired in chemistry curriculum. May be followed by either 400 or 408 (but not both); maximum of 6 hours of Research in Chemistry. E

401 Advanced Industry/Laboratory Internship (3) Supervised by industry/laboratory technical staff at an approved facility and by a chemistry faculty member serving as liaison between the laboratory and the university. Consists of a full-time “hands-on” individual assignment for an entire semester as a member of a technical or experimental team. Final comprehensive written report required. May not be repeated. Prereq: 230 or higher numbered course in chemistry and consent of Department Head. E

405 Topics in the Development of Chemistry (3) Historical development of topics such as the atomic theory; chemical industry; interrelationships of population, economy, and food. Subject matter may vary from one offering to another. Assignments include readings from older original literature (Dalton, Faraday, Kekule) and from current journals and monographs. Includes the use and misuse of evidence, the impact of chemistry on society, how scientists reach conclusions, and the nature of scientific controversy. Written reports will be required. Coreq: Major standing in chemistry. Writing-emphasis course. F
406 Senior Seminar (1) Discussions by faculty and students of current research and topics from recent literature. Oral and written reports required. All chemistry majors and others may enroll. Coreq: Senior standing in chemistry. May be repeated. Maximum 2 hours. Sp

408 Honors Research in Chemistry (3) Advanced students work with faculty on research projects requiring knowledge and skills acquired in chemistry curriculum. An Honors Thesis is written and defended orally before a faculty committee. Prereq: 400. E

420 Selected Topics in Chemistry (1-3) Topics of current significance in Chemistry. May be repeated. Maximum 6 hours. Only three credits may be applied to a major in chemistry. Prereq: consent of instructor.

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, bonding, coordination and organometallic chemistry. Prereq: 230. Sp

439 Advanced Inorganic Chemistry Laboratory (1) Modern experimental techniques in inorganic chemistry, including synthesis, analysis, and handling of air-sensitive materials. Coreq: 430. Open to B.S. in Chemistry students or with consent of instructor. 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 BCMB 471-481.)

473-483 Physical Chemistry (3,3) Students may not receive credit for both 473 and 473 nor for both 481 and 483. 473—Properties of gases; first, second and third laws of thermodynamics; chemical equilibrium; simple phase equilibria; properties of solutions. 483—Introduction to statistical thermodynamics; kinetics of chemical reactions; introduction to quantum mechanics and applications to electronic structure of atoms and molecules; molecular spectroscopy. Prereq: 130 or 138, Physics 136 or 138 or 222 or 231, and Mathematics 241 or 247.

479-489 Physical Chemistry Laboratory (2,2) Experiments on molecules, chemical reactions, and reactions of solutions. Prereq or Coreq: 471 or 473 for 479 and 481 or 483. Coreq or Coreq: Corresponding courses 471 or 473 for 479 and 481 or 483 for 489. 1 lab. 479-E, 489-Sp

490 Introductory Polymer Chemistry (3) Fundamental principles stressing the role of chemistry in the interdisciplinary field of polymer science. Relation of molecular structure to bulk properties of polymers. Prereq: 360. Prereq or coreq: 471 or 473. F

CHILD AND FAMILY STUDIES (245)

110 Introduction to Early Childhood Education (3) History, philosophy, current trends, issues, programs and program models. Includes observation.

205 Introduction to Family Life Programs (2) Community and school-based programs that focus on enhancing individual and family life. Includes observational experience. Satisfaction/No credit grading only.

210 Human Development (3) Conception through adulthood in various social/educational contexts; interrelationships among cognitive, affective, social, moral, and physical development.

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.

213 Development in Middle Childhood and Adolescence (3) Development during middle childhood and adolescence; interrelationships among cognitive, emotional, social, physical aspects of ontogeny; normative, nonnormative development. Includes observation.

220 Marriage and Family: Roles and Relationships (3) Emerging, declining roles, changing relationships among family members. Includes role change from various theoretical approaches; impact of gender roles on marital relationships, marital quality, power, decision-making, communication, conflict management, combining work-family roles. (Same as Women’s Studies 230.)

240 Human Sexuality (3) Sexuality through cultural, social, familial, and psychological factors.

312 Families in Middle & Later Adulthood (3) Adult life in society from youth through elderly; adjustment to internal and social changes through adulthood; interrelationships among various aspects of development: physical, cognitive, emotional, social. Includes observation.

320 Parenting (3) Factors in contemporary American families impacting interactions across the life cycle. Review of strategies for strengthening parenting skills. Prereq: 220 or consent of instructor.

345 Family Resource Management (3) Theory and application of managerial functioning in family settings; analysis of goal setting and information systems and constraints within families. Observation and analysis of diverse family practices. Prereq: 220 or consent of instructor.

350 Early Childhood Education I: Environments for Children (3) Planning, behavior management, health, safety, nutrition, organization of day care environments, communication, interpersonal skills, interaction with children, crisis stress reduction and management in classroom. Laboratory participation included. Prereq: 110 and 211, HRD 210, admission to the major or consent of instructor.

351 Early Childhood Education II: Curricula and Program Techniques (3) Introduction to 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. Prereq: 350 and admission to the Child Development major or admission to the Early Childhood Education licensure program.

352 Diversity in Family-School-Community Relations (3) Techniques for developing community relationships including advocating for children and families from diverse cultures and populations. Includes observation. Pre or Coreq: 351 or consent of instructor. Sp

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. Prereq: 350 and admission to Early Childhood Education licensure program or consent of instructor.

360 Family Stress (3) Family’s response to stressful circumstances, skills for intervention into family systems, violence, abuse, divorce, illness, death. Prereq: 220 or consent of instructor.

405 Development and Teaching of Interpersonal Skills (3) Development of basic interpersonal skills needed to work with families and other professionals. Skills include active listening, goal setting, teaching, and negotiation. Process of teaching interpersonal skills and group facilitation in community setting. Prereq: Family Studies majors only.

420 Family Diversity (3) Cultural, socioeconomic, ethnic variations, caregiving needs and programs. Prereq: 220, Junior standing or consent of instructor. (Same as African-American Studies 420.)


430 Family Communication (3) Dynamics of interactions within family systems, marriage, and parent-child relationships. Study of verbal and nonverbal communication patterns, processes and problems. Prereq: 220 or Speech 320 or consent of instructor. (Same as Speech 430.)

440 Family Life and Parent Education (3) Emphasis on skills required to develop family life education programs implemented in community settings. Overview of current approaches to the process of parent education and parent education programs. Prereq: Family Studies majors only.

450 Assessment in Early Childhood Programs (3) Methods and principles of assessment of children, birth through 8 years of age. Includes participation. Prereq: 350 and admission to the major or ECE licensure program. Prereq or Coreq: 351.

451 Early Childhood Education III: Including Exceptional Children (3) Individualized curriculum planning based on knowledge of normative, nonnormative development, assessment, effective teaching strategies for facilitating development. Includes participation. Prereq: 350 and admission to the Child Development major or admission to the Early Childhood Education licensure program.

455 Children and Stress (3) Theory and methods for understanding young children’s stressors, examining children’s coping strategies, and designing appropriate intervention techniques and learning environments. Prereq: Admission to the Child Development major or the Early Childhood Education licensure program or by consent of instructor. Sp, A

460 Directed Study in Child and Family Studies (1-3) Individualized learning experience arranged for students under supervision of faculty. May be repeated with different topics. Maximum 6 hours. Prereq: 9 hours in Child and Family Studies and consent of instructor.

470 Student Teaching (6-12) Responsibility for planning and guiding groups of infants, toddlers, or preschoolers under supervision of classroom teacher and coordinator. Includes weekly seminar. Prereq: 350 and 351 and admission to the Child Development major or admission to the Early Childhood Education licensure program and completion of all progression requirements. SATISFACTORY/No Credit only. F and Sp student teaching begins on first day of registration and ends on the final exam day of the first semester period (student teaching follows the CDL calendar and does not include Fall or Spring break). Summer student teaching begins the day following Spring commencement and ends on the day before Summer commencement. Priority for summer student teaching is given to students who have completed all program requirements, except student teaching, prior to the Summer session.

471 Practicum in Child Development (3-12) Supervised experiences working with children and families in early childhood settings. Prereq: Admission to the Child Development major or the Early Childhood Education licensure program and consent of the instructor. May be repeated. Maximum 12 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, recruitment of children, supervision, evaluation, public relations, communications, conflict resolution. Includes participation experience. Prereq: 351 and admission to the Child Development major or admission to the Early Childhood Education licensure program or consent of instructor.

480 Internship in Family Studies (9) Supervised experiences in community-based family life programs. Coreq or Prereq: Completion of Family Studies core, completion of the Teaching Field Experience, Community Education Service Pod, including CFS 405 and H&S 380, SATISFACTORY/No Credit only.

481 Research in Child and Family Studies (3-6) Supervised research experiences. Prereq: 9 hours in Child and Family Studies, cumulative GPA of 3.0 or above, Junior standing, or consent of the instructor. May be repeated. Maximum 12 hours.

485 Special Topics in Child and Family Studies (1-9) Personal or professional interest in human development for family life. Prereq: Credit in Family Studies, Junior or Senior 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. Prereq: 15 hours in Child and Family Studies, overall GPA of 3.25 or greater, Junior standing, or consent of instructor. May be repeated. Maximum 6 hours.

CHINESE (249)

131-132 Elementary Chinese I (5,5) (Same as Asian Languages 131-132.)

231-232 Intermediate Chinese II (5,5) (Same as Asian Languages 231-232.)

311-312 Chinese Literature in English Translation (3,3) (Same as Asian Languages 311-312.)
331-332 Advanced Chinese II (4.4) (Same as Asian Languages 331-332.)
431 Readings in Chinese Literature (3) (Same as Asian Languages 431.)

CINEMA STUDIES (251)
235 Introduction to Cinematography as Art (3) (Same as Art Media Arts 235.)
236 Introduction to Video Art (3) (Same as Art Media Arts 236.)
281 Introduction to Film Studies (3) (Same as English 281.)
312 Popular Culture and American Politics (3) (Same as Political Science 312.)
323 German Film (3) (Same as German 323.)
325 Russian Film (3) (Same as Russian 325.)
334 Film and American Culture (3) (Same as English 334 and American Studies 334.)
400 Special Topics (3) May be repeated. Maximum 6 hours.
420 French Cinema (3) (Same as French 420.)
421 Topics in Italian Literature and Cinema (3) (Same as Italian 421.)
433 Modern Art and Film (3) (Same as Art Media Arts 433.)
434 Hispanic Culture Through Film (3) (Same as Spanish 434.)
435 Cinematography as Art (3) (Same as Art Media Arts 435.)
436 Video as Art (3) (Same as Art Media Arts 436.)
465 Latin American Film and Culture (3) (Same as Latin-American Studies 465 and Spanish 465.)
469 Sexuality and Cinema (3) (Same as Women’s Studies 469.)
489 Special Topics in Film (3) (Same as English 489.)
491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)

CLASSICS (257)
201 Introduction to Classical Civilization (3) Introduc-
tory survey of civilization of ancient Greece and Rome. Includes aspects of history, literature, art and archaeology, philosophy and religion. Writing-emphasis course.
221 Early Greek Mythology (3) Archaic Greek religion through comprehensive study of Greek myths with emphasis on how they reflect the Early Greek vision of the universe and humanity’s place in it. Origins and development of Greek myths and the rise of organized religion, from Bronze Age to about 450 B.C. Readings include Hesiod and Aeschylos. Writing-emphasis course.
222 Classical Greek and Roman Mythology (3) Use of myth in literature, history, religion and philosophy of Greece and Rome from about 450 B.C. to about 550 A.D. Two foci are the latter half of the fifth century B.C. and the last quarter of the first century B.C. Includes oriental intrusion into Greece and Rome, including early Christian and pagan religious beliefs. Readings include Sophocles, Euripides, Roman poetry, and modern scholarship. Writing-emphasis course.
232 Archaeology and Art of Ancient Greece (3) Survey of Greek archaeology from prehistoric times to the Roman period (ca. 3000-100 B.C.). For prehistoric times emphasis is on architecture and artifacts used to recreate the culture of the Minoan and Mycenaean civilizations and that of the following Dark Age. For Archaic, Classical, and Hellenistic periods emphasis is on development of architecture, sculpture, and vase painting. Includes minor arts and the relationship between archaeology and art. Writing-emphasis course.
233 Archaeology and Art of Etruria and Rome (3) Survey of the archaeology of the Italian peninsula and the Roman World from prehistoric times to the fall of the Roman Empire (1000 B.C.-500 A.D.). Reconstruction of the Etruscan culture from tombs, paintings, and artifacts, development of Roman architecture, and urban planning in Rome and the provinces. Writing-emphasis course.
253 Greek and Roman Literature in English Translation (3) Major literature of ancient Greece from Homer to Tacitus. Writing-emphasis course.
273 Medical and Scientific Terminology (3) Greek and Latin roots from which medical and scientific terminology is derived. Extensive practice in analysis of terms. Practice in use of Latin nomenclature.
310 The Ancient World: Greece (3) Development of Athenian democracy; its successes and failures; Polish crisis of the fourth century B.C.; emergence of hellenistic civilization. (Same as History 310.)
311 The Ancient World: Rome (3) (Same as History 311.)
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 and their effect on the Aegean World and Cyprus. Evidence for daily life, religion, trade, and foreign contact. Architecture, wall paintings, and artifacts. Prereq: One of the following: 232, 381, ancient history (Ancient Near East or Ancient Greece), or consent of instructor. Writing-emphasis course.
334 Cities and Sanctuaries of the Greek and Roman World (3) Major cities and sanctuaries in Greece, the Greek Colonies, and the Roman Empire. Approach is archaeological, focusing on physical evidence—landscape, architecture and artifacts as well as descriptions of ancient authors. Cities include various types—planned and unplanned, seaports, caravan centers, government and commercial centers. The sanctuaries also vary in function including gymnastic centers, athletic centers, theater centers, and healing centers. Writing-emphasis course.
362 Roman Law (3) This course covers the historical development of Roman law in the Classical period (50 B.C.-250 A.D.) with particular attention to the analysis of case-law in the areas of contract, property, or delict. (Same as Legal Studies 362.)
381 Greek 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.
382 Roman Civilization (3) Major aspects of ancient Roman civilization: political institutions, art and architecture, history, culture and daily life, emphasizing the late Republic and early Empire. Writing-emphasis course.
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 Rome in Italy in the first and second centuries A.D. (Same as Women’s Studies 383.)
441 Special Topics in Classical Civilization (1-3) Topics in art, literature, religion, and society of Greece and Rome. May be repeated up to three times with consent of department.
461 Studies in Classical Archaeology (3) Variable content course offering subject matter not taught in an existing course, or concentration on one aspect of the existing survey. May be repeated. Maximum 9 hours. Prerequisites according to topic.
491 Foreign Study (1-15)

COLLEGE SCHOLARS HONORS (509)
317-318 College Scholars Seminar (1,1) Sequence (in any order) limited to and required of all College Scholars each year. May be repeated. Maximum 8 hours. Satisfac-
tory/No Credit grading only.
490 College Honors: Foreign Study (1-15) Limited to College Scholar students.
492 College Honors: Off-Campus Study (1-15) Limited to College Scholar students.
493 College Honors: Independent Study (1-15) Limited to College Scholar students.
498 Honors: College Scholars Studies (2-12) Designed for College Scholars working on their senior thesis, project, or performance. May be repeated. Maximum 16 hours.

COMMUNICATIONS (259)
100 Introduction to Mass Communications (3) Overview of systems in mass communication, with emphasis on American media, their ownership, legal and social controls, role and effects. Advertising, broadcast-
ing, journalism and publishing, and public relations are examined in the context of theories of mass communications.
150 Communications in an Information Age (3) Overview of current and emerging communication systems including print, broadcast, multichannel video, tele-phony, and the Internet. Particular emphasis is given to the development of communication systems and their role in society.
300 Mass Communications Research Methods (3) Social science research methods, especially survey designs, used by communications media. Applications to both internal decision-making and to external communica-
tion in media. Prereq: Journalism 200, or Advertising 350, or Broadcasting 310 or 320, or Speech Communication 390, or consent of instructor. (Same as Legal Studies 300.)
400 Mass Communications Law and Ethics (3) Emphases on legal issues directly affecting the mass media: libel, privacy, free press-fair trial, judicial controls, government-
tal regulations. Also includes ethical standards and principles of mass media. Prereqs: Journalism 200, Advertising 200, or Advertising 350, or Broadcasting 310 or 320, or Speech Communication 390, or consent of instructor. (Same as Legal Studies 400.)
450 On-Line Electronic Publishing (3) Cross-disciplin-
ary approach to design and production of on-line publica-
tions. Emphasis on researching, planning, site content and design, and the economic, legal and ethical issues involved in online publishing. Prereq: Senior standing and consent of instructor.

COMPARATIVE LITERATURE (260)
203 Cross-Cultural Perspectives in World Literature (3) (Same as Asian Languages 203) Literary perspectives and values in different time periods and cultures approached from an international context and including an introduction to the theory, methods, and objectives of world literature. Vari-
able content. Writing-emphasis course.
401-402 Special Topics in Comparative Literature (1,3) Content varies. May be repeated. Maximum 9 hours.
452 Modern Drama, 1880-1945 (3) (Same as English 452.)
454 Twentieth-Century International Novel (3) (Same as English 454.)
491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)

COMPARATIVE AND EXPERIMENTAL MEDICINE (262)
411 Undergraduate Research Participation (1-3) Experi-
ence in active biomedical research projects under supervision of faculty. Students in premedicine and other biology majors may conduct their own research projects within designated areas. Prereq: Junior or senior standing and consent of instructor. May be repeated with consent. Maximum 9 hours. Satisfactory/ No Credit only.

COMPUTER SCIENCE (266)
100 Introduction to Computers and Computing (3) Basic concepts of computer hardware and software, microcomputer systems and operations. Networking and the Internet. The interdisciplinary science of comput-
ing. Does not satisfy any requirements for Computer Science major or minor. 2 hour lab required.
102 Introduction to Computer Science (4) Problem solving and algorithm development. Organization and characteristics of modern digital computers with emphases on developing good programming habits, building abstractions with procedures and data, and programming in a modern computer language. Students who have received credit for 140 or 160 may not also receive credit for 102 without consent of instructor.

140 Data Structures (4) Advanced problem solving and algorithm development, structured programming, data structures and applications, I/O techniques, lists, queues, trees, algorithms, files. Prereq: 102. 3 hour lab required.

160 Computer Organization (4) Number systems, Boolean algebra, combinational and sequential circuits, registers, processor functional units and control, pipelining, memory and caching, stored program computing, memory management, computer system organization, assembly language programming. Prereq: 102. 3 hour lab required.

291 Lower-Division Special Topics (1-3) Topics vary. Programming languages, operating systems and application software packages. May be repeated. Maximum 9 hours.

300 Scripts and Utilities (1) Practical tools available under Unix to enable students to become more efficient in performing labs and research projects. Topics to be covered may include: shell, date/time, sed, find at/, find, ed, awk, perl, python, make, rcs, jgraph, gcc/cpp, purge, quantity. Prereq: 140 or consent of instructor. Satisfactory/No credit grading.

302 Fundamental Algorithms (3) Design, analysis, and implementation of fundamental algorithms, such as sorting and searching, and their data structures. Prereq: 140 and 160. 3 hour lab required.

311 Discrete Structures (3) Equivalence relations, partial orderings, Combinations, permutations, analysis of algorithms, graph theory, combinatorial data and regular languages. Prereq: 140, 160, and Math 300.

340 Foundations of Software Engineering (3) Principles of analysis and design of information systems. Principles of program design and verification, formal objects, and object-oriented design. Prereq: 140, 160, 311. 3-hour lab required.

360 Systems Programming (3) Introduction to user-level systems programming; file control, process control, memory management, system utilities, network programming. Prereq: 302. 3 hour lab required.

365 Programming Languages and Systems (3) Language paradigms (procedural, functional, object-oriented, logic), language design and implementation issues and language issues related to parallelism. Prereq: 302.

370 Introduction to Scientific Computing (3) The design, implementation, and utilization of numerical algorithms for solving problems in science and engineering. Emphasis on program design, including data structures, computational techniques, scientific computing environments, and high-performance software packages. Prereq: Mathematics 241 or 251. 3 hour lab required.


420 Advanced Topics in Machine Intelligence (3) Topics such as expert systems, 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. Emphasis on faculty research. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

460 Advanced Topics in Software Systems (3) Topics such as operating systems, compilers, parallel computation, computer networks and 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, image processing. May be repeated. Maximum 9 hours. Prereq: completion of core curriculum or consent of instructor.

471 Numerical Analysis (3) (Same as Mathematics 471.)

472 Numerical Algebra (3) (Same as Mathematics 472.)

480 Advanced Topics in Theoretical Computer Science (3) Topics such as theory of computation, complexity theory, formal languages and graph theory and its application. 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 Computer Science faculty member with joint supervision of 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 6 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.

COUNSELOR EDUCATION AND COUNSELING PSYCHOLOGY (267)

205 Student Development (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 6 credit hours. S/N grading.

206 Facilitation of Technical Work Teams (3) Psychological and cultural dynamics of technical work team performance. Supervised experience in leading work teams. For engineering students sophomore level and above. Prereq: CECP 206 and Engineering student, sophomore level or above.

212 Career and Personal Development (3) Systematic approaches to facilitating career development and life planning. F, Sp

215 Learning Skills and Study Systems (3) Approaches to enhancing academic performance through study skills, efficient reading and understanding of personal factors.


307 Independent Study (1-3) Initial project with consent of director. May be repeated. Maximum 15 hours. E


410 Sex Role Development: Implications for Education and Counseling (3) Theories and research concerning the development of sexual role and its relevance to educational and counseling settings. (Same as Women's Studies 410.) F, Su

431 Personality and Mental Health (3) Perspectives of mental health with applications to other social and professional areas. Prereq: Completion of core curriculum.

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 permission to the major. Satisfactory/No Credit or letter grade.

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.

240 Tap: Level I (2) Instruction and practice in elementary tap dance techniques.

310 Ballet: Level II (2) Instruction and practice in intermediate classical ballet techniques. Available to minors or with consent of instructor. May be repeated. Maximum 12 hours.

320 Jazz: Level II (2) Instruction and practice in intermediate jazz dance styles and techniques. Available to minors or with consent of instructor. May be repeated. Maximum 12 hours.

330 Modern: Level II (2) Instruction and practice in intermediate modern dance styles and techniques. Available to minors or with consent of instructor. May be repeated. Maximum 12 hours.

340 Tap: Level II (2) Instruction and practice in intermediate tap dance techniques. Prereq: 240 or consent of instructor.

380 Special Topics (1-3) Selected disciplinary or professional areas of dance. May be repeated.

410 Ballet: Level III (2) Instruction and practice in advanced classical ballet techniques. Available to minors or with consent of instructor. May be repeated. Maximum 16 hours.

415 Teaching Creative Dance for Children (2) Theory, methods, materials and practical experience in the presentation and integration or creative dance in grades K-6. 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 minors or 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 minors or with consent of instructor. May be repeated. Maximum 16 hours.

440 Composition I (2) Composition I (2) Choreographic skills emphasizing the basic techniques and concepts of dance composition. This course focuses on the choreography of solos and duets. Prereq: 4 hours credit in upper level modern dance technique (330 or 430) or approval of instructor.

445 Composition II (2) Choreographic skills emphasizing the advanced techniques and concepts of dance composition. This course will focus on the choreography of group work and the technical aspects of production. Prereq: 440 or approval of instructor.

480 Dance History through the 19th Century (3) Survey of the dance of various societies and cultures from prehistory through the nineteen 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 9 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.

497 Early Childhood Education (279)

410 Early Childhood Special Education Foundations (3) Introduction to the field of early childhood special education including the nature of disabling conditions; theoretical perspectives in the field; legislation; policies and procedures used in the field. Prereq: Admission to Teacher Education Program.

422 Early Childhood Teaching Methods (6) Methods and materials for teaching in early childhood classrooms focusing on K-4th grade. Emphasis on holistic integrative approaches to curricular development and presentation. Prereq: Pre-K-4th licensure program and admitted to Teacher Education.

445 Early Childhood Education: Program Development and Teaching in Kindergarten (3) Curriculum planning, classroom organization, and classroom techniques for teaching young children; relationship of kindergarten to total elementary school. Prereq: Admission to Teacher Education Program. E

471 Early Childhood Special Education (6) Assessment and procedures used in early childhood special education. Prereq: Admission to Teacher Education Program. F

472 Field Experience in Early Childhood Special Education (2-5) Placement in educational settings serving young children with special needs. Provides experience in assessment, curriculum planning and teaching. Prereq: Admission to Teacher Education Program. May be repeated. Maximum 5 hours. E

480 Dance History through the 19th 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.

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 9 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)
201 Introductory Economics: A Survey course (4)
Theory of consumer behavior, theory of firms, supply and demand, costs of production, market models, national income and employment theory, money and banking, 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, price and behavior of firms in perfect competition, 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, international payments, comparative advantage, and international monetary and financial relations. Prereq: 201.


341 Economics of Health and Health Care (3) Medical care and health status; demand for medical care and insurance; physician and hospital supplies; government provision of services and insurance; regulation of health care markets. Writing emphasis course.

426 Economics of Resources and Environmental Policy (3) Economic analysis of environmental 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 Expenditure 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-tax sources of revenue, fiscal federalism. Prereq: 201. Writing-emphasis course.

482 Introduction to Mathematical Economics (3) Application of basic mathematical tools (e.g.) calculus, matrix algebra, etc. to major topics of economic theory. Prereq: Economics 311 with a grade of B or better, Mathematics 141-142 or 147-148.

492 Economics Off-Campus Study (1-6) Satisfactory, No Credit grading only. Consent of instructor.

493 Independent Study (1-3) Opportunity for qualified students to pursue topics of special interest to them. Senior standing, 3.0 GPA in economics courses, and consent of instructor. Maximum total credit 3 hours.

499 Analysis of Economic Problems (3) Study of the effects of economics on modern society and the practice of economics from the vantage point of the individual. Students will integrate learning from all fields of economics and other disciplines where appropriate, and work as teams to create and present papers of seminal economic problems facing modern society. Prereq: Senior standing and completion of Economics 311, 313 and six other hours of upper division economics. Writing emphasis course.

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.

EDUCATIONAL PSYCHOLOGY (310)

215 Learning Skills and Study Systems (3) Approaches to enhancing academic performance through study skills, efficient reading and understanding of personal factors.

401 Professional Studies: Applied Educational Psychology (2) Application of concepts, principles, techniques and models from Educational Psychology to facilitate student learning and creation of effective classroom environments. Prereq: Admission to Teacher Education.

404 Special Topics (1-3) Instructor initiated course offered on consent 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

431 Personality and Health (3) Same as Counseling Education and Counseling Psychology 431.

432 The Disadvantaged Student: Psychosocial and Behavioral Perspectives (3) Theory and methodology of working with socially disadvantaged students and their families. Prereq: Introductory course in psychology or permission of instructor. Su

493 Independent Study (1-15) Independent investigation of problems in educational and counseling psychology. May be repeated. Maximum credit 15 hours. E

ELEMENTARY EDUCATION (322)
325 Teaching Science and Social Studies in Elementary and Middle Schools (3) Science materials for teaching science and social studies in elementary and middle schools. Teaching approaches common to both fields including inquiry, discovery, group activities, and guided approaches. For BS Education students. Prereq: Admission to Teacher Education Program. F, Sp

326 Teaching Language Arts/Reading in Elementary and Middle Schools (3) Language and language development as applied to teaching of oracy (listening-speaking) and certain aspects of literacy (reading process/reading and writing). Includes methods and materials. For BS Education students only. Prereq: Admission to Teacher Education Program. F, Sp

351 Laboratory and Field Studies in Elementary Education (1-2) Simulated and actual experiences in which students apply concepts and skills from professional methods courses in a variety of school settings and levels. May be repeated. Maximum 3 hours. Prereq: Admission to Teacher Education Program. Coreq: Elementary Education 422. Satisfactory/No Credit grading only. E

356 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.

421 Elementary and Middle School Science and Social Studies Instruction (3) Methods and materials for teaching science and social studies. Development of functional instruction that integrates skills of the two fields. Not open to students with recent course or background in The Teaching of Elementary Science and/or Social Studies. Prereq: Admission to Teacher Education Program. F, Sp

422 Elementary and Middle School Teaching Methods I (6) Methods and materials for teaching elementary and middle school reading, language arts, science, social studies and mathematics. Emphasis on planning, implementation and evaluation of integrative learning experiences. Prereq: Admission to Teacher Education Program; must be taken prior to Professional Year Internship. S.

424 Studies in Elementary Education (1-3) Variable topics on teaching in Early Elementary (K-3), Middle Elementary (4-8), and Skills (K-8). Prereq: Admission to Teacher Education Program, and consent of instructor. May be repeated. Maximum 8 hours. E

429 Language Arts/Reading Instruction in Elementary and Middle Schools (3) Language and language development as applied to teaching of oracy (listening-speaking) and certain aspects of literacy (reading process/reading and writing). Not open to students who have had recent course in language arts methods. Prereq: Admission to Teacher Education Program. F, Sp

ENGINEERING AEROSPACE (018)
201 Aerospace Seminar (1) An overview of aerospace engineering with lectures, laboratory demonstrations, and discussion of the aerospace, propulsion, aerodynamics, flight dynamics, and control of space flight fundamentals, propulsion techniques, wind tunnel testing, biophysical issues in aviation and space flight. S/NC. Prereq: Sophomore standing in Aerospace Engineering or consent of instructor. F

341 Fluid Mechanics I (3) Introduction to fluid flow concepts; hydrostatics; development of mass, momentum, and energy conservation laws in integral and differential form; dimensional analysis and similarity; viscous laminar and turbulent flows in pipes; introduction to boundary layers. Prerequisites: MTH 231, Mathematics 341. F, Sp, Su

345 Aerospace Engineering Instrumentation and Measurements (3) Fundamentals of measurement systems; standards; dynamic characteristics of instruments; statistical data treatment; transducers; signal conditioning; strain, pressure, temperature, and flow measurements. Coreq: ME 363. Prereq: AE 341, EE 301. F, Sp
ENGINEERING BIO MEDICAL (192)

271 Introduction to Biomedical Engineering (3) Application of the skills developed in Engineering Fundamentals for biomedical engineers. The role of biomedical engineers in the design of artificial organs, orthopedic implants, medical imaging, and other biomedical applications. A seminar with an emphasis on developing communication and teaming skills. Prereq: EF 201.

300 Engineering Physiology (3) The study of human physiology, with an emphasis on making engineering decisions, and the development of analytical and computational models. Prereq: Consent of instructor.

310 Biomechanics (3) The application of statics, dynamics, mechanics, and fluid mechanics to biomedical engineering problems. The special characteristics of tissue and biological fluids and their incorporation into design problems will be introduced. Prereq: ME 321, AE 341.

320 FDA Regulation of Biomedical Devices (1) Federal medical device law and regulation requirements; pre-market approval of new medical devices. Consent of instructor.


401 Thesis (3) Research and design problems in biomedical engineering with prior approval of a professor. May be repeated to a maximum of 6 hours. Prereq: senior standing or consent of instructor.

408 Cell and Tissue Engineering (3) Mammalian cell culture. Effects of mechanical forces on cells. Tissue engineering of cardiovascular and orthopedic devices. Prereq: Senior standing. F

430 Biomedical Engineering Laboratory (3) This course provides experience with the unique problems associated with making measurements and interpreting data in living systems. Prereq: May include mechanical testing of biological materials and tissues. (EKG, EMG, ECG, etc.) Prereq: 310 and 346 or consent of instructor.

431 Biomedical Seminar (1) Professionalism, teamwork, P.E. licensing, patents and intellectual property, ethics and social responsibility. Prereq: AE 341, Consent of instructor.

435 Biostatistics (3) Nature of biomedical signals, transducers, signal processing, computerized telemetry and display devices. Prereq: 300 and ECE 301.

455 Biomedical Engineering Design I (2) Design of biomedical systems. Economics, optimization, reliability, liability and product liability. Participation in team design efforts: requires oral and written design reports. Prereq: 310, Coreq: 430 and MSE 474.

469 Biomedical Engineering Design II (4) Design of complete biomedical device: documentation includes complete specification, design calculations, preparation of working drawings and cost analysis. Written and oral reports. Prereq: 455.


494-495 Special Project in Biomedical Engineering (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.
478 Honors: Applied Process Automation Design Projects (3) Industrial programmable logic controllers (PLCs) and industrial automation and human-machine-interface (HMI) design software are used on workstations to develop automation solutions by small teams of students. Advanced control strategies, networking and internet issues. Prereq: 477 and consent on instructor.


483 Introduction to Reliability Engineering (3) (Same as Nuclear Engineering 483.)

484 Introduction to Maintenance Engineering (3) (Same as Nuclear Engineering 484.)

485 Hydrocarbon Processing (3) Chemical and physical properties of selected petroleum and processes utilized in conversion of raw material into various fuels and selected chemical feedstocks. Prereq: 340, Chem 350.

488 Honors: Design Internship in Industrial Pollution Responsibility (3) Continuous improvement in small groups to address the prevention of industrial pollution through improved process design. Directed by faculty and engineers from host company. May be repeated. 480 or 485, 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.

498 Honors Thesis (3) Research in problems related to recent developments in chemical engineering. Prereq: Consent of instructor.

ENGINEERING CIVIL AND ENVIRONMENTAL (254)

205 Professional Development I (2) Introduction to civil engineering specialties, history, and applications. Professional responsibility, communication, and organizations. Prereq: Sophomore Standing.

210 Engineering Measurements (4) Mensuration through application of surveying techniques; theory of errors and precision; use of vertical, horizontal and angular measurements and control; construction surveys; route surveys through vertical and horizontal curves; introduction to GPS and GIS. 3 hours, 1 lab. Prereq: Sophomore Standing.

261 Structural Analysis I (3) Reactions; shear and moment diagrams; forces in trusses; uniaxial stress and strain; area moments of inertia; torsion. Prereq: Engineering Fundamentals 102.

305 Professional Development II (1) Legal and ethical responsibilities, continuous improvement, career planning, and leadership. Prereq: 205.


330 Introduction to Soil Behavior (4) Physical and mechanical properties, theory of slopes, slope stability, seepage, and effective stress. Consolidation theory, time rate and settlement, shear strength of sands and clays, and analysis of homogeneous slopes. 3 hours, 1 lab. Prereq: 205, 261.

351 Transportation Engineering I (3) Transportation problems and perspectives, rural and urban; use of systematic planning processes; development of alternatives and the evaluation of civil engineering projects. Civil engineering and transportation planning; computer applications in economic analysis. Design of transportation terminals, airports, parking, etc. Prereq: 210.

352 Transportation Engineering II (3) Introduction to design, construction, maintenance, and operation of various transportation modes, their guideways and terminals, and their development and utilization. Prereq: 210.

361 Structural Analysis II (3) Stress and strain 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 and unit processes, chemical, physical, 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; continuous flow, momentum and energy; pipe, flow measurement; open channel flow and culverts; pump characteristics. 3 hours, 1 lab. Prereq: 205 or Biosystems Engineering 243. Engineering Fundamentals 102, Nuclear Engineering 253.

395 Hydrology (3) Concept of hydrologic cycle; weather patterns; precipitation measurement and distribution, abstractions, and runoff; storm hydrograph and peak flow analyses, including design floods, reservoir and channel routing; rainfall and streamflow frequency analyses; groundwater flow. Prereq: 390.

400 Senior Design Project (3) Open-ended, comprehensive project emphasizing team approach to design process. Includes problem formulation, site planning, project management, drawings and specifications, cost estimating, and various project components typical of those faced by practicing civil engineers. Prereq: Must be taken during the last semester of the undergraduate junior year. Must be taken during the last 15 hours of the curriculum.

401 Review of Engineering Fundamentals (1) Review of selected topics covered on the Fundamentals of Engineering exam. Emphasis is on those topics relating to Civil and Environmental Engineering. Prereq: sophomore grade and consent of instructor. Must be taken during the last 15 hours of the curriculum.

409 Special Topics (1-3) Recent developments and current practice in civil and environmental engineering through field internship and/or self-study. Prereq: Consent of instructor and department head. May be repeated.

421 Portland Cement Concrete Mix Design and Analysis (3) Aggregate properties and tests, tests of portland cement and concrete, mix design methods, admixtures, and nondestructive testing. Two lectures and 1 lab. Prereq: 321.

431 Geological Engineering (3) Influence of geologic origin and history on the engineering characteristics of rocks and soils: geology in the planning design and construction of civil engineering projects. 2 hours lecture, 1 hour lab. Prereq: 330 or consent of instructor.

435 Foundation Engineering (3) Fundamentals of geotechnical and soil mechanics analysis and soil structure systems; subsurface investigation; design of shallow and deep foundations on rock. Prereq: 330, 390.

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 material. Emphasis on microcomputer applications. Prereq: Senior standing and Statistics 251.

442 Construction Methods and Equipment (3) Fundamental operations in construction and equipment selection and productivity; concrete and steel construction; and construction contracts and economics. Prereq: 330.

451 Highway Engineering (3) Design, construction, operation, and maintenance of highway facilities; includes application of various engineering principles and techniques to planning and design of highway facilities; covers both geometric and pavement design. Prereq: 210, 251, 352.

452 Traffic Engineering (3) Characteristics of driver, vehicle, and roadway and their interrelationship; traffic studies; basic understanding of traffic flow and control, lighting, capacity analysis, roadway safety analysis and design. Prereq: 210, 251, 352.

453 Airport/Railroad Planning and Design (3) Airport master planning and railroad engineering. Runway configuration, airfield capacity, geometrics and terminal layout and design. Railroad capacity, geometrics and system layout and design. Prereq: 210, 251, 352.

462 Analysis of Framed Structures (3) Vertical and lateral force resisting systems; gravity loads due to dead, live, and snow loads; lateral loads due to earthquake and wind. Engineering of computer algorithms; analysis; building modeling and analysis. Prereq: 361.

471 Introduction to Structural Design (3) Selection of rolled structural 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 beams; consideration of members subjected to combined stresses; design of a typical framed building including connection requirements. Prereq: 361.

474 Reinforced Concrete Design (3) Design of continuous beams, floor slabs, and columns with combined axial loads and bending, footings; and design for torsion. Prereq: 471.

480 Water and Waste Transport (3) Theory and design of water distribution systems, and wastewater collection systems. Prereq: 390.

485 Principles of Hydrogeology (3) (Same as Geology 485.)

486 Air and Waste Management (3) Principles of air quality management, solid waste management and hazardous waste management. Review of regulations, environmental quality, transplant of data, and control technologies including treatment and disposal. Prereq: 390 or Chemical Engineering 200 or Agricultural Engineer 243.

490 Water Resources Project Design (3) Development of multipurpose reservoir and dam project, including data acquisition; spillway and outlet works design; earth and gravity dam stability analyses; drains and filters; maintenance and operation; data safety concepts, including dam break analyses. Prereq: 390, 395.

495 Water Resources Development and Management (3) Institutional framework including: water law, evaluation procedures for comparing and selecting among water resources development alternatives, multi-objective planning, principles of engineering economics, benefit-cost analysis, and cost allocation methods; environmental impact assessment procedures; decisions using risk-based methods; case studies. Prereq: Senior standing.

ENGINEERING ELECTRICAL AND COMPUTER (319)

206 Electrical Engineering Computations (4) Engineering problem solving and algorithm development by program computers. Emphasis on software engineering, object-oriented design, building abstractions with procedures, and data, and programming in a modern computer language. Includes Level 1 design projects which require laboratory work. Coreq: 255.


300 Circuits (5) Fundamental laws of circuit analysis. Ohm’s Law, Kirchoff’s Laws, the law of conservation of energy, circuits containing independent and dependent voltage and current sources, resistance, current and voltage sources, circuits with instantaneous or step changes, and circuit analysis solved using mesh and nodal analysis, superposition and source transformations, and Norton’s and Thevenin’s Theorems. Steady state analysis of DC and AC circuits. Complete solution for the first circuit analysis for circuits with one and two storage elements. Complex frequency, sinusoidal forcing functions, and natural response. Resonance, general case, special cases in series and parallel circuits. Scaling: magnitude and frequency. Admittance, impedance and hybrid parameters. Includes Level 1 design projects which require laboratory experiments. Prereq: All course work in the freshman engineering curriculum: grade of C or better in Mathematics 141, 142, 231 and Physics 231.
301 Circuits and Electro Mechanical Components (3) DC and AC Circuits, Transients, Transformers, Motors, Generators. For non-majors only. Prereq: Mathematics 211, Physics 211, or Math 221.


335 Electronics Devices (4) Semiconductor physics, theory of p-n junctions; diodes, field-effect transistors, and bipolar transistors; modeling of diode and transistor devices; analysis and design of diode switching and rectifier circuits; basic transistor switching circuits and single stage audio frequency circuit simulation using SPICE. Includes 1 credit laboratory work involving Level 1 design projects. Prereq: 300, Coreq: 315.

336 Electronics Circuits (3) Multistage transistor amplifier biasing; gain stages, and output stages; frequency and transient response of open loop linear amplifiers; fundamentals of integrated circuits, operational amplifier applications in basic feedback configurations; basic transistor switching circuits. Includes laboratory experiments and design projects. Prereq: 335.

341 Fields (3) Coulomb’s law, Gauss’ law, Ampere’s law, Maxwell’s equations for electrostatic and magnetostatic cases; Maxwell’s equations for dynamic case, dynamic potentials, uniform plane wave propagation, Transmis- sion line. Prereq: 300, Math 241, and Physics 232.

342 Analog Communication Amplitude and Frequency Modulation (3) Probability and random variables, signal-to-noise ratio, propagation models, link budget analysis, bandwidths, propagation and modulation, spread spectrum. Includes Level 1 design projects which require laboratory experi- ments. Prereq: 315.

355 Computing System Fundamentals (3) Introduction to machine-level computer organization and program- ming. Basic microprocessor architectures; memory organization, addressing and memory hierarchy; assembly language program- ming; intra- and inter-computer communication; I/O systems; device drivers; multithreaded execution and distributed processing systems; I/O devices and computer security. Includes Level 1 design projects which require laboratory work. Prereq: 206, 255.

395 Junior Seminar (1) Presentations and discussions related to professional development, including registra- tion, ethics and current topics in electrical engineering. Prereq: 300. Satisfactory/No Credit.

400 Senior Design (5) A major design project that focuses the student’s attention on professional practices and real- world aspects of coursework, current research, and recent developments in the field. This major design emphasis is directed to topics within the field of electrical engineering. Includes Level 3 design projects which require laboratory work. Prereq: 316, 325, 332, 342, 355.


416 Computer Control Systems (4) Computer controlled systems using state variables and 2-transform model representations with sampling theory and its effect on digital control. Includes 2-transform digital control systems, both the state space and frequency domain. Includes Level 2 design projects. Prereq: 316.

421 Electric Energy Systems (3) Structure and opera- tion of the electrical energy grid; load flow; economic load dispatch; transient stability; effects of machine parameters on steady state and dynamic phenomena in power systems. Transient stability assessment and enhancement; direct and indirect meth- ods for stability determination in nonlinear systems. Operations planning, unit commitment, economic dis- patch, emergency operation, and power generation control. Volt-var control, load management, cogenera- tion and other topics of contemporary concern. Includes Level 2 design projects. Prereq: 421.

423 Electric Machines (3) Principles of electromechani- cal energy conversion: DC and AC machines; step motor drives, brushless dc machine principles, permanent magnet stepper motors, servomotors and servol motor control, brushless dc machine principles. Includes Level 2 design projects which require laboratory work. Prereq: 421.

430 Operational Amplifier Circuits (3) Linear and non- linear active circuits using commercial operational ampli- fiers. Includes operational, instrumentation, isolation, bridge, phase shift, and feedback amplifier circuits. Fundamental ideas such as open loop gain, feedback factor, and closed loop behavior. Design of specified zero-pole-zero functions. Emphasis on applications including transducer interfacing. Includes Level 1 design projects which require laboratory work. Prereq: 316, 336, 342.

432 Electronic Amplifiers (4) Feedback amplifier prin- ciples; wideband linear amplifier design; low-noise pream- plifier design; audio power amplifier design; linear regu- lated power supply design and switching regulator prin- ciples. Includes introduction to radio frequency amplifier design and oscillator principles. Includes laboratory experiments and design projects. Includes Level 2 design projects which require laboratory work. Prereq: 431.

441 Digital Communications (3) Quantization and pulse code modulation. Binary and M-ary signaling, spectra of line codes, link budget analysis, binary communication in the presence of noise, matched filtering and equalization, bandwidth, diversity, and multiple access techniques. Includes Level 1 design projects.

442 Communication System Design (4) Application of communication theory to system design. Development of communication systems. Design of digital communication systems and computer- based simulation utilizing a graphical programming language. Hardware and software design and simulation. Construction and application of complete digital radio communication and digital transmitter and receiver or significant subassemblies. Includes Level 2 design projects. Prereq: 441.

443 Antennas and Propagation (3) Introduction to antenna theory including fundamental antenna concepts and parameters (directivity, gain, patterns, etc.) and signal propagation. Theory and design of linear and loop antennas, arrays, and other simple antennas. Includes Level 1 design projects. Prereq: 316, 341, 342.

446 Electromagnetic Compatibility (3) Principles applied to radio frequency interference and coupling with electrical devices. Parameters and coupling for dipole, biconical, and log-periodic antennas. High frequency effects in circuit elements such as radiated and conducted emissions and susceptibility. Crosstalk, shielding, electrostatic discharge, and EMC regulations. Includes Level 1 design projects which require laboratory work. Prereq: 316, 341, 342.

450 Computer Systems Architecture (3) Architecture and design of microcomputer systems with microproces- sors or microcontrollers. Instruction set architectures, software interfaces, processor structures, memory hier- archies, and interfacing. Includes Level 1 design project which require laboratory work. Prereq: 355.

452 Design of Digital Systems and Computers (4) Considerations for design and application of digital systems and computers; includes embedded systems concepts and design, DFI systems, interrupt structures, and I/O channels. Includes Level 3 design projects which require laboratory work. Prereq: 451.

453 Computer Network Design (3) Principles of computer networking and software design of network protocol with an emphasis on the internet and TCP/IP protocol suite. Includes Level 2 design projects which require laboratory work. Prereq: 206.

471 Introduction to Pattern Recognition (3) Introduction to statistical decision theory, adaptive classifiers, and supervised and unsupervised learning. Students will evaluate and implement applications of these concepts to current interest such as face recognition, speech pro- cessing, remote sensing, datamining and bioinformatics. Includes Level 1 design projects. Prereq: 316. Non- majors require consent of instructor.

472 Introduction to Digital Image Processing (4) Mathematical foundations and practical techniques for digital manipulation of images, including image enhance- ment, compression, and color image processing. Includes Level 2 design projects. Prereq: 316. Non-majors require consent of instructor.

481 Power Electronics (3) Principles and characteristics of power semiconductor devices, single-phase and polyphase phase-controlled converters, converter con- trol, ac voltage controller. Includes Level 1 design projects and laboratory work. Prereq: 316, 325, 332.

482 Power Electronics Circuits (4) Voltage-fed inverters, PWM principles, control of inverter, dc-dc converters, motors, harmonic filters, filter design for digital control. Includes Level 2 design projects which require laboratory work. Prereq: 481.

491 Special Topics (3) Topics relating to basic design and computer-aided design. May not be repeated to satisfy senior requirements for graduation. Maximum three hours. Prereq: Completion of all junior EE courses or consent of instructor. Includes Level 1 or Level 2 design projects which may require laboratory work.

495 Senior Seminar (1) Current topics in electrical engineering. May not be repeated. Prereq.: Completion of all junior EE courses or consent of instructor. Satisfac- tory/No Credit or letter grade.

ENGINEERING FUNDAMENTALS (323)

100 Engineering Skills Development (1-3) Exercises in the skills and tools essential to the practice of engineer- ing. Credit cannot be used toward any engineering degree. May be repeated. S/N grading.

101 Engineering Approaches to Physical Phenomena (6) Engineering problem solving emphasizing graphical and mathematical models, and their application to the solution of engineering problems with team projects and presentations, coverage of professionalism and engineering perspective. Intro- duces the application of computer-aided engineering to engi- neering problems. These may include measurements and estimation, force, free-body diagrams, vectors, static equilibrium, Newton’s laws, and conservation laws. Coreq: Math 130 or placement in Math 141 or higher. F


103 Review of Engineering Fundamentals (3) A review of statics and dynamics for students needing additional work after taking EF 102. Credit cannot be used towards any engineering degree. S/N grading. Prereq: Consent of instructor.


201 Engineering Design Workshop (2) Introduction to the design process. Project experiences involving working with teams, oral presentations, and written reports. Prereq: Consent of instructor.

ENGINEERING INDUSTRIAL (556)

202 Work Methods and Measurement (3) Productivity and work design. Techniques of work methods design including the use of flowcharts and executive charts as well as work methods improvement techniques and procedures. Human work design criteria for the improvement of work methods. Stopwatch time studies, predetermined time systems, and work sampling are used to establish, document, and maintain time standards, standard data, and allowances. Learning curves and wage payment systems. Design and writing Fundamentals 101. Coreq: Statistics 251. F, Sp.

300 Engineering Data Analysis and Process Improvement (3) Engineering statistical methods as applied to modern engineering and business environments, process improvement, inferences about process output and behavior, and measurement systems. An introduction to the use of designed experiments to improve process. Lab components include the use of teams to provide hands-on experiences, enhance learning, and develop skills in group dynamics. 2 hours lecture, 1 lab. Prereq: Statistics 251 or Mechanical Engineering 345 or consent of instructor. F, Sp.

301 Operations Research in Industrial Engineering (3) Integrated system modeling concepts; linear mathematical programming models including the original simplex procedure, transportation and assignment problems, revised simplex procedure, dual simplex procedure, parametric linear programming (sensitivity analysis), and integer linear programming. Prereq: Math 200 and 231. Coreq: F. F, Sp.

304 Introduction to Human Factors Engineering (3) Human capabilities and limitations affecting work, work place, and work environment design. Emphasis on human factors methodology, human input requirements, human output factors, and the design of human-machine interfaces. The analysis of stress on performance, environmental factors such as noise, light, and atmospheric conditions. Focus on designing the task to fit the person. Prereq: Junior standing and consent of instructor. F, Sp.

306 Simulation (3) Simulation of complex production processes using current simulation software. Introduction to modeling concepts, flowcharting, random number generation, logic, and computer and computer utilization. Utilization of statistical tools to analyze inputs and outputs to simulation models. Lab components include the use of simulation software to develop simulation models for both industrial and commercial simulation projects. Prereq: 202, 307. F, Sp.

310 Operation Research in Industrial Engineering II (3) Network models including PERT-CPM, introduction to nonlinear programming, dynamic programming, stochastic processes, and queuing theory. Basic decision analysis techniques and their applications in engineering practice. Prereq: 301. Sp.


403 Production Facilities Design and Material Handling (3) Design of production facilities including plant layout and analysis and planning for overall moving, packaging and movement of material. Prereq: 201. F, Sp.

404 Industrial Engineering Applications (2) To enhance and integrate the student's educational and industrial experience in preparing senior industrial engineering students for their transition to professional practice. Prereq: Term of expected graduation or consent of instructor. F, Sp.


421 Information Systems Analysis and Design (3) Systems engineering and data analysis; design, development, and implementation of systems of information. Emphasizes informational requirements of industrial engineering systems. Involves utilization of relevant software packages. 2 hours lecture, 1 lab. Prereq: Senior standing or consent of instructor. F, Sp.

422 Senior Industrial Engineering Problems Analysis (3) Application of Industrial Engineering to field assignments in local organizations, including problem definition, analysis, and design of industrial engineering systems. Prereq: Expected term of graduation or consent of instructor. F, Sp.


440 Process Improvement Through Planned Experimentation (3) Review of fundamentals of continuous improvement, advanced statistical process control techniques, and strategies for short production runs. Use of experimental design techniques to improve processes, including single and multiple-factor designs, blocking and randomization principles. Full, fractional, and other designs are compared to fractional designs to balance experimental efficiency with loss of information. Lab components include the use of statistical simulation software to design hands-on experiences. 2 hours lecture, 1 lab. Prereq: 300. F.

483 Introduction to Reliability Engineering (3) (Same as Nuclear Engineering 483.)

484 Introduction to Maintenance Engineering (3) (Same as Nuclear Engineering 484.)

494-495 Special Topics in Industrial Engineering (1-3,1-3) Recent developments in Industrial Engineering including new areas of application, new research techniques and new methodologies. May be repeated once. Prereq: Senior standing and consent of instructor. F, Sp.

ENGINEERING MATERIAL SCIENCE (638)

201 Introduction to Materials Science and Engineering (3) Correlation of atomic structure, crystal structure and microstructure in the various materials, including physical and chemical properties of engineering significance. Prereq: Chemistry 130. E.

290-291 Materials Seminar (0) Professionalism, ethical considerations, safety, patents, product liability, field trials, marketing, and research. Emphasis on the global societal context, teamwork, contemporary issues, life-long learning. May be repeated. Satisfactory/No Credit grading only. Each term (290 in the Fall and 291 in the Spring) must be taken each semester by all MSE majors starting with the second year of residence.)

300 Materials Laboratory Procedures (1) Thermometry, sample preparation for microscopic examination; word processing and statistical usage, data analysis, report writing. Prereq: 201.

301 Materials Science and Engineering Data Analysis (3) (Same as Chemical Engineering 301.)

302 Mechanical Behavior of Materials I (3) Tensile testing of metals, ceramics and polymers; deformation mechanisms with the various crystal structures, line and non-crystalline forms; rubber elasticity, viscoelastic behavior, creep, time-temperature superposition in polymers; fatigue. Prereq: 201, 303, or consent of instructor. F.


320 Diffusion and Phase Transformations (4) Thermo-dynamics of phase equilibria, heat and mass transfer, chemical thermodynamics and kinetics to the processing of materials and manufacturing of products. Phase transformations; corrosion; oxidation; ceramics, polymers. Prereq: 3. Ge. 2x0. F, Sp.

340 Principles of Polymeric Materials (3) Synthesis and properties of polymers; introduction to polymer science; molecular characterization; crystalline and glass transitions; crystallization kinetics; mechanical properties; rheology and processing. Prereq: 201. F.

360 Principles of Ceramic Materials (3) Characterization of ceramic materials and their crystal structure, their mechanical, electrical, and optical properties. Ceramic fabrication processes from the initial green body fabrication through the firing stage. Prereq: 201.

370 Materials Processing (3) Application of fundamental materials science to the processing and forming of metals, ceramics, and polymers. May be repeated once. Prereq: junior standing or consent of instructor. F.

380 Materials Selection in Design (3) Systematic materials selection in design. Review of material properties, use of property selection charts and indices. Materials selection, with and without shape constraints; materials processing in design; case studies. Sources of industrial property data, utilization of property data bases, industrial design, aesthetics, economics, regulations, forces for changes. Prereq: Junior standing.

402 Principles of Metallic Materials (3) Property control through composition, mechanical and thermal processing; ferrous and nonferrous alloys; alloy selection. Prereq: 201.

415 Structural Characterization of Materials (4) X-ray diffraction and fluoresence; scanning and transmission electron microscopy; microanalytical techniques.


412 Mechanical Behavior of Materials II (3) Description of stress and strain; linear elastic constitutive equations, isotropic and anisotropic moduli in various materials; yield criteria; brittle fracture; crazing; plastic strain constitutive equations, forming operations and limit criteria. Prereq: 302, ES 321, sophomore mathematics.

422 Chemical Process Metallurgy (3) Application of chemical thermodynamics to metallurgical processing. Ferrous and nonferrous pyrometallurgical refining, slagsalts equilibria, solidification, gas-melt processing. Prereq: 303. F.

423 Introduction to Ceramic Matrix Composites (3) Characterization of composites, including ceramic matrix composites; macromechanics and materials design overview; fabrication techniques; microstructural characterization; mechanical property evaluation; current and potential applications. Prereq: 201 and ES 321, or equivalent.
443 Polymer Processing (3) Rheological measurements; flow through tubes and slits, including end effects and extrudate 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; plastics classification; design and selection criteria; processing techniques; characterization laboratories. Prereq: Sp.


472 Fundamental Principles of Composite Materials (3) Physical principles basic to the design, manufacture and application of fiber reinforced polymers, metals and ceramics. Prereq: 302 or equivalent. F

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 sciences and mechanical majors.

484 Introduction to Maintenance Engineering (3) (Same as Nuclear Engineering 484).


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 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, development and/or applications. Prereq: Senior standing or consent of instructor.

ENGINEERING MECHANICAL (650)

231 Dynamics (3) Kinematics of rigid bodies; center of mass; kinetics of systems of particles; mass moments of inertia; kinetics of rotating bodies; energy, impulse-momentum. Prereq: Engineering Fundamentals 102, Mathematics 142. F, Sp, Su


331 Thermodynamics I (3) Energy and laws governing energy transformations; thermodynamic properties; thermodynamic cycles; applications to engineering problems. Prereq: Chemistry 130. Coreq: Mathematics 241. 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

344 Heat Transfer (3) Heat transfer by conduction, thermal radiation, free and forced convection. Prereq: 331, 391, AE 341, 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: 363, Prereq: AE 341, EE 301, F, Sp, Su

363 Mechanical Vibration (3) Free and forced vibrations of damped and undamped lumped parameter systems; energy methods; free vibration of continuous bodies. Prereq: ME 231, Mathematics 231, F, Sp, Su


401 Thesis (3) Research and design problems in mechanical engineering with prior approval of instructor. Prereq: Senior standing or consent of instructor.

402 Fundamentals of Engineering (1) The course reviews topics covered on the Fundamentals of Engineering exam, letter grade only. Prereq: Senior standing in Engineering.

405 Microcomputer-Based Control of Electromechanical Systems (3) Application of microcomputers to control electromechanical devices. Application and theory, dynamics of machine control, assembly language programming, microcontroller architecture, stepper and DC motors, photoelectric devices, A/D, D/A, integrated circuits. Prereq: EE 201 or EE 301 and consent of instructor.

431 Seminar (1) Topics related to engineering including ethics. Formal oral presentation by students on engineering topics. Prereq: Senior standing. F

449 Mechanical Engineering Laboratory (3) Design, constructing and reporting results of experimental and theoretical investigations. Analysis of data and formation of conclusions. 3 hours per week. Prereq: 332, 344, 345. Coreq: 475, F, Sp, Su

451 Systems and Controls (3) Analytical models of physical systems; comprised of combinations of mechanical, fluid, electrical, and thermal systems. Analysis and design of feedback control systems using transient and frequency response techniques, stability analysis. Prereq: 332, 344, 455. Coreq: 345, F, Sp, Su

452 Computational Mechanics (3) Integration of fundamental physical laws, mathematical methods, and computational techniques necessary to develop engineering analysis and design capabilities. Finite element method. Prereq: 321, AE 341.

455 Introduction to Machine Design (2) Engineering economy, optimization, design for automation, reliability, patents and product liability; design of mechanical engineering solid mechanics systems. Participation in team design effort; requires design report. Prereq: 363 F

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

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, ME 321, F.

469 Machine Design (4) Design of complete machine; documentation including complete specifications, design calculations, working drawings, and analysis. Written and oral report. Prereq: 366, 455, 466. Sp

471 Refrigeration and Air Conditioning (3) Vapor compression and absorption cycles; heat pump systems; psychrometric processes; air washers; cooling towers; solar radiation; building heat transmission. Prereq: 332, 344.

475 Thermal Engineering (3) Thermal systems with emphasis on thermomachinery, 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

483 Introduction to Reliability Engineering (3) (Same as Nuclear Engineering 483).

484 Introduction to Maintenance Engineering (3) (Same as Nuclear Engineering 484.)

494-495 Selected Topics in Mechanical Engineering (1-4) Problems and topics related to developments and practice in mechanical engineering. Prereq: Consent of instructor. F, Sp, Su

ENGINEERING NUCLEAR (716)

200 Introduction to Nuclear and Radiological Engineering (1) Topics related to nuclear and radiological engineering. Satisfactory/No Credit.


304 Nuclear and Radiological Engineering Laboratory I (3) Radiation detection and counting instrumentation, counting statistics, half-life and decay schemes, gamma spectrometry, heat transfer experiments. Prereq: 342, Coreq: AE 341.

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: 203.

342 Thermal Science (3) Fluid statics; conservation equations of mass, momentum, and energy; applications to fluid machinery; heat transfer processes, heat conduc- thermal radiation, free and forced convection. Prereq: NE 203 or ME 331.

351 Nuclear System Dynamics and Control (3) System modeling and time-domain response, transfer functions, frequency-domain response, stability, state-space methods, and control design. Nuclear reactor kinetics, nodal modeling of core heat transfer, reactor control systems, and nuclear plant transient response are discussed. System simulation and control using PC-based software and book systems.

360 Reactor Systems and Safety (3) Safety and operating limits of nuclear steam supply system components; NRC regulations; accident analysis and mitigation. Prereq: 342.

400 Senior Seminar (1) Current topics related to nuclear and radiological engineering including ethics, contemporary issues, and commitment to life-long learning. Prereq: Senior standing. Satisfactory/No Credit.

403 Nuclear and Radiological Engineering Laboratory II (3) Cross section measurements, diffusion properties of neutrons, shielding, dynamics and controls, alpha and beta spectroscopy, radiation fields and dosimetry. Prereq: 304.

404 Nuclear Fuel Cycle (3) Topics relative to nuclear fuel cycle including, mining, milling, fabrication, in-core management, reprocessing, waste disposal, regulatory and radiation health issues and requirements. Prereq: 470 or equivalent.

406 Radiation Shielding (3) Types of radiation sources, fundamentals of gamma ray and neutron attenuation, biological effects, approximate methods of shield design, discrete ordinates, and Monte Carlo. Prereq: Physics 252.

421 Introduction to Nuclear Criticality Safety (3) Fundamentals of nuclear criticality safety; criticality accidents; safety standards; overview of experiments, computational methods, and applications. Prereq: 301.

431 Radiation Protection (3) External and internal dosimetry, biological effects of radiation, radiation detection, radiation risk assessment. Prereq: 301.
104 Writing Workshop II (1) Self-paced Writing Center tutorial for students wanting additional instruction while enrolled in English 102 or students advised to enroll by their 102 instructors. Individual instruction in critical reading and in developing and documenting the research paper. To receive credit, students must participate at least 12 hours per term and must also pass the 102 class in which they are currently enrolled. Prereq: English 101. S/N grading.

118 Honors English Composition (3) For students whose ACT English and Composite scores are at or above 28 (or SAT verbal/composite scores at or above 650/1250). Grading scale and workload are same as in regular sequence though course proceeds at an accelerated pace. Includes instruction on critical reading, literary interpretation, and research methods. May include the study of a long work of literature in addition to readings in nonfiction, short fiction, poetry, and drama. Prereq: A GPA of 3.25 or higher and admission by the instructor. See Honors Program in Liberal Arts and Fine Arts "Honors English Composition" (Same as Linguistics 372.)

119 Academic English for Non-Native Speakers (4) Development of English academic literacy, including reading, writing, vocabulary, and grammar as well as some attention to listening, oral presentation, and pronunciation. Required of all non-native English speaking students. (Same as English 119.) Examination a need for work in English structures, reading, writing, or listening. Admission to this course is by the English Placement Exam only. Meets four hours a week. A, B, C grading.


222 Literature of the Western World II: Enlightenment, Romantic, and Modern (3) Writing-emphasis course. (Same as African and African-American Studies 333.)

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.

232 American Literature II: Civil War to the Present (3) Development of American literature from Civil War to the present. Writing-emphasis course.

233 Major Black Writers (3) Black American literature as a literary tradition. Writing-emphasis course. (Same as African and African-American Studies 233.)

237 Honors American Literature I: Colonial Era to the Civil War (3) Prereq: English 237A or consent of instructor. Development of American literature from its beginnings to the Civil War. Writing-emphasis course. (Same as Linguistics 374.)


301 British Culture to 1660 (3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history. Writing-emphasis course.

302 British Culture: 1660 to present (3) English literature in the context of parallel developments in art, architecture, music, and social and intellectual history. Writing-emphasis course.

306 Introduction to Shakespeare (3) May not be used by English majors to fulfill the pre-1800 literature course requirement.

313 Race and Ethnicity in American Literature (3) Examines the role of ethnic and racial identity in the literature of the United States. (Same as African and African-American Studies 331.)

322 Women in American Literature (3) Women as writers and as subjects in American literature from its beginnings to the present. (Same as Women’s Studies 322.) Writing-emphasis course.

332 Black American Literature and Aesthetics (3) Black American literature and aesthetics since 1899, with emphasis on cultural evaluations and the principles of writing “American”. Writing-emphasis course. (Same as African and African-American Studies 333.)

334 Film and American Culture (3) American films as both works of art and social documents. Relationship between the medium of film and American culture in the twentieth century. (Same as African and African-American Studies 334 and Cinema Studies 334.) Writing-emphasis course.


355 Rhetoric and Writing (3) Strategies of writing on personal and academic subjects. Discussion of student and professional writing. Open to sophomores with instructor’s consent.

371 Foundations of the English Language (3) Phonology, morphology, and syntax of English. History of the English language to 1800. (Same as Linguistics 371.)

372 The Structure of Modern English (3) Survey of approaches—traditional, descriptive, and generative—transformal—to the structure of modern English. (Same as Linguistics 372.)

376 Colloquium in Literature (3) Methods and objectives of literary study; conferences to plan student’s program in major. Prereq: Sophomore literature package or consent of instructor.
381 Introduction to Folklore (3) Essential terms and concepts in modern folklore/folk-life studies. Emphasis on North American materials: folklore, folklore history, biography, poetry, prophecy, apocalyptic. (Same as Religious Studies 386.)

389 Literature of the English Bible (3) Types of literature in the Bible: legend, folklore, history, biography, poetry, prophecy, apocalyptic. (Same as Religious Studies 386.)

398 Junior-Senior Honors Seminar (3) Seminar for students admitted to English honors program. Variable content determined by instructor, but usually focused on a particular literary period, genre, or issue. Enrollment limited to 15. See Director of Undergraduate Studies in English for details.

401 Medieval Literature (3) Reading and analysis of selected medieval literary masterpieces in modern English. Writing-emphasis course. (Same as Medieval Studies 405.)

402 Chaucer (3) Reading and analysis of the Canterbury Tales and Troilus and Criseyde in Middle English. (Same as Medieval Studies 406.)

404 Shakespeare I: Early Plays (3) Shakespeare’s dramatic achievement before 1601. Selected plays from the romantic comedies (e.g., Twelfth Night), the English histories (e.g., 1 Henry IV) and early tragedy (e.g., Hamlet).

405 Shakespeare II: Later Plays (3) Shakespeare’s dramatic achievement between 1601 and 1613. Selected plays from the great tragedies (e.g., Othello), the problem plays (e.g., Measure for Measure), and the dramatic romances (e.g., The Tempest).

406 Renaissance Drama (3) English theatre between 1590 and 1640. Representative plays by Shakespeare’s contemporaries (e.g., Marlowe, Webster, Jonson).

409 Spenser and his Contemporaries (3) Principal achievements in prose and poetry of sixteenth-century authors such as Spenser, Wyatt, Marlowe, More, Sidney, and Bacon.

410 Milton, Donne and their Contemporaries (3) Principal achievements in prose and poetry of the first two-thirds of the seventeenth century (such as the poetry of Milton, Donne, Marvell; and the prose of Browne, Bacon, Waiteon).

411 Literature of the Restoration and Early Eighteenth Century: Dryden to Pope (3) Survey of English literature and culture from 1660 to 1745.

412 Literature of the Later Eighteenth Century: Johnson to Burns (3) Survey of English literature and culture from 1745 to 1800.

413 Restoration and Eighteenth-Century Genres and Modes (3) Study of one major genre or literary mode such as drama, novel, poetry, nonfiction, prose, satire, romance, or epic written between 1660 and 1800. May be repeated for credit.

414 Romantic Poetry and Prose I (3) Emphasis on Wordsworth, Coleridge, and Blake, with readings from Lamb, De Quincey, and other prose writers.

415 Romantic Poetry and Prose II (3) Emphasis on Keats, Shelley and Byron, with readings from Hazlitt, Peacock, and other prose writers.

416 Early Victorian Literature (3) May include poetry by Tennyson and the Brownings; prose by Carlyle, Newman, and Mill.

419 Later Victorian Literature (3) May include poetry by the Pre-Raphaelites, Arnold, Hopkins, and Hardy; prose by Arnold, Ruskin, and Carroll; plays by Gilbert and Wilde.

420 The Nineteenth-Century British Novel (3) Major novelists from Scott to Hardy.

421 Modern British Novel (3) Authors such as Joyce and Woolf through contemporary British fiction writers.

422 Women Writers in Britain (3) Emphasis on the literary consciousness and works of women writers in Britain. Course content will vary. Authors covered may include Marie de France, Margery Kempe, Aemilia Lanyer, Elizabeth Cary, Aphra Behn, Frances Burney, Mary Wollstonecraft, Mary Shelley, George Eliot, Virginia Woolf, and Doris Lessing. May be repeated. Maximum 6 hours. (Same as Women’s Studies 422.)

431 Early American Literature (3) From the earliest texts to 1830, including exploration and discovery, Native American, colonial, revolutionary, and early national works.

432 American Romanticism and Transcendentalism (3) Prose and poetry of the American Renaissance, from c. 1830 to the end of the Civil War. Includes writers such as Cooper, Poe, Hawthorne, Melville, Emerson, Thoreau, Stowe, Douglass, Whitman, and Dickinson.

433 American Realism and Naturalism (3) Literature from the war to World War I, including such writers as Twain, Howells, James, Jewett, Freeman, Crane, and Norris.

434 Modern American Literature (3) World War II to the present.

435 American Novel Before 1900 (3) From earliest sentimental novels through Brown and Cooper, and major figures to 1876, 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 humor and 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 theories from 1845 to the present, including Langston Hughes and the Harlem Renaissance, Richard Wright and Gwendolyn Brooks, writing by Black women, international Black literature in English, and Black American autobiography. (Same as African and African-American Studies 443.)

451 Modern British and American Poetry (3) From Yeats and Frost to Auden, Stevens, and more recent poets.

452 Modern Drama, 1880-1945 (3) Survey of British, American, and international drama from the advent of major dramatic achievement before 1601. Selected plays from the great tragedies (e.g. Othello), the problem plays (e.g. Measure for Measure), and the dramatic romances (e.g. The Tempest).

453 Contemporary Drama (3) Survey of British, American, and international drama since World War II.

454 Twentieth-Century International Novel (3) Fiction in English translation from such writers as Kafka and Camus through contemporary authors. (Same as Comparative Literature 452.)

455 Persuasive Writing (3) Focuses on writing and analyzing persuasive texts in public, private, and academic contexts. Prereq: 355 or consent of instructor.

456 Contemporary/Postmodern Literature (3) Studies in literature written after World War II. Content will vary; may be repeated once with permission of instructor.

460 Technical Editing (3) Editing technical material for publication. Principles of style, format, graphics, layout, and production management. Prereq: 360 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: 360 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.

466 Writing, Layout, and Production of Technical Documentation (3) Principles of design for desktop publishing. Production of various documents to be incorporated into a professional portfolio. Prereq: 360 or consent of instructor.

470 Special Topics in Rhetoric (3) Topics vary. May be repeated with permission. Maximum 6 hours. Prereq: 355 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 and Sociology 471.)

472 American English (3) Phonological, morphological, and syntactic characteristics of major social and regional varieties of American English, with attention to their functions, and impaired populations. Prereq: 371 or 372 or Linguistics 200 or consent of instructor. (Same as Linguistics 472.)

474 Teaching English as a Second or Foreign Language I (3) Introduces major issues surrounding teaching ESL/EFL, including political implications of teaching cultural pluralism. Prereq: 371 or 372 or Linguistics 200 or consent of instructor. (Same as Linguistics 474.)

475 Teaching English as a Second or Foreign Language II (3) Covers issues, principles, and techniques in teaching grammar, speaking, pronunciation, reading, and writing in ESL/EFL. Includes observations and teaching practice in ESL classes and development of ESL materials and tests. Prereq: 474. (Same as Linguistics 475.)

476 Second Language Acquisition (3) How humans learn second languages. Examines theoretical models and research on such issues as differences between first and second language acquisition; cognitive factors in second language acquisition; learner variables; sociocultural factors; and implications for second foreign language instruction. (Same as Linguistics 476.)

477 Pedagogical Grammar for ESL Teachers (3) Approaches of English syntax and morphology presenting difficulties for non-native learners of English. Basic and complex sentence structures; the noun and article system; verb tense, aspect, modality, and complementation. (Same as Linguistics 477.)

479 Literary Criticism (3) Historical survey of major works of literary criticism.

480 Fairy Tale, Legend, and Myth: Folk Narrative (3) Study of forms of folk narrative: normally includes Grimm’s, Andersen’s, Irish, English, Appalachian, African, and Native American tales.

481 Studies in Folklore (3) Topics vary. 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, Pope, Austen, Thoreau, Melville, Emerson, Thoreau, Lawrence, Baldwin, or Morrison. May be repeated. Maximum 6 hours.

483 Special Topics in Literature (3) Topics vary. May be repeated. Maximum 6 hours.

484 Special Topics in Writing (3) Original writing integrated with reading, usually taught by a professional author. Topics vary. May be repeated. Maximum 6 hours.

485 Special Topics in Language (3) May be repeated. Maximum 6 hours with consent. (Same as Linguistics 485.)

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

489 Special Topics in Film (3) Content varies. Particular directors, film genres, national cinema movements, or other topics. May be repeated with consent of department. Maximum 6 hours. (Same as Cinema Studies 489.)

490 Language and Law (3) Language in the Anglo-American legal process: focus on differences between spoken and written language; lexical and syntactic antiques; pragmatics; speech analysis; and the language rights of linguistic minorities. Prereq: 371 or 372 or consent of instructor. (Same as Legal Studies 490 and Linguistics 490.)

491 Foreign 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 modes of inquiry in rhetoric and composition and their implications for the teaching of composition. Prereq: 355 or consent of instructor.

496 The Rhetoric of Legal Discourse (3) Applying basic principles of rhetoric to legal materials. Writing, position papers, briefs, and memoranda, students learn issue identification and argument. Critical reading and discussion of both professional and student writing. Introductory legal research techniques. No prior legal knowledge necessary. Prereq: 355 or consent of instructor. (Same as Legal Studies 496.)

496 Senior Honors Paper (3) Second semester of English honors program. Working individually, the student produces a substantial critical or creative project under the direction of two members of the professorial staff. Prereq: 398.

499 Senior Seminar (3) Intensive study in an author, period, genre, or of problems in language, literary history, or theory. Content varies, but all sections address problems of value from an interdisciplinary perspective. Substantial research paper required. Restricted to majors who have completed 15 upper-division hours in English. Writing emphasis course. Capstone experience.

499 Writing emphasis course. Capstone experience. Who have completed 15 upper-division hours in English. Problems of value from an interdisciplinary perspective.

ENGLISH EDUCATION (340)

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. May be repeated for a total of 6 hours credit. F, Sp.

453 Adolescent Literature (3) Literature written or appropriate for adolescents.

456 Teaching Speech and Drama, Grades 7-12 (3) Purposes, techniques, materials and evaluation for teaching Speech and Drama in secondary schools. Required of candidates for Speech. Prereq: Admission to Teacher Education Program.

459 Teaching English in the Secondary School (3) Techniques of teaching composition, language, and literature. Prereq: Admission to Teacher Education Program.

460 Teaching Reading and Literature in the Secondary School (3) Teaching basic reading skills and literature. 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. Su.

ENTOMOLOGY AND PLANT PATHOLOGY (341)

201 Impact of Insects and Plant Diseases on Human Societies (3) Insects and plant diseases have had a significant influence on human history, culture, and lifestyles. The science of entomology and plant pathology help humans understand the impact of insects and plant pathogens on these dimensions of human existence. The development of strategies to capitalize on the beneficial aspects of these organisms will also be explored. 3 hours 1 lab. ECO.

306 Forest Protection (3) Biological, economic and legal consideration of fire, pathogens, insects, vertebrates, wind, and pollutants in the forest ecosystem. One or more all day or overnight field trips may be required. Prereq: FWF 311, or consent of instructors. 2 hours and 1 lab. (Same as Forestry 306.) Sp.

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: Six hours of Biological Science. 2 hours and 1 lab. (Same as Botany 313.)

321 Economic Entomology (3) Structure, life history, habits and control of some of important insect pests of farm, garden, orchard and household. Prereq: Six hours of Biological Science. 2 hours and 1 lab. Sp, E.

325 Veterinary Entomology (3) Identification, biology and control of arthropods that attack major livestock species. Introduction to entomology, methods of insect control, major pest species groups and problems associated with specific host production operations. Prereq: Biology 122 or equivalent. 2 hours and 1 lab. F, E.

410 Diseases and Insects of Ornamental Plants (3) Symptoms, identification and management of diseases of insects that attack plants in greenhouse, nursery, and landscape environments. Prereq: 313 or 321 (or consent of the instructor). 4 hours. Sp. A.

ENVIRONMENTAL AND SOIL SCIENCES (345)

110 Introduction to Environmental and Soil Sciences (1) Invited speakers on current topics; career opportunities in the environment; field trip with departmental faculty. S/N/C grading. F.

210 Introduction to Soil Science (4) Differences in soils; soil genesis, physical, chemical, and biological properties of soil; relation of soil to land use and pollution; soil management relative to tillage, erosion, moisture supply, temperature, aeration, fertility and plant nutrition. Prereq: One semester chemistry. 3 hours lecture and one 2-hour lab. F, Sp.

242 Soil Morphology (1) Intensive course involving describing, classifying and interpreting soils in preparation for regional and national soil judging contests. Prereq: Consent of instructor. May be repeated. Maximum 4 hours. 1 hour and 1 lab. F, Sp.

301 Professional Development (1) Techniques of effective public speaking; preparation; interviewing; and the job search. Prereq: Junior standing. Sp.

324 Soil and Water Conservation (3) Investigation of hydrologic principles regarding soil and water conservation. Topics include: hydrologic cycle, water quality, soil properties, erosion prediction and control, and techniques to protect natural resources. Prereq: 210. 2 hours lecture and one 2-hour lab. Sp.


355 Environmental Soil Biology (3) Biology and biochemistry of the soil environment as it applies to environmental and agricultural various processes. Topics include: microbial ecology, biogeochemical cycling of soil elements, soil quality and bioremediation. Prereq: 210 and Microbiology 210. Sp.

434 Environmental Soil Chemistry (3) Composition and chemical properties of soils and processes that govern the fate and behavior of chemicals in the soil environment. Topics include: clay mineralogy; soil organic matter; mineral weathering and stability; aqueous speciation; surface chemistry; ion exchange, adsorption, and molecular retention; oxidation-reduction; and soil acidity, alkalinity, and salinity. Prereq: ESS 210 and Chemistry 350 F.

442 Soil Genesis and Classification (3) Soil genesis and formation; observing and describing morphology of agricultural and forest soils; chemical and physical properties, classification. 3 weekend field trips. Prereq: EBS 210, 2 hours lecture and 1 lab. Sp.

444 Environmental Soil Physics (3) Basic understanding of soil physical properties and processes; practical experience in measurement and analysis of soil physical properties; methods of analysis related to agricultural, environmental, and engineering applications. Prereq: 210 and Physics 221 or equivalent.

446 Environmental Climatology (3) Study of atmosphere as environment. Physical, chemical and biological factors affecting earth environment; meteorological process affecting biosystems. Climatic change and the human impact on the atmosphere, consequences of climatic change and mitigation policies; microclimates, atmospheric pollution, extreme events and ozone depletion. Design and operation of weather information systems; automated weather stations. Prereq: Agriculture and Natural Resources 290 or equivalent.

481 Capstone in Environmental and Soil Sciences (3) Integrative course in which students work individually and collaboratively to develop solutions for soil and water related environmental problems. Writing and oral communication emphasis course. Prereq: 434 and senior standing.

492 Internship (1-6) Supervised experience with a departmentally-approved employer. Student is responsible for making arrangements for internship, for maintaining a daily log, supervisor evaluations, and a final report. May be repeated with a maximum of 6 hours credit. Prereq: Junior standing. S/N/C.

493 Problems in Environmental and Soil Sciences (1-3) Special research problems in environmental sciences. May be repeated. Maximum 6 hours. Prereq: Approval of Department and Junior Standing. E.

EXERCISE SCIENCE (347)

100 Orientation to Exercise Science (1) Overview of discipline and professional areas for incoming Exercise Science majors. May be taken prior to admission to the Exercise Science major.

260 Exercise Science Practicum (1) First practicum experience to support and clarify career goals. Satisfactory/No Credit grading only. Prereq: 100.

276 Fitness for Life (2) Evaluation and discussion of factors related to optimal health: cardiorespiratory 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 Physical Education 276.)

322 Fitness Activities (2) Methods of instructing and leading fitness activities, including jogging, exercise to music, water activities, and fitness games. 1 hour lecture. 3 hour lab. Prereq: At least junior standing and progression to the major.

325 Athletic Training Techniques (3) Prevention of athletic injuries through sound conditioning programs and practices; recognition and immediate treatment of injuries. Prereq: 332 and progression to the Exercise Science major or consent of instructor.

332 Applied Anatomy (3) Structure and roles of bones, joints and muscles in human movement and exercise; related biomechanical principles. Prereq: Junior standing.

350 Disease and Injury: Epidemiologic and Demographic Perspectives (3) Disease and injury mortality and morbidity patterns, trends, differentials and causes are examined from perspectives of population-based sciences of epidemiology and demography. Completion of college course in statistics or mathematics is recommended.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of Exercise Science. May be repeated. Maximum of 6 hours. Prereq: Progression to the major.

411 Physical Activity for Special Populations (3) Nature of various disabilities and implications for physical activity programming. Course requirements include out-of-class practical work with individuals who have disabilities. Prereq: ES 332 Applied Anatomy or consent of instructor. Exercise Science majors, minimum cumulative 2.5 GPA.

412 Practicum in Adapted Physical Activity (1) Working with individuals in education or clinical settings, where an emphasis is placed on teaching gross and fine motor skills. Prereq: Coreq: 411.

414 Fitness Testing and Exercise Prescription (3) Relationship of exercise to cardiorespiratory function, body composition, strength and flexibility. Measurement and evaluation of fitness in normal populations. Prereq: Biochemistry and Cellular Biology 230; Exercise Science majors, minimum cumulative 2.5 GPA.


426 Exercise Science Practicum II (1-6) Supervised experience in exercise/fitness areas. May be repeated for a maximum of 10 hours. Satisfactory/No Credit grading only. Prereq: Progression to the major and consent of instructor.
480 Physiology of Exercise (3) Lecture and class dealing with functions of the body in muscular work. Topics include physiological aspects of fatigue, training, and adaptation to environment. 2 lectures and 1 lab. Prereq: Preparatory Science 230 or 240. (Same as Biochemistry and Cellular Molecular Biology 230 or 440. (Same as Biochemistry and Cellular Molecular Biology 480). Exercise Science majors, minimum cumulative 2.5 GPA.

490 Exercise Physiology/Fitness Internship (12-15) Full-time practicum in exercise/fitness at approved agency. Satisfactory/No Credit grading only. Prereq: 414, 442, 426, 480, progression to major. Satisfactory/No Credit or letter grade allowed.

493 Directed Independent Studies (1-3) Independent study in a specialized area with Exercise Science. May be repeated. Maximum 9 hours. Prereq: Consent of advisor and progress to major. Satisfactory/No Credit grading only.

497 Honors Research Project (3-6) Senior research project done under supervision of a faculty member. Includes design of research project, writing proposal for institutional review board approval, data collection and analysis, and presentation of results. Project should be approved with two semesters of study remaining. Prereq: Senior standing.

FINANCE (349)
Accounting 202, Business Administration 201, and Finance 301 are prerequisite to all 400-level Finance courses.

201 Personal Finance (3) Financial planning, investing, managing assets, insurance, and retirement planning for nonbusiness majors. May not be used to satisfy Finance elective requirements. Offered as faculty resources allow.

280 Introduction to Real Estate (3) This course is designed to provide a detailed survey of the real estate market and its analysis. In particular, the course focuses on developing an understanding of the unique legal, institutional, and economic factors that influence the real estate market. In addition, the basics of real estate financing, and investment analysis will be considered. This course may not be used to satisfy Finance elective requirements. (Same as Urban Studies 280.)


402 Special Topics in Finance (3) Junior and senior level finance seminars to be announced prior to offering. Prereq: 301, Accounting 202, and Business Administration 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: 301, Accounting 202, and Business Administration 201.

422 Portfolio Analysis and Management (3) Portfolio theory and evidence of behavior of security returns with a view to determining rational investment policy. Includes statistical analysis for risk and return of portfolios, portfolio evaluation and revision, capital market theory, and extensions of portfolio analysis. Prereq: 301, Accounting 202, and Business Administration 201.

430 Financial Markets (3) Role of short and long term financial markets in the process of capital formation and allocation. Theories and mathematics of the 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, Accounting 202, and Business Administration 201.

470 Risk Management and Insurance (3) Identification, measurement and decision making with regard to insurance and related financial risks. Examination of the role of these risks in the most cost-efficient manner. Prereq: 301, Accounting 202, and Business Administration 201.


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. Prereq: 301, Accounting 202, and Business Administration 201. (Same as Urban Studies 482.)

482 Urban Development and Finance (3) Economic analysis of determination of urban land value and use, and discussion of current urban problems in the United States. Primary and secondary market models. Impact of economic effects of the these markets on urban development. Prereq: (Same as Urban Studies 482.)

492 Off-Campus Study (3) Satisfactory/No Credit grading only. Prereq: Consent of Instructor and Department Head.

493 Independent Study (1-6) Letter grade only. Prereq: Consent of Instructor and Department Head.

FIRST YEAR STUDIES (355)
101 Approaches to the University (2) Integration into the academic life of the campus, including the nature and purpose of a college education, career planning, and organization of university disciplines, and assessment of special needs in areas such as time management, study skills, counseling, and financial aid. Satisfactory/No Credit grading only. Meets twice weekly.

401 Peer Mentor Techniques (1) Training of upperclass students as mentors and advisors for freshmen. Includes cognitive and developmental theories of the college-age student, teaching and learning styles, group communication, and listening techniques. Mentoring and advising skills. Prereq: Consent of instructor.

402 Peer Mentor Practicum (1) Peer mentoring of First Year Studies students. Prereq: 401 and consent of instructor. S/NC only. May be repeated. Maximum 3 hours.

FOOD SCIENCE AND TECHNOLOGY (390)
140 The Food Industry (3) Introduction to the food industry including the role of food science and the production, processing and storage of foods. Prereq: 140; non-majors must obtain consent of instructor. 1 hour and 1 lab.

240 Field Observations in Food Processing (2) Introduction to observation of and familiarization with processing, packaging, quality control and distribution of different types of foods. Prereq: 140; non-majors must obtain permission of instructor. 1 hour and 1 lab.

259 Evaluation and Grading of Dairy Products (2) Evaluation and scoring of milk, ice cream, cheddar cheese, cottage cheese, yogurt and butter. Prereq: 140 or consent of instructor. 2 semester laboratory.

269 Meat Evaluation and Grading (2) Grading standards for quality and yield; principles for evaluating beef, pork and lamb, and application of standards for institutional meat cuts. Practice grading, judging carcasses and cuts, and application of purchase specifications. Prereq:

301 Professional Development (1) Professional development requirements, resources and opportunities. Individual written and oral report and group discussion on careers and for personal development. Prereq: Junior standing or consent of instructor.

340 Food Preservation and Packaging (3) Principles, methods and equipment used for preservation of foods. Prereq: 140 and 240 or consent of instructor. 2 hours lecture and 12 hours laboratory.

401 Professional Food Science Communication (1) Individual reports and group discussion on current topics. May be repeated; maximum 3 credit hours. Prereq: Senior standing or consent of instructor.

410 Food Chemistry (4) Reactions of water, proteins, lipids, carbohydrates, minerals, enzymes, vitamins, and additives in foods. Prereq: Chemistry 110 or equivalent. Coreq: Biochemistry 310. 3 hours lecture and 1 lab.

420 Food Microbiology (2) Physical, chemical and environmental factors moderating growth and survival of foodborne microorganisms; pathogenic and spoilage microorganisms affecting quality of foods and their control. Prereq: Microbiology 210. Coreq: 429.


430 Sensory Evaluation of Food (3) Principles and methods of sensory evaluation of foods. Prereq: Basic statistics. 2 hours and 1 lab.

442 Special Topics In Food Science and Technology (1-3) Topics of current concern to the food industry. May be repeated. Maximum 9 hours. Prereq: Consent of instructor. Letter grade or Satisfactory/No Credit grading.

445 Application of Food Chemistry and Processing Principles (4) Interactions and functions of dairy, egg, and flour. Other plant based ingredients, renewable and non-renewable, and processing of stored food products. Prereq: FST 340 and 410 or consent of instructor. 3 hours lecture and 1 lab.

452 Science of Dairy Foods (3) Science and technology of the processing of milk and its products. Prereq: 290, 310, 320, 29-39, and 340 or consent of instructor. 2 hours lecture and 1 lab.

460 Meat Science (3) Carass characteristics of meat animals, muscle structure and composition, cut identification, curing, freezing, and cookery. Prereq: 140 or consent of instructor.

469 Meat Science Lab (1) Slaughter and processing methods for beef, pork, lamb and poultry. Coreq: 460. 1 lab.

490 Food Laws and Regulations (3) A comprehensive examination of the laws and regulations designed to preserve the safety, wholesomeness, and nutritional quality of the United States food supply with an in-depth analysis and discussion of precedent case studies and their impacts on laws and regulations. Core courses in Food Science and Technology will serve as an essential basis for understanding of material covered in this course. Prereq: 140; non-majors must obtain consent of instructor.

493 Practical Experience In FoodScience and Technology (1-12) Specialized research under faculty direction. Field experience in supervised internship in the food industry. May be repeated; maximum 12 hours. Prereq: Consent of instructor. E

495 Quality Assurance and Sanitation Practices (3) Design and evaluation of a food processing operation to produce a safe and acceptable quality food product. Prereq: 310, 320, and 340 or consent of instructor.

FOREIGN LANGUAGE/ESL EDUCATION (394)
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.

FORESTRY (396)
100 Forests and Forestry in American Society (3) Introductory course examining the role of forests in shaping American culture and society and exploring the evolution of the forestry profession in the North America.
FOREST, WILDLIFE AND FISHERIES (398)

100 Current Issues in Renewable Natural Resources (1) Curricula andIs required. Prereq: Consent of instructor. May not be taken by students eligible for French 150, E

211 Introduction to Forestry, Wildlife and Fisheries (3) History of natural resources policies and practices; social perspectives and attitudes concerning natural resources and natural resource management, ecological principles, current policies, social trends, and forest and wildlife resource use. Sp

250 Conservation (3) Use and abuse of wildland resources. Historical perspectives and current management of forests, wildlife, and fish of North America including aspects of outdoor recreation and pollution problems. Sp

311 Dendrology and Silvics of North American Trees (3) Identification, classification and nomenclature of important North American trees and woody shrubs; forest associations; silvical characteristics of trees and stands as the basis for the practice of silviculture. Day-long field trips may be required. Prereq: 1 year of Botany or Biology, 2 hours and 1 lab. F

312 Principles of Silviculture (3) Principles for treating forest stands to achieve selected objectives. Prereq: Chemistry 100, Coreq. PSS 210, 311, and (for Forestry majors) 313. 2 hours 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, Agriculture and Natural Resources 125, Coreq. FW 312. 1 hour and 1 lab. F

317 Principles of Wildlife and Fisheries Management (3) Ecological relationships of wild animals with other animals and their habitats. Biological, social and economic aspects of wildlife and fisheries. Prereq: 211 or 250. Coreq. Statistics 201, Agriculture 290, Mathematics 125, Chemistry 100 and Biology 230. F

410 Wildlife Habitat Evaluation and Management (3) Ecological relationships between wildlife and their habitat. Evaluation, modeling, and management of wildlife habitat. Effects of land-use practices on wildlife habitat. Weekend field trips required. Prereq: 317 or consent of instructor. Formerly: 211, 317 and Junior standing 2 hours and 1 lab. Sp

416 Planning and Management of Forest, Wildlife and Fisheries Resources (3) Integrated forest and wildlife resource management through developing land management plans and analyzing scientific studies including conflict resolution. Prereq: Senior standing, 1 hour and 2 labs. Sp

420 International Natural Resource Issues (2) Identification and analysis of issues regarding forestry, wildlife, and associated natural resources beyond U.S. borders. Biological, social and cultural elements impacting natural resources at the international level. Cases: Northern Europe, Latin America, Indonesia, and Africa. F,A

FRENCH (405)

111-112 Elementary French (3.3) Language Laboratory required. Must be taken in sequence. Not available to students eligible for French 150, E

150 Intermediate French Transition (3) Prereq: Two years of high school French and a placement score below the level required for admittance to French 211. Since 1950 is a review of elementary French, students who receive credit for this course are not eligible for French 250 for any other 100 level French course and therefore also forfeit the six hours of elementary language credit awarded through placement examination. For elective credit only.

199 French Language and World Business (3) The course will examine the role of the French language in trade at the local, state, and national levels. An interdisciplinary team of faculty from the colleges of Business and Arts and Sciences will provide an overview of the value of language study in the context of international business. Restricted to students majoring in the Language and World Business major concentration. See the Director for further information.
351-352 History of French Literature (3,3) Prereq; 150 or 112 or Departmental Placement Exam. Must be taken in sequence. Students who place in 200 level courses from high school will receive six hours of elementary French credit.

217-218 Honors: Intermediate French (3,3) For students of superior ability in French. Incoming freshmen admitted on basis of diagnostic test, high school average, and performance on ACT. Class held to a maximum of 15 for individual attention. Enriched program with emphasis on speaking ability and reading, including literary selections. Students with a grade of A in 211 may enter 218 with permission of instructor. Credit for 300 given to students receiving a grade of A or B in the course. F, Sp

300 Transitional Grammar Review and Reading (3) For students who have completed the intermediate level sequence and who need additional preparation in reading comprehension, vocabulary acquisition, and key areas of grammar. Prereq; French 212 or equivalent or appropriate score on French placement test. 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 examinations, and to upper division students desiring reading knowledge of the language. Undergraduate credit only. Not for credit for those having had 111-112 or equivalent. No auditors.

333 Intermediate Composition and Grammar (3) Emphasizes writing skills. Review of major grammatical points in French. Prereq; French 212, 218, French 300 or permission of instructor.

334 Intermediate Conversation (3) Emphasizes speaking skills. Further review of French grammar. Required of all majors. Prereq; French 212, French 218, French 300 or permission of instructor.

345 French for Business (3) Contemporary French language and business transactions. Understanding and composing business letters; oral communication and elements of French culture related to good business practices. Either 334 or 345 may be applied toward the major but not both. Prereq; 333 or consent of instructor.

351-352 History of French Literature (3,3) Chronological view of French literature in relation to the specific historical developments that have influenced it. Prereq; 333 or 334 or permission of department.

400 Consecutive and Simultaneous French-English and English-French Translation (3) Consecutive Translation to and from English. Introduction to simultaneous translation to English. Prereq; 334, 345 or equivalent.

410 Medieval French Literature (3) Major representative works of Medieval French literature. Texts in modern French. Prereq; a 300-level literature course. Writing emphasis course. (Same as Medieval Studies 410.)

411 French Literature of the 16th Century (3) Highlights of 16th-century French literature. Excerpts from Rabelais and Montaigne; readings of poems from the writers from Loy and members of the Pleiade. Writing emphasis course. Prereq; a 300-level literature course.

412 French Literature of the 17th Century (3) Masterpieces of 17th-century French literature. Writing emphasis course. Prereq; a 300-level literature course.

413 French Literature of the 18th Century (3) Major works of the Enlightenment. Writing emphasis course. Prereq; a 300-level literature course.

414 French Literature of the 19th Century (3) French Romanticism and its counter movements: Realism, Parnassianism and Naturalism. Writing emphasis course. Prereq; a 300-level literature course.

415 French Literature of the 20th Century (3) Evolution of 20th-century French literature. Writing emphasis course. Prereq; a 300-level literature course.

420 Cinema (3) The French cinema from its earliest days through the New Wave directors. Prereq; a 300 level literature course. Can be applied to major. Writing emphasis course. (Same as Cinema Studies 420.)

421 Phonetics (3) Foundation in the science of phonetics. Practical exercises and individual performance. Graduate credit not offered to students majoring in a Romance language. Prereq; French 333 or 334 or permission of department.

422 Advanced Grammar (3) Improving one’s written French by studying basic and more refined structures of the French language. Writing creative free-style compositions. Writing emphasis course. Prereq; French 333 or 334.

423-424 Advanced Conversation (1,1) Informal conversation with native speaker on contemporary topics. Stressess in class contact rather than outside preparation. Meets two hours a week for one semester credit. Prereq; French 333 or 334.

425 Introduction to Descriptive Linguistics (3) Initiation into the theory and practice of techniques of linguistics analysis in the subfields of phonology, phonology, cultural, societal, and political linguistics; discussion of their relevance to the teaching and learning of foreign languages and the study of literary texts. Writing emphasis course. (Linguistics 200 strongly recommended.) (Same as German 425, Linguistics 425, Russian 425, and Spanish 425.)

426 Methods of Historical Linguistics (3) (Same as Russian 426, German 426, Spanish 426 and Linguistics 426.)

429 Romance Linguistics (3) Development of Classical Latin through Vulgar Latin into major Romance Languages. Writing emphasis course. (Same as Spanish 429 and Linguistics 429.)

430 Theatrical French (4) Comprehensive introduction to theatrical production and performance in France. Students collaborate in the creative staging of a French play and actively participate in its public performance. Prereq; 300-level literature course. May apply toward 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 art. Prereq; a 300-level literature course. Writing emphasis course.

432 Contemporary French Culture (3) Current French culture, including linguistic, musical, literary, and the visual arts. Prereq; 300-level literature course. Writing emphasis course.

433 French and Francophone Women Writers (3) Works by women writing in French considered in cultural context. In English; readings in French for majors. May apply toward French major. Writing emphasis course. (Same as Women’s Studies 433.)

434 Literature of Quebec (3) Survey of literature of Quebec, a region of French Canada connected with North America. Readings include explorer and missionary works, such as the Voyages of Champlain and the Journals of the Jesuits, as well as the Literature of contemporary Quebec. Writing emphasis course. Prereq; a 300-level literature class.

440 Capstone Experience in French (3) Synthesizing senior colloquium and tutorial in which students reflect on the raison d’être of the discipline from a multidimensional point of view. Writing emphasis course. Prereq; a 400-level literature course.

445 Advanced French for Business (3) Study of advanced contemporary French language and culture as they relate to business transactions. A comparative approach is used to explore differences and similarities between Francophone business culture(s) and those of North America and Japan. Students build upon their knowledge of business terminology while being sensitized to cultural differences and the dangers of simplistic stereotyping. Writing emphasis course. Prereq; 345 or consent of instructor.

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language & World Business Director. Prereq; Language & World Business majors only. Satisfactory/No Credit only.

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 world regions especially their problems or situations of contemporary interest, to illustrate geographical points of view, concepts, and techniques. May be taken in either order.

108 Honors: World Geography (4) For freshmen and sophomores of superior ability who are interested in the geographical approach to important world problems and issues. Open to students who have received an “A” in Geography 101. Students may not receive credit for both 102 and 108.

131-132 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 activity. Must be taken in sequence. 3 hours lecture and 2 hours lab per week. Prereq; 131 is prerequisite to 132.

310 Introduction to Cartography (3) Properties, sources, uses, design and production of maps as tools for geographical analysis. Introduction to desktop mapping techniques and data display using basic thematic map styles. 2 hours lecture and 2 hours lab per week.

320 Cultural Geography: Core Concepts (3) Background and method of cultural geography; basic concepts and theories. Focusing on cultural landscapes on specific regions, cultural ecology, innovation and diffusion, cultural integration, and world patterns of cultural phenomena.

323 Behavioral Geography (3) Types of human behavior, such as slash and burn, territory, commuting, residential mobility, and regional consciousness, in relation to distance, natural environment, and culture. (Same as Urban Studies 323.)

334 Meteorology (3) Dynamic atmosphere and resulting weather events. Nature of individual weather elements, their measurement and analysis over time and space.


345 Population and Environment (3) Global and local patterns of population distribution and change as they relate to culture, economic development, technology, and the environment and the future. Prereq; 101-102 or consent of instructor. Writing emphasis course.


361 Regional Geography of the United States and Canada (3) Physical, economic, and social distributions as they interrelate to and give distinctive character to regions of the United States and Canada. Writing emphasis course.

363 Geography of the American South (3) Geographical appraisal of the southeastern United States, including physical environment and human resources. Origin and development of contemporary economic and cultural traits of the area. Writing emphasis course.

365 Geography of Appalachia (3) Interrelation of physical, economic, and social patterns that give distinctive character to the region and its parts, especially in southern Appalachia. Appalachia in perspective in the current American scene. Writing emphasis course.

371 Geography of Europe (3) Physical, cultural, and economic characteristics of Europe. Emphasis on the geographical dimensions of change in contemporary Europe. Writing emphasis course.

372 Geography of Middle America (3) Physical, cultural, and economic characteristics of Mexico, Central America, and the West Indies. (Same as Latin American Studies 372.) Writing emphasis course.

373 Geography of South America (3) Physical, cultural, and economic characteristics of the countries of South America. (Same as Latin American Studies 373.) Writing emphasis course.

379 Geography of Africa (3) Physical, cultural, and economic characteristics of Africa, with particular emphasis on the area to the south of the Sahara. Writing emphasis course. (Same as African and African-American Studies 379.)
401 Global Positioning Systems and Geographic Data (3) Theory and field and laboratory use of Global Positioning Systems for capturing digital geographic data; management and display of geographic data, including coordinate systems, datum issues, sampling digitizing, map standards, and uncertainty in Geographic Information Systems. 2 hours lecture and 2 hours lab per week.

411 Computer Mapping and Geographic Information Systems (3) Concepts, management, and presentation of digital data for spatial analysis, with emphasis on cartographic data structures. 2 hours lecture and 2 hours lab per week. Prereq: 310 or consent of instructor. (Same as Information Management 431.)

412 Advanced Cartography Techniques (3) Cartographic design and data display techniques for reference and thematic maps. Basic principles and methods of map reproduction. Prereq: 310 or consent of instructor. 2 hours lecture and 2 hours lab per week.

413 Remote Sensing: Types and Applications (3) Principles and uses of remote sensing imagery, digital data, and spectral data, with particular emphasis on geographic interpretation and mapping techniques. Prereq: 310 or consent of instructor.

415 Quantitative Methods in Geography (3) Geographic application of statistical techniques, point pattern analysis, and analysis of areal units. Prereq: Mathematics 115 or Statistics 201 or consent of instructor.

419 Practicum in Cartography/Remote Sensing (2-6) Supervised practice in design and production of maps and other graphic materials in the Cartographic Services Laboratory or a similar organization. Prereq: Written consent of department prior to registration. S/NC or letter grade.

421 Geography of Folk Societies (3) Geographical study of folk culture, emphasizing traditional material culture and rural settlement, with examples drawn from eastern North America and selected foreign areas.

423 Geography of American Popular Culture (3) Geographical study of regional variation in popular cultures, especially focused on youth cultures in the United States. Writing emphasis course. (Same as American Studies 423.)

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 patterns of climates. Climatic change and modification, and interrelationships of climate and human activity. Prereq: 131 or consent of instructor.

435 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 consent of instructor.

436 Water Resources (3) Global water resources and hydrologic processes, including water availability, flooding, and water quality issues examined from physical and economic geographic perspectives. Prerequisite: 131-132 or consent of instructor.

439 Plant Geography of North America (3) Classification and distribution of major plant communities of Canada, the U.S., Mexico, and Central America. Relationships to climate, soil, and human disturbance. Long-term history and future prospects. Prereq: 131-132 or course work in botany or consent of instructor.

441 Urban Geography of the United States (3) Concepts and theories concerning development and significance of systems of cities and internal morphology of cities in the United States. Writing emphasis course. (Same as Urban Studies 441.)

443 Rural Geography of the United States (3) Geographical appraisal of rural areas of the United States, including small towns and urban fringes. Problems and potentials of rural America. Writing emphasis course.

449 Geography of Transportation (3) Examination of transportation systems, emphasizing their effects on trade patterns, land use, location problems, and development.

450 Process Geomorphology (3) (Same as Geology 450.)

466 Teaching and Learning Geography (3) Preparing prospective teachers in the content, skills, strategies, and understandings needed for the effective teaching and assessment of geography in the K-12 schools. Course organization and content based largely on that of the national Geography Standards.

490 Internship (3) Career-related experience with business, nonprofit, and government organizations. For geography majors. Prereq: Prior written permission of geography department head or authorized internship director. May be repeated. Maximum 6 hours. Satisfactory/No Credit.

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.

494 Undergraduate Research Experience (1-3) Supervised participation in active research projects. Prereq: Consent of department head. May be repeated once; maximum 6 hrs. Satisfactory/No Credit.

497 Honors: Senior Thesis (3) Students develop undergraduate thesis topic under the guidance of a faculty advisor. Prereq: Open to second semester juniors and first year seniors who have a 3.2 or better overall GPA and permission of faculty advisor.


499 Seminar in Geography (3) Majors in geography, especially trends over the past 40 years. Required for majors. Not open to graduate students. Prereq: Senior standing and completion of at least 12 hours of major or minor requirements in geography. Writing-emphasis course.

GEOLOGY (424)

101 The Dynamic Earth (4) Physical processes within and upon the Earth’s surface, including the formation of rocks, plate tectonics and earthquakes, and landscapes. Must be taken in sequence. 3 lecture hours and one 2-hour lab or field period.

102 Earth, Life and Time (4) Fossils, evolution and ancient environments 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 The Earth’s Environments (4) Contemporary problems and solutions related to human disturbance of the environment; topics include: global climate change, pollution, resource depletion. Prereq: 101, 3 lecture hours and one 2 hour lab or field period. Fulfills laboratory science sequence requirement for College of Arts and Sciences.

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 Arts and Sciences 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 Biodiversity: Past, Present, and Future (3) Introduction to how biodiversity has changed through time, especially past mass extinctions and current declines, from human activities. Topics include measurement of biodiversity, how biodiversity originates, and the dynamics of extinction. May not be applied toward the Geology 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 human impact and management of Earth system: human disturbance and pollution. No prerequisite. May not be applied toward Geology major.

203 Geology of National Parks (3) Geologic principles, processes, and earth materials responsible for the spectacular landscapes of the National Parks. Focus on the interactions among internal earth processes, surficial earth processes, and human interactions. 3 lecture hours, plus an optional field trip. Writing emphasis course. May not be applied toward the Geology major.

204 Geology Beyond the Earth (3) The geologic evolution of other bodies in the solar system, including Mercury, Mars, Venus, meteorites, and large moons of Earth and Jupiter. The focus is on geologic and possibly biological processes that can be identified and understood from spacecraft missions, remote sensing, and laboratory study of extraterrestrial materials. No prerequisites. May not be applied toward the Geology major.

310 Mineralogy (4) Introduction of crystallography, crystal chemistry, x-ray diffraction, optical mineralogy, and the structures of rock-forming minerals. Laboratory includes hand specimen identification, x-ray diffraction techniques, and microscopic identification of minerals. Prereq: 101, Chemistry 120-130 or equivalent. 3 hours lecture and 1 lab.

320 Paleobiology (3) Fossils and their uses in functional morphometrics, paleoecology, biogeography, biostatigraphy, and evolution. Prereq: 102 or consent of instructor. 2 lecture hours and one 2-hour lab or field period.

330 Igneous and Metamorphic Petrology (3) Classification and properties of igneous and metamorphic rocks, the processes that produce them, and the tectonic environments in which they form. Prereq: 310, 2 lecture hours and one 2-hour lab or field work.

345 Geology of East Tennessee (1) Geology of the Southern Appalachians in Tennessee. Prereq: Completion of major core courses or consent of instructor. 1 lecture hour plus field trips.

370 Structural Geology (4) Common geologic structures (folds, faults, cleavage) and their genesis. Laboratory includes map interpretation, cross-sections, projections, stereograms. Prereq: 101 and (Mathematics 141-142 and Physics 135. Coreq: 310 lecture hours and one 2-hour lab or field work.

381 Minerals and Energy Resources: Geologic Con- straints and Environmental Impacts (3) Distribution and relationship of mineral and energy resources to environmental impact of exploitation and utilization of conventional and alternate resources. No prerequisite. Writing-emphasis course.

401 Quantitative Methods in Geology (3) Applications of calculus and differential equations to problems in the earth sciences. Examples of the diffusion equation in hydrogeology; the wave equation in geophysics; mechanical modeling and boundary conditions in structural geology and tectonics. Prereq: 101-102 or 107-108. Mathematics 141-142. 3 lecture hours.

410 Mineral Science (3) Crystal chemistry of the rock-forming minerals. Interaction of electromagnetic radiation and crystallographic structures. Optics of rocks; types of destructive and 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.

411 Optical Mineralogy (2) Laboratory course on the principles of optical mineralogy. Use of petrographic microscope to identify rock-forming minerals with applications to petrology and environmental mineralogy. Prereq: 310.

412 Elements of X-ray Diffraction (2) Laboratory course on principles and applications of X-ray diffraction. Phase identification, quantitative determination of mineral abundances in mixtures, and crystal structure determination. Prereq: 310.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Notes</th>
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<tbody>
<tr>
<td>420</td>
<td>Paleocoeology (4) Principles of ecological analysis as applied to fossils and fossil assemblages with emphasis on data collection and interpretation. Laboratory is designed around preparation and interpretation of scientific reports based on field and laboratory analysis. Writing emphasis course. 3 lecture hours and one 2-hour lab.</td>
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<td>421</td>
<td>Invertebrate Paleontology (4) Survey of invertebrate animal phyla, with emphasis on skeletal structure and preservation. Includes morphological, ecological, and stratigraphic distribution. Prereq: 320 or consent of instructor. 2 hours and two 2-hour labs.</td>
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<td>431</td>
<td>Geological Engineering (3) (Same as Civil Engineering 431.)</td>
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<td>440</td>
<td>Field Geology (5) Summer field course for advanced undergraduates and first-year graduate students in geology. Taught off-campus and requires the full time of the student. The course provides a synthesis of the major aspects of the geological sciences in a societal context. Field techniques demonstrated and practiced, and applied to the solution of geologic problems. Prereq: Completion of other major core courses (310, 320, 330, 340, 370) and consent of instructor.</td>
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<td>450</td>
<td>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.)</td>
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<td>460</td>
<td>Principles of Geochemistry (3) Applications of chemical principles to geologic systems with emphasis on problem-solving techniques. Topics include phase diagrams, partitioning of trace elements, thermodynamic principles for evaluating stability of mineral assemblages, aqueous solutions, and applications of radiochemical and stable isotopes to geologic systems. Prereq: Chemistry 120-130, Mathematics 141-142, recommended Geochemistry 330 or consent of instructor. 3 hours lecture and one 2-hour tutorial.</td>
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<td>470</td>
<td>Applied Geophysics (3) Basic principles geophysical exploration, with emphasis on applications to environmental problems. Includes seismic and electromagnetic methods. Prereq: 6 hours of geology courses numbered above 300, Physics 221-222. 3 lecture hours.</td>
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<tr>
<td>471</td>
<td>Fieldwork in Geophysics (2) Summer field course for advanced undergraduates or graduate students. Taught off-campus and requires the full time of the student for 2 or more weeks. Geophysical investigations applied to the solution of a problem in tectonics, hydrogeology, or the environment. Prereq: 470 or consent of instructor.</td>
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<td>475</td>
<td>Physical and Chemical Systems of the Earth (3) Development of the physical earth from the solar nebula to the present. Formation, composition and evolution of the hydrosphere, atmosphere, and core. Interdependence of earthquakes, volcanism, plate tectonics, geochemistry, and isotopic processes of the interior, and the earth’s temperature. Historical perspective on major controversies of the past, and problems unresolved today. Writing emphasis course. Prereq: 16 hours geology courses numbered 300 and above, 2 lectures and 1 discussion period.</td>
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<td>480</td>
<td>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 for graduate and one 2-hour lab.</td>
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<td>485</td>
<td>Principles of Hydrogeology (3) Physical principles of flow, flow equations, geologic controls, aquifer analysis, water well design/testing, introduction to transport processes. Prereq: 101, Math 141 and 142, Physics 133 or 134 or equivalent, and consent of instructor. (Same as Civil Engineering 485.)</td>
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<td>486</td>
<td>Hydrogeology Laboratory (1) Application and demonstration of hydrogeological principles in the field and laboratory. Prereq: Fundamentals of Geology 485, or Environmental Engineering 535, or consent of instructor.</td>
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<td>490</td>
<td>Special Problems in Geology (1-3) Directed study or special topics. Prereq: Consent of instructor. May be repeated. Maximum 6 hours.</td>
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<td>491</td>
<td>Foreign Study (1-15)</td>
<td>Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.</td>
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<td>492</td>
<td>Off-Campus Study (1-15)</td>
<td>Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.</td>
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<td>493</td>
<td>Independent Study (1-15)</td>
<td>Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.</td>
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<td>497</td>
<td>Senior Honors (1-6) Admission by consent of department. May be repeated. Maximum six hours.</td>
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<tr>
<td>421</td>
<td>German Lyric Poetry (3)</td>
<td>Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.</td>
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<td>422</td>
<td>German Drama (3)</td>
<td>Prereq: 5 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.</td>
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<td>423</td>
<td>German Narrative Prose (3)</td>
<td>Prereq: 6 hours of 300 courses excluding 331-332 and courses in English translation, or equivalent.</td>
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<td>424</td>
<td>German Literary Movements (3) Major periods in the development of German literature since 1750, with emphasis on the problems and parameters of language.</td>
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<td>425</td>
<td>Introduction to Descriptive Linguistics (3) (Same as Russian 425, French 425, Spanish 425, and Linguistics 425.)</td>
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<td>426</td>
<td>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. Non-phonological linguistic change, language families, Proto-Indo-European and other proto languages. 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.)</td>
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<td>435</td>
<td>Structure of the German Language (3) Contrasting English-German segmental and suprasegmental phonemes, contrasting English-German linguistic structures, selected topics in advanced German grammar and syntactic analysis. Prereq: 6 hours of upper-division German language courses excluding courses in translation and graduate reading courses. (Same as Linguistics 435.)</td>
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<td>436</td>
<td>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.)</td>
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<td>477-478</td>
<td>German Honors (1,1) Preparation of honors paper portfolio and oral presentation. Prereq: Permission of the department.</td>
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<td>485</td>
<td>Business German (3) German used in fields of business, government, administration and economics. Prereq: 6 hours of upper-division German courses in translation and 331 or 332.</td>
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<td>490</td>
<td>Internship (1-15) Career-related experiences in the U.S. or abroad with permission of the Language &amp; Business World Business Director. For Language &amp; World Business majors only. Satisfactory/No Credit only.</td>
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<td>491</td>
<td>Foreign Study (1-15)</td>
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<td>492</td>
<td>Off-Campus Study (1-15)</td>
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<td>493</td>
<td>Independent Study (1-15)</td>
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<td>401</td>
<td>Greek Poetry (3) Epic, lyric, drama. Authors vary.</td>
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<td>402</td>
<td>Greek Prose (3) History, philosophy, and oratory. Authors vary.</td>
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<td>405-406</td>
<td>Selected Readings from Greek Literature (3,3) For advanced students in Greek, the study of plays, the historical writings, the poetry of Aeschylus in the original Greek. May be repeated for credit. Maximum 9 hours. Prereq: 401-402 or consent of instructor.</td>
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HEALTH (449)
110 Personal Health and Wellness (3) Information and behavior to approach health and wellness scientifically and to develop confidence in judgments affecting personal health and wellness. Students who have received credit for Health 330 may not thereafter receive credit for this course. F
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.
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 cardiac life support following cardiac arrest due to such conditions as heart attack, drowning, electrocution, suffocation, 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 opportunities; health behavior and intervention techniques; health appraisal techniques; health promotion strategies. F
305 Health of Adolescents (3) Profile of health needs, interests and behaviors of adolescents and attention to the roles and functions of practitioners relating to youth and youth culture. F
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. Prereq: Admission to Teacher Education Program. 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 15 years old for certification. E
330 Wellness For Health Professions (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. Students who have received credit for 330 may not thereafter receive credit for Health 110. Sp, Su
375 Health Communications (3) Communication strategies for health educators in various settings. Emphasis on interpersonal communication skills, public relations, leadership, small group processes, health teams, and effective use of media. Prereq: Health 300, Public Health 300. Sp
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 make alcoholism a serious health and safety problem. Various types of instructional/educational and intervention programs. F
406 Death, Dying and Bereavement (3) Aspects of dying, death and bereavement, their meaning and social and cultural impact. Medical, financial, physical, legal and social implications of death. F, Sp
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 well-being as consumers in nation's health care service delivery systems. Study of health problems/concerns of women and techniques for prevention, maintenance and/or correction. (Same as Women's Studies 241-242.) E
426 Health Education Program Planning (3) Principles of curriculum development, administration, implementation, methodology, and evaluation. Prereq: Health 300, Health 375, Public Health 300, and Psychology 430.
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 associated causes, pharmacology of drugs and effects on 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, teacher, school administrators, nurses and other paramedical 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
483 Field Practice (12) Off-campus health internship or field practice in an educational or other agency with qualified professional. Prereq: Progression and approval for internship. Satisfactory/No Credit only. Usually taken in final semester. E
HEBREW (456)
141-142Elementary Modern Hebrew I,II  (4,4) (Same as Religious Studies 141-142.)
241-242 Intermediate Modern Hebrew I,II  (4,4) (Same as Asian Studies 241-242.)
HISTORY (462)
221-222 History of the United States (3,3) 221—Settlement to 1877. 222—1877 to present. Writing-emphasis course. E
227-228 Honors: History of the United States (3,3) Consent of department required. Students will attend the appropriate 221-222 lectures and the designated honors discussion section.
241-242 Development of Western Civilization (3,3) Historical survey of the civilization of the western world. 241—Ancient world to 1715. 242—1715 to 1797. Writing-emphasis course. F
247-248 Honors: Development of Western Civilization (3,3) Consent of department required. Writing-emphasis course. Students will attend the appropriate 241-242 lectures and the designated honors discussion section.
255-256 Introduction to Latin American Studies (3,3) Social, economic, political, and cultural developments in Latin America, including works of literature, science, art, and social thought. Prereq: consent of instructor. F, Sp
261-262 A History of World Civilization (3,3) Historical survey of world civilization. 261-Origins to 1500. 262-1500 to present. Writing-emphasis course.
307 Honors: Introduction/Historical Problems (3) Historical analysis, philosophy of history, principles and techniques of research emphasizing the roles of cultures of opinion and frames of reference and the problems of evidence, interpretation and objectivity. Required of students working for honors in history. Prereq: Consent of the department.
310 The Ancient World: Greece (3) (Same as Classics 310.)
311 The Ancient World: Rome (3) Origins of Roman imperialism and its consequences: militarism, empire, socioeconomic changes, constitutional crises, emergence of military and political autocracy. Writing-emphasis course. (Same as Classics 311.)
312-313 Medieval History (3,3) 312—Early Middle Ages: 300-1100. Formation of medieval society and institutions. 313—Late Middle Ages: 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. Interrelationships of social, cultural, economic, political and intellectual developments, with an emphasis upon historical interpretation.
315 Reformation Europe, 1500-1650 (3) The period during which Europe witnessed religious disunity, economic dislocation and insecurity, political centralization, intellectual renaissance and the development of modern science, warfare and the witch craze. (Same as Religious Studies 315.)
316 Early Modern Europe, 1650-1800 (3) Dynamic conflict of a search for order in an age of revolutions, seen in the continued push for political centralization, the impact of the scientific revolution, the intellectual flowering known as the "Enlightenment", and the English and French revolutions.
319 Modern Europe, 1750-1914 (3) Political, industrial and intellectual revolutions against traditions. Topics such as the modern population explosion, urbanization, the political emergence of the middle class and the masses, nationalism, imperialism, rationalism and Romanticism in social thought and politics. Writing-emphasis course.
320 Contemporary Europe, 1900-Present (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; the impact of Freud, Einstein and existentialism; welfare states and the problems of European unification. Writing-emphasis course.
321 New Testament Origins (3) (Same as Religious Studies 321.)
322 Christian Thought (3) (Same as Religious Studies 322.)
323 Deviance and Persuasion in the Christian West 1100-1700 (3) Emergence and shifts in movements of dissent; popular perceptions and ecclesiastical and civil policies and institutions designed to uncover and combat heretics, homosexuals, Jews, and "witches". Writing-emphasis course.
330-331 History of England (3,3) 330-to 1688. 331-1689 to the present. Medieval state, church, and society; origins of Anglo-American law, the monarchy and parliamen
tary government, the Reformation, 17th Century revolutions, commercial, agricultural and industrial revolu
tions; class conflict, empire, the welfare state, world wars, economic crisis.
333 History of France (3) France since the Revolution, 1789 to the present.
334-335 History of Germany (3,3) 334-Germany I, to 1815. The First Reich’s Fortune and Failure. The develop
mament of nationalism in 19th century Germany, the evolution of the German nation, the rise of Hohenzollernism to its disintegration, through dynamic and religious realignments, to the Austrian-Prussian dualism in the time of Bismarck and Wilhelm I. The Schleswig-Holstein War. The present nation.
335 Germany II, Since 1800. The Quest for Nationhood. The evolution of modern Germany through revolution, indus
trialization and wars, from Metternich's Confederation, to Bismarck’s Second Reich, to the Weimar republic to Hitler’s Third Reich, to Adenauer’s Federal Republic and the present nation.
339 Modern Ireland, 1760-Present (3) Ireland’s social, political, economic, and cultural history. Themes in
clude: Ireland’s status as England’s first colony from the Norman period to Cromwell and beyond: peasant revolt, Catholic-Protestant antagonism: and nationalistic revival; interwar period and independence, the Irish War of Independence, the treaty, the Irish Free State to its disintegration, through dynamic and religious realignments, 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. 335-345 Ireland II, Since 1800. The Quest for Nationhood. The evolution of modern Germany through revolution, indus
trialization and wars, from Metternich’s Confederation, to Bismarck’s Second Reich, to the Weimar republic to Hitler’s Third Reich, to Adenauer’s Federal Republic and the present nation.
340 Ancient History of Russia (3,3) 340—To the middle of the 19th century. 341—on the rise of modern Russia.
342 History of Nazi Germany (3) The coming to power of the Nazi party in Germany, origins of ideology, rise and fall of the “Third Reich.” Topics include foreign policy, social policy: World War II, Hitler’s brutal rule and racial policies, programming in mass murder and genocide against the Jews of Europe. Writing-emphasis course.
346 The Environment in U.S. History (3) Environmental consequences of competition for scarce resources among Indians, European Americans, and Hispanic Americans; colonization; migration; industrialization; urbanization; conservation; and environmentalism. Writing emphasis course.

350 Colonial America to 1763 (3) Social and cultural developments in the American colonies from the point of contact between European and indigenous peoples through the mid-eighteenth century. Writing emphasis course.

351 The American Revolution, 1763-1789 (3) The growing estrangement of the American colonies from the British Empire, the War for Independence, and the creation of a new American republic. Writing emphasis course.

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. Emphasis on domestic history but includes military and foreign policy.

356 The 1960s in America (3) The politics, social movements, and cultural revolutions of the 1960s. Topics include race riots, antiwar protests, new art forms, Great Society legislation, the rise of neoconservatism, empowerment movements by people of color, Cold War brinkmanship in Cuba, and the escalation of ground and air wars in Vietnam. Writing emphasis course. (Same as American Studies 356.)

360—361 History of Latin America (3,3) 360-Colonialism and Independence, 1500-1825. 361-National Development, 1825 to present. Writing emphasis course. (Same as Latin American Studies 360-361.)

362-363 History of East Asia (3,3) 362—East Asia: History and Culture to 1800. Chiefly China and Japan, Korea and Vietnam also included. Confucianism, Buddhism, social structure, political tradition, and Japanese feudalism. Comparison and contrast with Western history and culture. 363—Modern East Asia since 1600. China, Japan, Korea and Vietnam. Comparative modernization: Western influence, communist revolution, communist movement, and Japan's militarism and postwar economic success. Writing emphasis course.

364 History of China (3) Changes and continuities of the world's longest uninterrupted civilization with a quarter of the human race differences between China and Western civilizations; Chinese revolutions in historical context. Writing-emphasis course.

365 History of Japan (3) Japanese history from mythological origins to the postwar age, with emphasis on politics and society, especially the influence of disease on society, Japanese feudalism, popular culture in the 1700s, the Meiji Restoration, and Japanese militarism. Writing-emphasis course.

366 History and Archaeology of Mesopotamia (3) Mesopotamian (Assyria and Babylonia) from the fifth millennium to the Iron Age. Specific topics include the development of village and state-level societies, and the emergence of social and political institutions, literacy, imperialism, and intercultural interaction. Writing-emphasis course.

367 Historical Issues (3) Variable content. Broad thematic issues in historical perspective. Lecture-discussion. Especially suitable for non-majors; also open to majors. May be repeated. Maximum of 9 hours.

371 Historical Issues (3) Survey of sub-Saharan Africa (3) State creation, trade, spread of Islam. 372—Dynamic of Africa's encounter with Europe from 1500 to the present. Slave trade, colonial, and independence era. Writing-emphasis course. (Same as African and African-American Studies 371-372.)

373 Historical Issues (3) Variable content. Broad thematic issues in historical perspective. Lecture-discussion. Especially suitable for non-majors; also open to majors. May be repeated. Maximum of 9 hours.

374 A History of Imperialism since 1850 (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 between non-Western and Western world views, and the search for individual identity in circumstances of cultural disruption. Writing-emphasis course.

375 Revolutions in Historical Perspective (3) Comparison of major revolutions which transformed political, social, and economic structures and values, such as those in France, Russia, China, Mexico, and Iran. Contrasts the goals, strategies, and outcomes. Relations between leaders and masses. Major theories of revolution. Writing-emphasis course.

381 History of South Africa (3) South African history from the pre-colonial period through the apartheid and post-apartheid era. Topics include African state formation and resistance to European colonization, the impact of industrialization, the evolution of modern resistance movements, and the first democratic elections in 1994. Writing-emphasis course. (Same as African and African-American Studies 381.)


384 History of Jewish Civilisation II (3) Medieval - Present. The resiliency of Jewish civilization in the face of external pressures; of Sephardic and Ashkenazi Jewry in medieval Europe; North Africa and the Middle East. Jewish mysticism; Judaism’s encounter with modernity. Hasidism, the Hasidic; Reform movement and Zionism; the Holocaust and its aftermath; the State of Israel; and assimilation and the future of Judaism. Writing-emphasis course. (Same as Judaic Studies 384.)

385 Studies in World History (3) Variable content. Selected topics in world history involving analysis of two or more world cultures. May be repeated. Maximum 9 hours.

395 The Crusades and Medieval Christian-Muslim Relations (3) The major Christian crusades in the Middle East and Spain, 1050 to 1500: their political and military aims, and the larger context of the medieval religious, cultural, intellectual, and diplomatic confrontations between Christians and Muslims. Writing-emphasis course. (Same as Religious Studies 395.)

407 Honors: Senior Paper (3) Bibliographic search, research and conceptual clarification for the senior paper. Required of students working for honors in history.

408 Honors: Senior Paper (3) Organization and writing of the senior honors thesis. Required of students working for honors in history. Grade of A or B required for honors credit.

421 Comparative Studies in African and African-American Societies (3) (Same as African and African-American Studies 421.)

423 Medieval Intellectual History (3) The evolution of thought in Europe from late antiquity to the advent of Humanism, especially connections between major thinkers and their social, economic, and professional contexts. Writing-emphasis course.

430-431 European Intellectual and Cultural History (3,3) 430-European Intellectual History 1700-1870. 431- Romanticism to Relativism, 1750-Present.

432 Women in European History (3) Comparative analysis of the roles of women in Medieval, Renaissance and Victorian Europe. Relationship between family structure, sexual attitudes and the economic and political roles of women with an emphasis on autobiographical writings by women. Writing-emphasis course. (Same as Women's Studies 432.)

439 Southeastern Indian History (3) Southeastern Indian history from the protohistoric period to the present. Interaction of Euroamerican, African-American, and Native American cultures; warfare, slavery, resistance movements; and other policies from the American Revolution to twentieth-century problems such as tribal sovereignty and dependency. Writing-emphasis course.

441 The American West (3) From 1803 to present, with special attention to the development of frontier and settlement. Writing-emphasis course.

442 Indian White Relations in United States History (3) Determination of two cultures existing side by side; background and formulation of official Indian policy; undermining of policy by frontier circumstances; Indian wars and campaigns; present-day relations. Writing emphasis course.

443—444 History of the South (3,3) 443—Old South from colonial period through the Civil War. 444—New South from Reconstruction through the Second Reconstruction.

445 The African-American Experience from the Colonial Periods to the Present (3) Topics in 19th and 20th century African-American History, such as Pan-Africanism and the effect of education on the status of Blacks. (Same as African and African-American Studies 445.)

446 History of American Culture (3) Topical examination of the origins and 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; challenges of cultural modernism; rural, urban, and inner-city values; cultural upheaval 1920s-30s; present nature of American culture. Writing-emphasis course.

449 History of Tennessee (3) Tennessee's history from the 18th century to the present.

450 History of U.S. Foreign Relations to World War II (3) Examines the ideology and practice of U.S. international relations from independence to entry into the Second World War.

451 United States Military History, 1754 to the Present (3) The nation's broad strategic aims and means used to attain them, shifting strategy, tactics and weaponry involved in wars, and relationship between American society and its armed forces. (Same as Military Science 450.)

452 The American Experience in World War II (3) Diplomacy and warfare in Europe and Asia and the impact of the war on American society.

453 Women in American History (3) Approaches of 432 applied to American society. Writing-emphasis course. (Same as Women's Studies 453.)

454 Cities and Urbanization in American History (3) Origins, growth, and influence of American cities in the development of the nation, from colonial era to present. Writing-emphasis course. (Same as Urban Studies 454.)

455 Environmental History of Urban America (3) Pre-industrial, industrial, and modern environmental cities, including animal pollution; pandemic disease, infrastructure construction; hinterland resource exploitation; and urban renewal and clean-up. Writing-emphasis course.

456 History of Sports in the United States (3) Development of sports and their social implications to American life from colonial period to present. Emphasis on social, cultural, economic and political impact of both spectator and participatory sports in 20th century. (Same as American Studies 456.)

459 Jefferson's America, 1789-1815 (3) Nation-building in the United States from the Constitution to the War of 1812. Economic modernization, the new national government, the first political party system, foreign relations, the War of 1812, the growth of cities, and changing ideas about deference, class, and community. Writing-emphasis course.

460 History of Brazil (3) History of Latin America's largest nation. History of boom and bust economic cycles, slavery and the abolition of slavery, populism, military rule, and re-democratization. Writing-emphasis course. (Same as Latin American Studies 460.)
482 Colloquium in History (3)

482 History of Mexico (3) Pre-Columbian, colonial, national, and modern Mexican history, emphasizing the twentieth century’s first true social revolution, the Mexican Revolution, and contemporary social and economic problems and analysis course. (Same as Latin American Studies 462.)

463 Modern Latin American History in Film (3) Major events and trends in Latin America since 1945 as represented in fictive films made by Latin Americans. Topics include Latin American development, the Cuban Revolution, and Authoritarianism. Writing-emphasis course. (Same as Latin American Studies 463.)

470 Studies in British History (3) Variable content. Selected themes and issues in British history. May be repeated. Maximum 9 hours.

471 Studies in Western European History (3) Variable content. Particular aspects of Western European history such as witchcraft, revolts, or nationalism. May be repeated. Maximum 9 hours.

472 Studies in Central European History (3) Variable content. Selected aspects of Central European history. 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. Particular aspects of medieval and early modern Europe. 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.

476 Studies in Asian History (3) Variable content. Particular aspects of Middle Eastern and East Asian history such as modernization in the Middle East, Revolution in China, Japanese Feudalism, and others. May be repeated. Maximum 9 hours.

479 Studies in United States History (3) Variable content. Particular aspects of United States history. May be repeated. Maximum 9 hours.

480 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.

483 History of U.S. Foreign Relations Since WW II (3) Examines the ideology and practice of U.S. international relations since World War II.

484 Studies in Jewish History (3) Variable content. Significant topics in the study of Jewish civilization and culture, including the development of the synagogue, Judaism and ethnicity, and the history of Jerusalem. May be repeated. Maximum 9 hrs. Writing emphasis course. (Same as Judaic Studies 484.)

485 Studies in Cross Cultural History (3) Variable content. Analysis of specific historical issues or specific facets of the relationships between two or more cultures. May be repeated. Maximum 9 hours.

486 Studies in the Ancient Near East (3) Variable content. History and archaeology of Egypt, Anatolia (Turkey), Cyprus, and Persia (Iran), the rise of social complexity, and social boundaries in antiquity. May be repeated. Maximum 9 hours. Writing-emphasis course.

487 Oral Histories of War and Peace (3) Oral history methodologies and interviews with veterans and others who have shaped modern American military history. Special topics include World War I, the Korean War, History 451, U.S. Military History, is recommended but not required.

490 Internship in the Center for the Study of War and Society (3) A structured field work experience in public history.-fit in the framework of modern U.S. military history, including special projects such as grant writing, interviewing, and archival processing. Prerequisite: Coreq: Center of the Director for the Study of War and Society. May be repeated. Maximum 6 hours.

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)

HOTEL AND RESTAURANT ADMINISTRATION (512)

101 Food Quality Principles (3) Scientific principles involved with selection, preparation, evaluation and safety of quality food. 2 hours and 1 lab.

119 Introduction to the Service Industry (3) Organization and basic operating systems for the career paths available in the hospitality, retail and tourism industries. Managerial competencies necessary for success in these fields. (Same as HRA and RCS 119.)


211 Hotel Operations (3) Operational theory of lodging and an exploration of the lodging industry in terms of nature of work, organizational structure of lodging segments, the meaning of guest services, differentiation of brands, current industry issues, and evaluation of the market place. Coreq: HRA 119/RCS 119.

311 Developing the Service Workforce (3) Personnel management procedures and policies to develop the service workforce. Topics include leading organizational change, labor cost control, employee retention issues. Prereq: HRA/RCS 210 or HRA 211 or RTM 310. (Same as RCS 311 and RCS 311.)

321 Quantity Food Procurement, Production and Service Laboratory (1) Application of principles in determining the quantities of food to be produced and serving foods in volume. Prereq: 120, 220, NTR 100 or 107, HRA 101, Micro 210 or PH 310; progression into HRA program or coreq. Coreq: HRA 119/RCS 119.

322 Diversity in the Service Marketplace (3) Market-place (3) Survey of diversity in the service marketplace. Implications for the manager of a diverse workforce in the delivery of goods and services to a multiplicity of consumer segments. Coreq: HRA/RCS/RTM 311 (Same as RCS 323 and RTM 323.)

324 Tourism and Travel Administration (3) Economic and social forces influence domestic and international tourism services; functions of retail, wholesale travel agencies. Prereq/Coreq: HRA 210 or HRA 211, or consent of instructor.

326 Food and Lodging Cost Control (3) Budget, cost analysis, computer, financial statement use in decision making in lodging and foodservice systems. Prereq: HRA 210 or 310, and Act 210 or Act 210.

335 Convention and Meeting Planning Management (3) Practical insights into types of convention/meeting services, roles of the association, corporate, and government convention and meeting planners, setting of objectives and format, site selection, negotiations, program design, speaker selection, budgeting, contracting, marketing, registration, on-site logistics, and evaluation. Prereq: HRA 211, or consent of instructor.

341 Food Safety and Sanitation for the Food Service Industry; Hazard Analysis Critical Control Point (HACCP) (1) Students will be eligible to become ServSafe certified. Prereq. or Coreq: HRA 210

376 Strategies for Growth (3) Issues concerning achievement of business growth with focus upon the consumer, operational, and financial dimensions of the service industry. Prereq: Mkt. 300, HRA 326 or RTM 310, or RCS 310, RCS 341. (Same as RTM 376 and RCS 376.)

390 Professional Development (3) Development of skills important to career success; focus on business communications, time and stress management, motivational and negotiation. Prereq: HRA 326 or RCS 310 or RTM 310 and progression into the program. (Same as RCS 390.)

410 Strategic Restaurant Planning (3) Restaurant management from a strategic planning perspective; development and implementation of hotel strategy from a strategic operational, and customer orientation. Prereq: HRA 390.

420 Professional Experience in Restaurant and Food Service Management (6) Supervised educational experiences in selected hotel/restaurant operations. Prereq: Progression into the program and HRA 326 and 390.

421 Professional Experience in Hotel/Tourism Management (6) Supervised educational experiences in selected hotel/tourism operations. Prereq: Progression into the program and HRA 326, 390.

423 Hospitality Sales and Marketing (3) Strategic marketing for lodging and restaurant organizations; includes properly, product, market, and competition analysis, promotion and sales planning, internal and external sales and promotion techniques. Prereq: Marketing 301; progression into HRA program or consent of the instructor.

424 Strategic Hotel/Tourism Planning (3) Hotel management from a strategic planning perspective; development and implementation of hotel strategy from a strategic operational, and customer orientation. Prereq: HRA 390.

425 Legal Issues in Service Management (3) Legal issues impacting service organizations, their staff and clientele. Prereq: HRA/RCS/RTM 311; progression into the program or consent of the instructor. (Same as RCS 425.)

429 Hospitality Computer Applications (3) This course is designed to provide students with a broad exposure to software program applications specifically for the hospitality industry. The course covers computer usage for guest room accounting, reservations, payables, receivables, management reporting, inventory control, point of sale, revenue control, labor control, and product cost control. Prereq: HRA 326, 390.

440 Special Topics: Hotel and Restaurant Administration (1-3) Developments, issues and problems 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.

445 Advanced Food Production and Service Management (3) Application of management concepts in menu design, personnel, cost control and production and service of food. 2 hours and lab. Prereq: HRA 210.

450 Advanced Lodging Management (3) This course is designed to allow students to interpret operational problems currently occurring in the hotel industry in a case study, interactive environment. The student will analyze management opportunities and threats within a hotel and determine reasonable alternatives. Prereq: HRA 211, 326, 425, Mkt. 301.

480 Professional Experience in Restaurant and Food Services Management II (9) Supervised professional experience in selected food services operations that builds upon first professional experience. Prereq: HRA 410, 420, HRT 410. Coreq: HRA 485.

481 Professional Experience in Hotel/Tourism Management II (9) Supervised professional experience in selected hotel operations that builds upon first professional experience. Prereq: HRA 421, 424, HRT 410. Coreq: HRA 486.

485 Managerial Issues in Restaurant and Food Service (3) Managerial problem solving involving staffing and retention of personnel, conflict resolution, financial analysis, and crisis management. Coreq: HRA 480 or or 490. Prereq: HRA 410, 420, HRA 410.

490 Management Experience in Restaurant and Food Service Management (9) Supervised managerial training with sponsoring restaurant and food service operations. Prereq: HRA 410, 420; Coreq: HRA 486.

491 Management Experience in Hotel/Tourism Management (9) Supervised managerial training with sponsoring hotel operations. Prereq: HRA 421, 424; HE 410, Co-Req: HRA 486.

494 Directed Study: Hotel and Restaurant Administration (1-3) Individual student, faculty experience. Prereq: Junior and Senior Standing, consent of the instructor. Satisfactory/No Credit only.

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.

310 Design in Everyday Life (3) Aesthetic environment. Planning and organizing interior spaces to meet personal and family needs. Relationship of materials and furnishings to architectural space.

410 Human Ecological Systems (3). Systems theory as a component of human ecology; factors impacting on the nature of finding housing environments. Prereq: HRE 210, CFS 210 or CFS 220 or RCS 341; 6 upper division hours in major.

445 Field Experience in Community-Based Programs (1-15) Placement in Home Economics-related programs or businesses. May be repeated. Maximum 15 hours. Prereq: Consent of instructor. Satisfactory/No Credit only.

450 Special Topics: Human Ecology (1-3) Study in a selected professional area within the College of Human Ecology. Topics vary. May be repeated. Maximum of 6 credit hours.

460 Directed Study: Human Ecology (1-3) Topic arranged by individual student under supervision of faculty. 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.

497 Honors: Human Ecology (3-6) Issues or topics affecting areas within Human Ecology. Designed to meet particular interests of the student Prereq: Consent of instructor. May be repeated. Maximum 6 hours.

HUMAN RESOURCE DEVELOPMENT (529)

161 Graphic Communications (3) Drafting as a means of communication in technology. Orthographic and multiview drawing, conventional practices, pictorial techniques and applications, sheetmetal development, auxiliary view development, and basic techniques of architectural drafting. Introduction to sketching, dimensioning and CAD.

163 Power and Energy Systems (3) Automative technology and internal combustion engines. Includes various automotive systems, 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

201 Field Experience in Teaching (1-3) Field experience in public school Business /Marketing, Family and Consumer Sciences, or Technology Education programs. May be repeated for a maximum of 3 hours. S/N Credit only. E

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; spreadsheet, word processing, and database. Prereq: Declared major in College of Human Ecology. Satisfactory/No Credit grading.

285 Introduction to Human Resource Development (3) This course is an overview of all the major human resources issues. It covers issues and problems associated with employee training and development; strategic training; needs assessment; learning theories and program design; transfer of training; career development; organizational development, employee empowerment and reorganization. Prereq or Coreq: HRD 210. F, Sp

300 Individuals, Society, and Technology (3) An overview of how technology and human innovation is used to meet needs and solve problems. Hands-on opportunities to develop and test individual and group projects in a tools and material context.

305 Construction Systems (3) Introduction to construction technology, preparing for the construction project, designing and planning the project, managing construction, designing and engineering projects, manufacturing the product, marketing the product, and performing financial activities.

325 Development of Instructional Resources (3) The first in a series of four online core courses designed to prepare instructors for the learning environment. It includes the design and development of instructional materials, the preparation of teaching aids, and sequencing instruction based on the Instructional Systems Development (ISD) model. Each student will develop a training module. Prereq: HRD210.

330 Instructional Strategies and Techniques (3) The second in a series of four online core courses focuses on methodology, techniques, and facilitation learning through application of communication theory, teaching and training concepts, and delivery methods and skills. Students will participate in demonstrations of facilitated learning as a final course product. Prereq: 325. E

335 Program Planning for Training, Development, and Education (3) The third in a series of four online core courses focuses on methods and techniques of training, learning, and reorganization. Students will have the opportunity to complete a culminating project as a final course product. Prereq: 325.

336 Teaching Technical Skills-Based Business Education and Marketing Education (3) Methods and techniques for teaching Business Education and Marketing Education-based content that results in learner acquisition and refinement of technical skills. Sp

350 Related and Applied Theory in Occupations (1-15) Applicants must show evidence of bona fide 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. Prereq: Junior standing and departmental approval. E

351 Manipulative Skills in Occupations (1-15) Applicants must show evidence of bona fide 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. Prereq: Junior standing and departmental approval. E

352 Practicum in Industrial Education (1-3) Updating and upgrading experiences in nontraditional settings for technical teachers. May be repeated. Maximum of 6 hours. Satisfactory/No Credit only. E

361 Graphic Reproduction Processes (3) Principles of printing, duplicating, photography, and other forms of graphic communication; includes laboratory experience in SLR camera applications, camera copy preparation, line and halftone photography, layout, stripping, plate-making, and offset press work. F

369 Plastic Technology (3) Characteristics and applications of thermoplastic and thermosetting materials. Plastic production equipment and related product design and processing of plastics. Prereq: 165 and admission to Teacher Education Program. Sp

370 Technology Systems I (3) A systems approach to technology. Includes an overview of technology systems, the technology development process with emphasis on the production and measure- ment tools used to create products and structures. Prereq: 161, 305, and 306.


411 Managing Occupational Education Programs (3) Unique needs of instructors of occupational education: laboratory organization and safety; community resources and relationships; advisory committees, youth clubs; and adapting instruction for special needs learners. Prereq: 325.

415 Coordination Techniques (3) An online course with an overview of policy, procedures, roles, and responsibilities necessary for the analysis, design, development, implementation, and evaluation of a cooperative education program in vocational education. Prereq: HRD 210. Sp

420 Introduction to Adult Education (3) Breadth of adult education activities and the diversity of adult clientele, including opportunities for professional practice apart from traditional institutional settings. A

421 Adult Education Program Design and Management (3) Principles of program development and special application to adult training programs. Sp

422 Adult Development and Training (3) Application of adult development concepts to design and management of training programs for adults. Sp

423 Methods of Teaching Basic Business and Accounting (3) An introduction to the teaching of basic business and accounting. Integrative strategies are introduced and developed. F

430 Principles and Best Practices of Business Education and Marketing Education (3) This course provides an overview of how Business Education and Marketing Education curricula are designed. Special attention is given to the national standards, state-based curricular frameworks, and learner competency expectations which shape Business Education and Marketing Education instruction. F

434 Teaching Conceptual and Human Skills-Based Business Education and Marketing Education (3) Methods and techniques for teaching Business Education and Marketing Education conceptual skills and human skills based on subject matter content. Involves exploration of theoretical models, research and practical applications. F

441 Materials and Processes I (3) Classification systems of materials, control methods, survey of production processes, ie. Separating, forming, conditioning, and combining. F

442 Materials and Processes II (3) Production of industrial materials, primary process, product planning and design, materials specification matching to product. Includes problem solving and hands-on activities. Prereq: 371 and 441.

452 Technology in Learning Environments (3) The fourth in a series of four online courses addresses the use of diverse technology for creating and facilitating instruction and learning. Involves posting and managing an online lesson. Interactive strategies that aid in stimulating, channeling, and sustaining learning. Prereq: HRD 325 and 330. E

455 Learner and Program Evaluation (3) This online course teaches students to assess the effectiveness of training or educational programs, develop performance-based measures, evaluate job performance, and measure learner progress. Prereq: HRD 210 or equivalent.

471 Principles of Supervision/Leadership (3) This online course examines management problems such as motivation, communication, interpersonal relationships, and leadership. Prerequisite: HRD 285. Sp

473 Integrating Organizational and Career Development (3) This online course examines methods of organizational development, integrates management with career planning, and is associated with employee empowerment, involvement, and reorganization. Effective utilization of human resources training, development, organizational development, and communication in groups, meetings, and training programs. Prereq: HRD 210 or equivalent and HRD 471.
475 Human Resources Policies, Practices, and Procedures (3) This course examines employer/organizational activities related to personnel and human resource programs, employee recruitment, employee assistance programs, exit considerations, and legal aspects. Prereq: HRD 210 or equivalent and HRD 471.

476 Supervised Occupational Experience (3) Practical field experiences in business/industry/community-based settings related to the area of study. May be repeated for a maximum of 9 credits. Prerequisites: Senior standing and approval of advisor. E.

479 Internship in Human Resource Development (3-6) Enhancement of the knowledge gained in the classroom through a position in a Human Resource setting applied in a Human Resource and/or Training Department in various business areas. The internship is the capstone experience to be completed after HRD 452, 473 and 475 and all other prerequisites. Students who have only 473 or 475 remaining may petition the Internship coordinator to take the remaining course concurrent with 479. Must be a senior with a GPA of 2.7. May be repeated to a maximum of 9 semester hours. Satisfactory/No Credit Only.

480 Directed Study in Human Resource Development (1-3) Topic arranged by student in collaboration with a supervising faculty member. Approval form must be filed in the departmental office. May be repeated for a maximum of 6 hours. Prereq: Junior or senior standing.

482 Directed Study in Family and Consumer Sciences Education (1-3) Topic arranged by student for teaching and managing secondary school programs in Family and Consumer Sciences.

485 Special Topics in Human Resource Development (1-3) Topics to be assigned. May be repeated.

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 complexities of human needs and social problems.

330 Thinking About People (3) Development of thoughtful, informed and empathic attitudes toward human beings—those providing services as well as those receiving service. Prereq: Progression to the major. F, Sp

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 professions; formulation of questions identifying relevant data, using related resources, interpreting information and applying this information in a practical setting. Prereq: Progression to the major. Sp

400 Prefield Seminar (2) Prefield Seminar (2) Preparation for field sequence. Exploration of field/work settings within human service through in-class activities, field trips, and guest lectures; includes current topics and professional behavior. S/NC only. F, Sp

420 Human Services Methodologies II (3) Includes reality therapy, behavior modification, family systems, client-centered and rational emotive therapy, discussion and role playing of methods and skills that will be used during the field experience. Prereq: Progression to the major, 220, 330. Coreq: 440. F

430 Working Within The System (3) Capstone Experience. Content 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.

440 Human Services Field Work (6) Human Services Field Work (6) Practical field experiences within an approved and supervised human services setting. Explores day to day activities within a human services organization. Develops specific helping skills; involvement in roles and function of human services profession; provides direct service in a supportive learning setting. For majors only. Prereq: Progression to the major, 380, 400, 420. S/NC only. F, Sp, S

441 Human Services Field Work II (6) Human Services Field Work II (6) Practical field experience within an approved and supervised human service setting in a different venue than previous 440 field placement. Explores day to day activities within a human service organization. Develops specific helping skills; involvement in roles and function of human services profession; provides direct services in a supportive learning setting. For majors only. Prereq: 420, 440. S/NC only. F, Sp, S

450 Special Topics in Human Services (3) Issues, methods, values, and trends with implications for helping practitioners, such as, roles, 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)

INFORMATION SCIENCES (560)

101 Information Foundations (3) Nature of information: sources, value, creation, organizing principles, transfer, uses in society. Issues: ethics, privacy, copyright, preservation, national information policy, equity of access. Information oriented careers. Undergraduate credit only.

102 Technologies for Information Retrieval (3) Principles, selection, and use of computer-based information management applications; software identification and task appropriateness, communications, utilities, and memory management systems; multiple operating systems and technology for national network connections; information services via computers. Undergraduate credit only.

310 Information Seeking: Resources and Strategies (3) Information as critical resource for research and decision making; emphasis on planning, executing, and evaluating information searches. Focus on topic of student’s major. Undergraduate credit only. E

330 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

350 Information Consumer (3) Information in society, information economy, knowledge/learning society; publishing and information products: hostels, bulletin boards, nets; information overload/ansxiety, science fraud, gatekeeping concepts; updating systems, environmental scanning; information consumption techniques. Undergraduate credit only.

430 History of the Book (3) History of writing and various methods of bookmaking.

450 Writing About Science, Technology and Medicine (3) (Same as Journalism 450).

485 Introduction to Electronic Communications and Information Resources on the Internet (3) Exploration of worldwide information and communications resources including e-mail, newsgroups, and the world wide web. Discussion of information issues including copyright, censorship, privacy, and access. E

486 Advanced Electronic Communications and Information Resources on the Internet (3) Exploration of advanced information and communications issues, resources and tools including forms, scripting and search engines. Prereq: IS 485 or consent of instructor.

490 Information Environment (3) Generation, production, management, dissemination, and use of information. Roles of information in society, information seeking and use behavior, information industry, economics of information products and services, technological and organizational change, information professions, and issues. E, Su-A

491 Information Technology, Curriculum, and Evaluation (577)

203 Field Study in Education (1-3) Problems of persons in active service in the field, includes methods of evaluating curriculum materials and community relations, and school organizations. May be repeated. Maximum 6 hours.

304 Microcomputers and Instructional Design (3) Introduction to basic operations and application of the microcomputer as related to curriculum development and instructional design. Prereq: Admission to the Teacher Education Program.

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: Admission to Teacher Education Program.

355 Introduction to Secondary Schools (3) Aspects of teaching in grades 7-12, including curricular program and roles and responsibilities of secondary school teachers and administrators. Prereq: Admission to Teacher Education Program. E

404 Problems in Improvement of Instruction (1-3) Special conferences, workshops, or in-service programs. May be repeated. Maximum 6 hours. Satisfactory/No Credit Only. E

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 Information Science 425).

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.

486 Introduction to Instructional Computing (3) Classroom uses of computers, applications for teachers, overview of computer operation and software for teachers of all grades. Prereq: Admission to Teacher Education.

INTEGRATED PLANT SYSTEMS (IPS)

230 Introduction to Crop Science (3) Introduction to world crops and food production systems. Emphasis on production terminology, origin and development, environmental interactions, plants and human nutrition, ecologically sustainable processes of agriculture, and practices of crop production. Prereq: One year biological science. 2 hours lecture and one 2-hour lab. F

334 Weed Management (3) Principles of weed interference, integrated management, herbicide selectivity and behavior, specific recommendations for various crop and non-crop situations. Prereq: Environmental and Soil Sciences 210. 2 hours and 1 lab. F

340 Turfgrass Management (3) Practical turfgrass management; cultivar selection, identification, and establishment, basic applied fertility programs, mowing, and irrigation practices, and thatch and compaction control; pest identification and basic controls. Prereq: Environmental and Soil Sciences 210. 8 hours biological sciences or consent of instructor. 2 hours and 1 lab. F

431 Physiology and Ecology in Agroecosystems (3) Plant physiology and ecology applied to crop production and management. Emphasis on plant physiology and ecology principles as they relate to crop production practices from seedling to harvest and handling, interaction of crops with their environment and sustainable agricultural systems. Prereq: 230, 2 hours lecture one 2-hour lab. F

433 Agricultural Pesticides (3) Regulation of pesticide development, manufacture, transportation, marketing and use. Structure, use, mode of action, degradation and environmental impact of pesticides used in agriculture, forestry and related areas. Prereq: 1 year biological sciences and 1 semester chemistry. 2 hours and 1 lab. Sp
INTERDISCIPLINARY PROGRAMS (581)

100 Selected Topics (1-3) May be repeated. Maximum credit 6 hours.

400 Selected Interdisciplinary Topics (1-12) Acceptable for major or minor credit in any Interdisciplinary Program with the consent of the Director of Interdisciplinary Programs and the respective chairperson. May be repeated for credit to a maximum of 12 hours. Letter grade or S/NC graded.

401. Foreign Study (1-15) Registration by permission of director of Interdisciplinary Studies.

402. Off-Campus Study (1-15) Registration by permission of director of Interdisciplinary Studies.

403. Independent Study (1-15) Registration by permission of director of Interdisciplinary Studies.

INTERIOR DESIGN (582)

141. Introduction to Interior Design (2) Orientation to the profession; relationship to allied fields; contemporary development; philosophical approaches. Open only to majors in interior design and architecture or consent of instructor. F

171. Visual Studies (3) Classification and properties of two and three-dimensional visual organization; design principles; visual and spatial elements within simple and complex visual systems; role of movement in experiencing scale and volumetric space. Three hour studio. Open only to majors in interior design and architecture. Prereq. 141 or consent of instructor. F

200. Human-Environment Systems (3) Role of culture in defining environment; physical, social and conceptual aspects of human-environment systems; impact of environment on human behavior, feelings and values; mutual-casual properties of behavior-environment systems. (Same as Urban Studies 200.) F

211. Theory of Color (2) Introduction to basic color theory and its application to interior environments. Explores aesthetics and psycho-physiological effects. Sp.

231. Micro-Computers for Interior Design (3) Introduction to computers, micro-processing, databases, spreadsheets, word processing, networked publishing, database and other software applications in various aspects of project design and management, including costing estimating and budget constraints, optimizing design criteria, problem analysis and information and resource management. Three hour studio. Prereq. Math 119 or consent of instructor. Coreq. 271. Interior Design majors only. F

261. Materials and Resources for Interiors (2) The development and application of materials and resources used in interior architectural space. Prereq. 171 or Arch 172 or consent of instructor. Sp.


311. History of Architecture (4) Interior architecture, decoration and decorative arts within cultural context, ancient through nineteenth centuries, emphasis on Italy, France, England and American. Prereq. Art History 172 and 173 or consent of instructor. F

312. History of the Contemporary Interior Architecture (2) Interior architecture, furniture, design philosophies, nineteenth century roots for twentieth century developments, Europe and America. Design as influenced by movements in the fine arts, technological advances, cultural context. Prereq. 311 or consent of instructor. Sp.


371. Intermediate Interior Design I (6) 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. Five hour studio. Prereq. 272 and Third year standing in interior design. F


400. Proxemics (2) Analysis of space and behavior within a cultural context. Application to design and the design process. Examination of theoretical foundations and concepts from environment and behavior. Simulation techniques and methods for identifying behavioral design requirements. Two hour studio. Prereq. 200, 231. Coreq. 471 or consent of instructor. F

411. History of American Interior Architecture (3) Historical development in interior architecture and decorative arts within cultural context, colonial era through nineteenth century. Prereq. 311 or consent of instructor. F

417. Advanced Interior Design I (4-14) Advanced research in interior design problems for juniors or seniors. May be repeated. Maximum 8 hours. Consent of Interior Design faculty.

420. Practicum for Interior Design (3) Supervised experience in a professional design firm, business practices, project management and design philosophy. Prereq. 360, 372 and consent of instructor.


464. Environmental Factors in Design (3) Human factors and associated research techniques and design methodologies related to the built environment.

471. Advanced Interior Design (4) Non-residential studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. Four hour studio. Prereq. 372, 420. Coreq. 400, or consent of instructor. F.

472. Advanced Interior Design II (6) Comprehensive studio problems of advanced complexity; integrates and extends previous experiences utilizing systematic design methodologies. Six hour studio. Prereq. 471 or consent of instructor. Sp.

480. Furniture Design (4) Human factors data applied to design of body support, task support, storage and systems, construction drawings and scale models; advanced millwork design, materials and manufacturing processes. Two hour lecture and two hour studio. Prereq. 471 or Arch 372 or consent of instructor. Sp

484. Needs Assessment and Design Programming (3) Systematic methodology and multidisciplinary research methods as a part of design problem solving experience. Appropriate for evaluating various environments: commercial, corporate, hospitality, institutional, and retail. Seminar. May be repeated for credit to a maximum of 12 hours. Prereq. Fourth year standing or graduate student in architecture and/or planning or consent of instructor.

491. International Study (1-15) Individual or group study abroad; academic research, field investigation, cultural experiences. Determination of credit based on particular international experience. Prereq. Consent of all interior design faculty.

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 8 hours. Prereq. Consent of instructor. E


ITALIAN (584)

111-112. Elementary Italian (3,3) Introduction to Italian. Must be taken in sequence. Language laboratory required. F, Sp

199. Italian Language and World Business (3) This course will examine the importance of foreign trade at the local, state, and national levels. An interdisciplinary team of faculty from the colleges of Business and Arts and Social Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students majoring in Language and World Business. See the Director for further information. F

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. F, Sp

311-312. History of Italian Literature (3,3) Chronological view of Italian Literature in relation to the specific historical developments that have influenced it. Prereq. 212 or equivalent.

314. Highlights of Italian Civilization (3) Survey of Italian civilization with special attention to major social, political and cultural achievements. Prereq. 212 or consent of instructor. (Same as Medieval Studies 401.)

341-342. Intermediate Grammar, Composition and Conversation (3,3) Grammatical analysis of Italian prose; revision 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 402.)

402. Petrarch and Boccaccio (3) Prereq. 212 or consent of instructor. (Same as Medieval Studies 402.)

403. Language of the Rinascimento (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)

410. Italian Theatre (3) Survey of Italian theatre from Renaissance to present. Prereq. 212 or consent of instructor.

414. Italian Cultural Studies (3) This course will examine Italian culture as a set of practices characteristic of Italian society, from its mode of material production to its eating habits, dress codes, celebrations, and rituals. The objective of the course is to achieve a greater understanding of contemporary Italian culture.
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 and adaptation into 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.)

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For Language and World Business majors only. Satisfactory/No Credit only.

491 Foreign Study (1-15)

493 Independent Study (1-15)

JAPANESE (589)

151-152 Elementary Japanese I, II (3,3) (Same as Asian Languages 151-152.)

251-252 Intermediate Japanese I, II (5,5) (Same as Asian Languages 251-252.)

313-314 Japanese Language in English Translation (3,3) (Same as Asian Languages 313-314.)

351-352 Advanced Japanese I, II (4,4) (Same as Asian Languages 351-352.)

451 Readings in Japanese Literature (3) (Same as Asian Languages 451.)

JOURNALISM (594)


203 Editing (3) Methods and practice in judging news, editing copy, writing headlines and designing newspapers and magazines. Emphasis on precise word use and news display. Prereq: 200.

280 Communications Graphics (3) Principles and practice in the use of mass communications. Emphasis on graphic design, typography, illustration and photography, printing and production techniques and publication design. Lecture and laboratory. Prereq: 200 or 201, or consent of instructor.

290 Photographic Journalism (3) Principles and practice of photography as a creative tool of communication. Basic camera technique, darkroom work, historical and contemporary photographic journalism. Lecture and laboratory.

310 Feature Writing (3) Skills of journalism for writing feature articles for newspapers, magazines and company publications. Critiquing of students’ work in writing workshops, and writing short in-class pieces as assigned.


403 International Communications (3) Development and operations of world mass communications channels and agencies. Comparative analysis of media, media practices, flow of news throughout the world. Print and broadcast systems studied in terms of relevant social, political, economic, and cultural factors. Relation of communication practices to international affairs and understanding.

412 Opinion Writing (3) Analysis of editorial positions, practices, and pages. Writing editorials and columns for newspapers, magazines, and company publications, with emphasis upon study and use of rhetorical devices and logic. Prereq: 203 or consent of instructor.

414 Magazine Article Writing (3) Techniques of writing in-depth articles for mass circulation and specialized magazines. Organizing and presenting material, With attention to problems in areas such as business, science, agriculture, and the humanities. Prereq: 203 or consent of instructor.

416 Issues in Journalism (3) Topics vary. May be repeated. Maximum credit 6 hours. Prereq: Consent of instructor.

420 Print Media Management (3) Current business practice among print news media, especially newspapers. Problems in management and production, and the outlook for new technologies. Prereq: 6 hours math and/or accounting, and senior standing.


433 Advanced Editing (3) Primary focus is on sensitivity to language and editing skills. Includes headline writing, layout and production. Prereq: 203.

444 Journalism as Literature (3) Study of writers from the 17th century to the modern era whose works have endured as both journalism and literature. An emerging genre called literary journalism will be examined as a means of cultural reporting with a personal narrative style. Prereq: Consent of instructor.

450 Writing about Science, Technology, and Medicine (3) Writing workshop to analyze examples of successful science writing and write series of articles for several publications based on scientific journals, news conferences, technical meetings and interviews. Prereq: Consent of instructor. (Same as Information Sciences 450.)

451 Environmental Reporting (3) Writing for news media about environmental issues as strip-mining, water pollution, air pollution, allergens, nuclear power, fossil fuel power, and solid wastes. Students hear presentations from and interview experts in environmental science and reporting. Exemplary popular literature in environmental reporting is reviewed. Prereq: 203 for majors; consent of instructor for non-majors.

455 Issues in Science Communications (3) May be repeated. Topics vary. Prereq: Consent of instructor.

456 Science Writing as Literature (3) Survey of important science writing for the general public across the spectrum of science, engineering, and medicine. Works by authors such as Arthur C. Clarke, Stephen J. Gould, and Richard Selzer will be analyzed for literary qualities in a quest to understand why some science writing succeeds. Prereq: Consent of instructor.


465 Women and Mass Media (3) Media effects on women. Media coverage and portrayal of women. Historical and current status of women in mass communication industries. (Same as Women’s Studies 465.)

492 Field Experience (1-2) Approved internships and other supervised practice in journalism. May be repeated for a maximum of 4 credit hours. Prereq: 360, senior standing, and consent of instructor. Satisfactory/No Credit grading only.

493 Independent Study (3) May be repeated for maximum of 6 hours. Prereq: Consent of instructor.

JUDAICA STUDIES (595)

311 Ancient Hebraic Religious Traditions (3) (Same as Religious Studies 311.)

312 Religious Aspects of Biblical and Classical Literature (3) (Same as Religious Studies 312.)

320 Women and Religion (3) (Same as Religious Studies 320 and Women’s Studies 320.)

322 Medieval Philosophy (3) (Same as Philosophy 322 and Medieval Studies 322.)

350 German-Jewish Topics in Literature and Culture (3) (Same as German 350.)

369 History of the Middle East (3) (Same as History 369.)

370 History of the Middle East (3) (Same as History 370.)

381 Introduction to Judaism (3) (Same as Religious Studies 381.)

383 History of Jewish Civilization I (3) (Same as History 383.)

384 History of Jewish Civilization II (3) (Same as History 384.)

385 Contemporary Jewish Thinkers (3) Writing emphasis. May be repeated. Maximum 6 credit hours. (Same as Religious Studies 385.)

386 Voices of the Holocaust (3) (Same as Religious Studies 386.)

395 The Crusades and the Medieval Christian-Muslim Relations (3) (Same as History 395)

405 Modern Jewish Thought (3) (Same as Religious Studies 405.)

425 Early Christian and Byzantine Art, to 1550 (3) (Same as Art History 425 and Medieval Studies 371.)

431 Medieval Art of the West, 800-1400 (3) (Same as Art History 431 and Medieval Studies 381.)

484 Studies in Jewish History (3) (Same as History 484.)

LATIN (257)

111-112 Beginning Latin (3,3) Must be taken in sequence. Not available to students eligible for Latin 150.

150 Latin Transition (3) This course is designed to prepare students for enrollment in Latin 251. Prereq: Two years of high school Latin and a score on the Latin placement exam below that required for admission to Latin 251. Since 150 is a review of elementary Latin, students who receive credit in this course may not also receive credit for any other 100 level Latin course and therefore also forfeit the six hours of elementary language credit awarded through placement examination.

251 Intermediate Latin: Grammar Review and Readings (3) Prereq: 112 or 150 or placement through the Latin placement examination.

252 Intermediate Latin: Vergil’s Aeneid (3) Prereq: 251 or equivalent.

351 Cicero and Sallust (3) Prereq: 252 or equivalent.

352 Roman Lyric Poetry (3) Poetry of Catullus, Horace, and the elegists. Prereq: 252 or equivalent.

414 Cicero and Techniques of Latin Prose Composition (3) For advanced students in Latin. Practice in prose composition, the writings of Cicero 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) (Same as History 255-256.)

311 Aspects of Luso Brazilian Literature (3) (Same as Portuguese 311.)

313 Peoples and Cultures of Mesoamerica (3) (Same as Anthropology 313.)

314 Peoples and Cultures of South America (3) (Same as Anthropology 316.)

315-316 Aspects of Luso-Brazilian Literature (3,3) (Same as Portuguese 315-316.)
319 Caribbean Cultures and Societies (3) Same as Anthropology 319 and African and African-American Studies 319.
331 Introduction to Hispanic Culture (3) Same as Spanish 331.
333 Survey of Spanish-American Literature: 1700 to Present (3) Same as Spanish 333.
334 Survey of Hispanic Literatures: Beginnings-5100 (3) Same as Spanish 334.
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.
400 Cultural Plurality and Institutional Changes in Latin America (3) Same as Spanish 401.
402 Latin American Studies Seminar (3) Same as Spanish 402.
431 Topics in Literature and Language of the Portuguese Speaking World (3) Same as Portuguese 431.
432 Topics in the Literature and Language of the Portuguese Speaking World (3) Same as Portuguese 432.
456 Latin American Government and Politics I (3) Same as Political Science 456.
460 History of Brazil (3) Same as History 460.
461 Cuban Revolution in Historical Perspective (3) Same as History 461.
462 History of Mexico (3) Same as History 462.
463 Modern Latin American History in Film (3) Same as History 463.
465 Latin American Film and Culture (3) Same as Spanish 465 and Cinema Studies 465.
475 Studies in Latin American History (3) Same as History 475.
479 Disenchanted Texts in Hispanic Literature (3) Same as Spanish 479.
491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)

LEADERSHIP STUDIES (288)
200 Student Leadership Development (3) Designed to enhance the knowledge and skill of emerging student leaders and includes theoretical and experiential content related to leadership role, skill, and effectiveness. Satisfactory/No Credit grading only.

LEGAL STUDIES (617)
300 Law in American Society (3) Same as Political Science 330.
331 Sociological Research (3) Same as Sociology 331.
340 Women, Politics, and the Law (3) Same as Women's Studies 340.
344 Professional Responsibility (3) Same as Philosophy 344 and Religious Studies 344.
362 Roman Law (3) Same as Classics 362.
392 Philosophy of Law (3) Same as Philosophy 392.
400 Mass Communication Law and Ethics (3) Same as Communication 400.
430 United States Constitutional Law: Sources of Power and Restraint (3) Same as Political Science 430.
431 United States Constitutional Law: Civil Rights and Liberties (3) Same as Political Science 431.
442 Administrative Law (3) Same as Political Science 442.
451 Criminal Justice (3) Same as Sociology 451.
455 Society and Law (3) Same as Sociology 455.
469 Freedom of Speech (3) Same as American Studies 469 and Speech Communication 469.
470 International Law (3) Same as Political Science 470.
490 Language and Law (3) Same as English 490.
496 The Rhetoric of Legal Discourse (3) Same as English 496.

LINGUISTICS (623)
200 Language, Linguistics and Society (3) Introduction to linguistics with focus on language development and use of language by individuals and groups. Prereq: Completion of Freshman English or equivalent.
231 Foundations of the English Language (3) Same as English 371.
232 The Structure of Modern English (3) Same as English 372.
300 Topics in Linguistics (3) Content varies. May be repeated. Maximum 6 hours.
411 Linguistic Anthropology (3) Same as Anthropology 411.
423 The Development of Diachronic and Synchronic Linguistics (3) Development of Western linguistic thought from the Hebrews and Greeks through modern times. Readings from Boas, Sapir, Bloomfield, and others. Prereq: 9 hours of courses required for the Linguistics major (300-level or above) or consent of instructor.
425 Introduction to Descriptive Linguistics (3) Same as French 425, German 425, Russian 425, and Spanish 425.
426 Methods of Historical Linguistics (3) Same as French 426, German 426, Russian 426, and Spanish 426.
429 Romance Linguistics (3) Same as French 429 and Spanish 429.
431 Topics in Hispanic Linguistics (3) Same as Spanish 430.
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.
476 Second Language Acquisition (3) Same as English 476.
477 Pedagogical Grammar for ESL Teachers (3) Same as English 477.
485 Special Topics in Language (3) Same as English 485.
490 Language and Law (3) Same as English 490.
491 Foreign Study (1-15)
492 Off-Campus Study (1-15)
493 Independent Study (1-15)

LOGISTICS AND TRANSPORTATION (624)
400 Special Topic in Logistics and Transportation (1-4) Seminar in current problem area in logistics and transportation. Topic announced prior to offering. May be repeated once for additional credit provided topic is different. Maximum 6 hours. Prereq: Consent of instructor.
411 Logistics and Transportation Analytical Methods (3) Introduction to the principle analytical tools and models used in logistics and transportation; applications of analytical tools to logistics and transportation problems; using analytical methods to support negotiations. Prereq: Business Administration 331.
441 Global Logistics and Transportation (3) Multinational logistics strategy, import-export process, global sea, air, and ground transportation, traffic planning and control of operations systems analysis. Prereq: Business Administration 331.
450 Logistics Information Infrastructure Strategy and Design (3) An introduction to the use of information tools to design and create applications to support business processes in networked organizations. Students will be expected to design and use groupware, both static and dynamic web sites, relational-data base applications and e-commerce applications. Prereq: 411, Statistics 365, senior standing.
469 Seminar in Logistics and Transportation Strategy (3) Senior seminar in development of strategy for logistics and transportation in a supply chain perspective. Prereq: 411, Statistics 365, senior standing.
492 Logistics and Transportation Off-Campus Study (1-6) Satisfactory/No Credit grading only. Prereq: Consent of instructor.
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.

MANAGEMENT (625)
300 Organizational Management (3) Not for Business majors. An introduction to the theories of organizations and the practice of management within them. Prereq: Business Administration 201 and Junior standing.
321 Organizational Structure and Behavior (3) Behavioral processes in organizations; motivation, leadership, decision making, communication; behavioral consequences; group behavior, informal organizations, organizational structure, conflict, politics, and development. Prereq: Business Administration 421, F, S.
341 Operations Management (3) Design of operations systems. Process and methods analysis and measurement, location and layout, project management, operational forecasting. Prereq: Business Administration 341.
401 Business Strategy/Policy (3) Strategy and policy which affect the character and success of the total enterprise. Capstone course which integrates all functional areas in the formulation and implementation of strategy which will enable the organization to reach objectives. Major writing requirement. Prereq: Completion of business core courses and senior standing. Must be admitted to a business major.
410 Management Science I (3) Introduction to quantitative decision models and their integration into microcomputer-based decision support systems. Topics include linear, dynamic and network programming, as well as decision analysis. Markov, inventory and queuing models. Prereq: Mathematics 123, 125 and Statistics 201.
411 Labor Relations and Collective Bargaining (3) American labor history, structure, and philosophy of contemporary unions, nature of collective bargaining, and dispute settlement.
421 Total Quality Management (3) TQM is characterized by three main principles: customer focus, continuous improvement, and teamwork. Course focuses on the managerial perspective that is necessary to successfully implement and sustain a TQM philosophy, while briefly introducing its underlying statistical concepts. Prereq: Statistics 201, Business Administration 341, F, S.
431 Human Resource Management I (3) Theory, methods, and issues pertaining to successful personnel management. Prereq: Business Administration 341, S, senior standing, F, S.
432 Human Resource Management II (3) Methods of identifying, developing, implementing, and evaluating various personnel programs. Prereq: 431, senior standing, S.
440 Organizational Psychology (3) Same as Psychology 440.
441 Operations Management II (3) Planning and control of operations systems. Aggregate planning, scheduling systems, materials management. Prereq: 341.
471 International Management (3) Factors significant to the manager in international business activities.
492 Management Off-Campus Study (1-6) Satisfactory. No Credit grading only. Prereq: Consent of instructor.
493 Independent Study (3) Readings, research, and special projects. Prereq: Consent of instructor. May be repeated one time for credit.

MARKETING (632)
300 Marketing and Supply Chain Management (3) Not for business majors. Practical applications-oriented overview of what every manager needs to know in order to effectively provide value to customers of the organization, and achieve superior performance through the systematic, strategic coordination of traditional business functions within a particular company and across businesses. Prereq: Business Administration 201 and Junior standing.
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: Business Administration 332.
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 research and possess the ability to design a sound marketing project. Major writing requirement. Prereq: Business Administration 332.
400 Special Topics in Marketing (3) Topics of current interest to students in the College of Business Administration. May be repeated. Maximum 6 hours. Prereq: Business Administration 332.
410 Advertising Management (3) First degree equations and inequalities, polynomials, rational expressions, graphs, functions, second degree equations and inequalities, systems of equations, introduction to exponential and logarithmic functions. Prerequisite is designed to prepare students for enrollment in Mathematics 110, 115, 119, 130, 201, and 202. Course does not count toward the total upper-division mathematics courses. It fulfills any mathematics requirement. A, B, C, NC grading.
409 Algebra Workshop (1) Self-paced tutorial center for students taking Math 119, 130, or 141 who need additional help (as determined by placement exams, initial or entry performance-assessment). Individual and computerized instruction on various pertinent algebraic skills. To receive credit, a student must pass the Math 119, 130, or 141 class in which he/she is currently enrolled. May be taken for credit three times. S/NC grading.
410 Algebra Reasoning (3) A course in the applications of elementary mathematics to life in the modern world. Includes applications in financial mathematics, consumer mathematics, and other areas. Students preparing to take 123-125 should take 119 instead of 110. Prereq: Two years of algebra and one year of geometry in high school or equivalent placement test scores, or Math 100. This course should not be taken to remove an entrance requirement.
415 Statistical Reasoning (3) An introduction to probability and statistics without calculus. Not available for credit to students in the College of Business Administration. Prereq: Two years of algebra and one year of geometry and either satisfactory placement test scores or Math 100.
419 College Algebra (3) A review of algebraic functions, equations, and inequalities for students who satisfy the course prerequisites for 123 or 125 but whose placement test scores indicated additional preparation is necessary. Students who receive a grade of C or better in an algebra course numbered 123 or higher (except for 201 or 202) may not subsequently receive credit for 119. Prereq: Two years of algebra and one year of geometry and either satisfactory placement test scores or Math 100. This course should not be taken to remove an entrance requirement.
223 Finite Mathematics (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Exponential and logarithmic functions, interest and annuities, linear systems and matrices, optimization. Prereq: Two years of algebra and one year of geometry in high school plus satisfactory placement test scores, or 119 or 130.
225 Basic Calculus (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Single variable calculus, especially for students of business and social sciences. Credit will not be given for both 130 and 151-152. Prereq: Two years of algebra and one year of geometry in high school plus satisfactory placement test scores, or 119 or 130.
300 Introduction to Abstract Mathematics (3) An introduction to abstract algebra, mathematical logic, and the role of axiomatic reasoning. Prereq: Consent of instructor.
310 Introduction to Abstract Mathematics (3) Problem solving, sets and relations, number systems, integers, elementary number theory, rational numbers and decimals. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test score.
320 Probability, Statistics, and Euclidean Geometry (3) Topics in single variable calculus, especially for students of central tendency and variability. Basic plan and three-space geometry, congruence and similarity, constructions with compass and straightedge, transformations, area and volume measurement. Turtle graphs. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test score.
330 Matrix Computations (1) Introduction to matrix calculations, including determinants, eigenvalues and eigenvectors. For students in the College of Engineering. Includes computer projects. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or 130. Students who receive a grade of C or better in Math 141 cannot subsequently receive credit for Math 152.
371 Numerical Algorithms (3) Introduction to computers, the internet, mathematical packages and programming for prospective mathematics majors. Prereq: Math 141.
300 Matrix Computations (1) Introduction to matrix calculations, including determinants, eigenvalues and eigenvectors. For students in the College of Engineering. Includes computer projects. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or 130. Students who receive a grade of C or better in Math 141 cannot subsequently receive credit for Math 152.
171 Computer Literacy for Mathematics (3) Introduction to computers, the internet, mathematical packages and programming for prospective mathematics majors. Prereq: Math 141.
300 Matrix Computations (1) Introduction to matrix calculations, including determinants, eigenvalues and eigenvectors. For students in the College of Engineering. Includes computer projects. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or 130. Students who receive a grade of C or better in Math 141 cannot subsequently receive credit for Math 152.
409 Algebra Workshop (1) Self-paced tutorial center for students taking Math 119, 130, or 141 who need additional help (as determined by placement exams, initial or entry performance-assessment). Individual and computerized instruction on various pertinent algebraic skills. To receive credit, a student must pass the Math 119, 130, or 141 class in which he/she is currently enrolled. May be taken for credit three times. S/NC grading.
110 Algebra Reasoning (3) A course in the applications of elementary mathematics to life in the modern world. Includes applications in financial mathematics, consumer mathematics, and other areas. Students preparing to take 123-125 should take 119 instead of 110. Prereq: Two years of algebra and one year of geometry in high school or equivalent placement test scores, or Math 100. This course should not be taken to remove an entrance requirement.
115 Statistical Reasoning (3) An introduction to probability and statistics without calculus. Not available for credit to students in the College of Business Administration. Prereq: Two years of algebra and one year of geometry and either satisfactory placement test scores or Math 100.
119 College Algebra (3) A review of algebraic functions, equations, and inequalities for students who satisfy the course prerequisites for 123 or 125 but whose placement test scores indicated additional preparation is necessary. Students who receive a grade of C or better in an algebra course numbered 123 or higher (except for 201 or 202) may not subsequently receive credit for 119. Prereq: Two years of algebra and one year of geometry and either satisfactory placement test scores or Math 100. This course should not be taken to remove an entrance requirement.
123 Finite Mathematics (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Exponential and logarithmic functions, interest and annuities, linear systems and matrices, optimization. Prereq: Two years of algebra and one year of geometry in high school plus satisfactory placement test scores, or 119 or 130.
125 Basic Calculus (3) For students not planning to major in the physical sciences, engineering, mathematics, or computer science. Single variable calculus, especially for students of business and social sciences. Credit will not be given for both 130 and 151-152. Prereq: Two years of algebra and one year of geometry in high school plus satisfactory placement test scores, or 119 or 130.
300 Introduction to Abstract Mathematics (3) An introduction to abstract algebra, mathematical logic, and the role of axiomatic reasoning. Prereq: Consent of instructor.
310 Introduction to Abstract Mathematics (3) Problem solving, sets and relations, number systems, integers, elementary number theory, rational numbers and decimals. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test score.
320 Probability, Statistics, and Euclidean Geometry (3) Topics in single variable calculus, especially for students of central tendency and variability. Basic plan and three-space geometry, congruence and similarity, constructions with compass and straightedge, transformations, area and volume measurement. Turtle graphs. Prereq: Two years of algebra and one year of geometry in high school and satisfactory placement test score.
330 Matrix Computations (1) Introduction to matrix calculations, including determinants, eigenvalues and eigenvectors. For students in the College of Engineering. Includes computer projects. Prereq: Two years of algebra, a year of geometry, and half a year of trigonometry in high school, plus satisfactory placement test scores, or 130. Students who receive a grade of C or better in Math 141 cannot subsequently receive credit for Math 152.
424 Calculus III (4) Calculus of functions in two or more dimensions. Includes partial differentiation, multiple integration, and selected topics in vector calculus. Prereq: 142 or 148.
427 Honors: Calculus III (4) Prereq: 147-148 or invitation of the department.
251 Matrix Algebra I (3) First course in the algebra of simultaneous linear equations and matrices. Includes Gaussian elimination, vectors, linear spaces, linear transformations, eigenvalues, and eigenvectors. Prereq: 141-142.
257 Honors: Matrix Algebra I (3) Prereq: 148 or invitation of the department.
299 Studies in Mathematics (1-3) May be repeated. Maximum 9 hours. Prereq: Consent of instructor.
300 Introduction to Abstract Mathematics (3) Algebra of sets, functions, relations, mathematical induction, algebraic structure of the real number system, order properties, and completeness. Prereq: Math 142.
323 Probability and Statistics (3) Discrete and continuous random variables; conditional probability, expectation, moment generating functions; law of large numbers, central limit theorem. Elements of statistical inference, estimation, and hypothesis testing. Prereq: 241 (or 247) and 300.
341 Analysis I (3) Introduction to the theory of the real number system, limits of sequences, and functions of a real variable. Prereq: (or 247) and 300.
351 Algebra I (3) Introduction to abstract algebra, emphasizing integers and polynomial rings. Prereq: 251 (or 257) and 300.
371 Numerical Algorithms (3) Development and application of fundamental algorithms for finding roots of equations, solving systems of linear equations, interpolation, fitting data using least-squares, differentiation, integration, and solving ordinary differential equations. Prereq: A high level programming language (e.g., 171 or Computer Science 102), 231, 241 (or 247), and basic matrix algebra (e.g., 200 or 251 or 257).
399 Studies in Mathematics (1-3) May be repeated. Maximum 9 hours. Prereq: Consent of instructor.
400 History of Mathematics (3) Development of major ideas in mathematics from ancient to modern times and the influence of these ideas in science, technology, philosophy, and other areas. Prereq: 251 or 257 and 300. Writing emphasis course: at least one in-class essay examination and 3000 words of writing outside the classroom.

401 Mathematics and Microcomputers (3) Primarily for students seeking certification as mathematics teachers at the secondary level. The use of microcomputers to study concepts and problems in mathematics. Does not satisfy major requirements for a B.S. or M.S. in mathematics. Prereq: 141 or 147.

403 Mathematical Methods for Engineers and Scientists (3) Matrix computations, numerical methods, partial differential equations, Sturm-Liouville Theory and special functions, numerical methods for the solution of scientific problems. Does not satisfy major requirements for a B.S. or M.S. in mathematics. Prereq: 231, 241, and familiarity with an operating system and a programming language (e.g., 171 or Computer Science 102).

404 Applied Vector Calculus (3) Topics from multivariable and vector calculus including line and surface integrals, the divergence theorem and the theorems of Gauss and Stokes. Prereq: 241 or 247.

405 Models in Biology (3) Difference and differential equation models of biological systems. Prereq: 142 or 148 or 152.


421 Combinatorics (3) Introduction to problems of construction and enumeration for discrete structures such as sequences, partitions, graphs, finite fields and geometries, and experimental designs. Prereq: 323 or consent of instructor.

423 Probability I (3) Axiomatic probability, multivariate distributions, conditional probability and expectations, methods of moment generating/characteristic functions. Laws of large numbers and the central limit theorem. Prereq: 300 or consent of instructor.

424 Probability II (3) Elements of stochastic processes: Random walk, Markov chains and Poisson processes. Other topics as selected by the instructor. Prereq: 423.

425 Statistics (3) Derivation of standard statistical distributions including t, F and X²; independence of sample mean and variance; basic limit theorems; point and interval estimation, Bayesian estimates; statistical hypotheses, Neyman-Pearson theorem; likelihood ratio and other parametric and nonparametric tests; sufficient statistics. Prereq: 423 or consent of instructor.


443 Complex Variables (3) Introduction to the theory of functions of a complex variable, including residue theory and contour integrals. Prereq: 241 or 247.

445-446 Advanced Calculus I, II (3,3) Introduction to the theory of sequences, series, differentiation, and Riemann integration of functions of one or more variables. Prereq: 241 or (247) and 300, or consent of instructor.

447-448 Honors: Advanced Calculus I, II (3,3) Honors version of 445-446. Prereq: 241 (or 247) and 300, or consent of instructor.

453 Matrix Algebra II (3) Advanced topics in matrix theory, including the Jordan canonical form. Prereq: 251 or 257.

455-456 Abstract Algebra I, II (3,3) Introduction to algebraic structures such as groups, rings, fields, vector spaces and linear transformations. Prereq: 251 or (257) and 300, or consent of instructor.

457-458 Honors: Abstract Algebra I, II (3,3) Honors version of 455-456. Prereq: 251 (or 257) and 300, or consent of instructor.

460 Geometry (3) Axiomatic and historical development of Euclidean, hyperbolic, and projective geometry. Prereq: 300, or consent of instructor.

461 Topology (3) Includes topology of line and plane, separation properties, compactness, connectedness, continuous functions, homeomorphisms, and topological variants. Prereq: 241 (or 247) and 300, or consent of instructor.

471 Numerical Analysis I (3) Introduction to computation, instabilities, and rounding. Interpolation and approximations by polynomials and piecewise polynomials. Quadrature and numerical solution of initial and boundary value problems of ordinary differential equations, including stiff systems. Prereq: 371 or consent of instructor. (Same as Computer Science 471.)


475 Industrial Mathematics (3) Modeling, analysis, and computation applied to scientific/technical/industrial problems. Prereq: 231 and familiarity with an operating system and a programming language (e.g., 171 or C S 102).

490 Readings in Mathematics (1-3) Open to students with consent of department head. Independent study with faculty guidance. May be repeated. Maximum 9 hours. Prereq: Agreement of faculty mentor to supervise independent study. Independent study. Prereq: Consent of instructor.

491 Seminar in Mathematics (1-3) Topics will vary. Will require out-of-class projects and in-class presentations by students. Students must register for the number of credit hours announced for a particular seminar. May be repeated. Maximum 9 hours. Prereq: Consent of instructor.

MATHEMATICS EDUCATION (642)

485 Teaching of Mathematics, Grades 7-12 (3) Preparation of teaching plans, evaluation, materials for teaching mathematics; teaching simulation and directed observation in schools. Prereq: Admission to Teacher Education Program. F.

MEDICAL TECHNOLOGY (669)


420-421 Clinical Chemistry (5,5) Clinical aspects of biochemistry, including overview of principles and instrumentation for clinical sampling and analysis. Includes: blood gas analysis, including radiomunooassay, analysis of blood and other body fluids for enzymes, hormones, and other constituents of clinical interest, utilizing both automated and manual techniques, physical characteristics, detection, and use of short half-life radioactive materials for in vivo procedures such as radiomunooassay which utilize radioisotopes.

430-431 Hematology and Clinical Microscopy (4,4) Principles, theories, and techniques for qualitative and quantitative evaluation of cellular elements of blood and other body fluids; factors of hemostasis, quantita-
tive chemical analysis of urine, and renal function studies. Emphasis on microscopic identification of cells and the significance and correlation of laboratory data.


450 Clinical Serology and Immunology (2) Performance of serological tests and interpretation of broad range of clinical serological and immunological procedures with emphasis on principles and clinical correlation. Formal lecture series introduced.

470 Orientation and Basic Techniques (1) For facilitation of students from campus to hospital community and clinical laboratory. Introduction to medical terminology, ethics, and health team concept. Orientation to basic techniques including procedures for collection and handling of specimens, principles of operation of many laboratory instrument studies, review of laboratory math, and introduction to quality control procedures. Portions of course extend over entire clinical year.

480 Principles of Supervision and Education in Medicine (1) Seminars in basic principles of management, supervision, and education theories and methods. Comprehensive examination covers entire course.

MEDIEVAL STUDIES (674)

201-202 Medieval Civilization (3,3) Introduction to basic themes of the medieval experience, approached from interdisciplinary points of view and including philosophy and religion, art and architecture, language and literature, social and political history. Writing-emphasis course.

261 Medieval Culture: Readings from the Early Middle Ages, 500-1000 (3) Critical analysis and interpretation of selected works from the early medieval period. Focus on major types of literature produced during the period 500-1000 A.D. e.g., cultural, religious, rhetorical, lyric, epic, biographical. Includes Augustine’s Confessions, Boethius’ Consolation, St. Gregory’s Life of St. Benedict, The Life of Charlemagne, etc. Writing-emphasis course.

262 Medieval Culture: Readings from the Later Middle Ages, 1000-1500 (3) Critical analysis and interpretation of selected works from the later medieval period. Focus on romantic, alchemical 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 Calamities. Should be taken in sequence with 261. Writing-emphasis course.

312-313 Medieval History (3,3) (Same as History 312-313.)

322 Medieval Philosophy (3) (Same as Philosophy 322 and Judiac Studies 322.)

372 Northern European Painting, 1350-1600 (3) (Same as Art History 441.)

381 Medieval Art of the West, 800-1400 (3) (Same as Art History 431.)

382 The Art of Italy, 1250-1450 (3) (Same as Art History 451.)

401 Dante and Medieval Culture (3) (Same as Italian 401.)

402 Petrarch and Boccaccio (3) (Same as Italian 402.)

403 Seminar in Medieval Studies (3) Interdisciplinary treatment of selected topics. Content varies. May be repeated. Writing-emphasis course.

405 Medieval Literature (3) (Same as English 401.)

406 Chaucer (3) (Same as English 402.)

410 Medieval French 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.)

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15)
MICROBIOLOGY (684)

310 Introduction to 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. E

310 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 140. Coreq: Biology 240. F, Su

319 Introductory Microbiology Laboratory (2) Basic techniques for the examination, cultivation, 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 exercises designed to accompany 320. Prereq: 319. 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. May be repeated for a maximum of 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; 310-319-320-329, 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


420 Medical Microbiology (3) Disease producing microorganisms including bacteria, rickettsia, chlamydia and fungi. Prereq: 310. Sp

429 Medical Microbiology Laboratory (2) Laboratory exercises conducted in the relevant areas including virology, including microorganisms, pathogenesis and immunology. Prereq: 319, 430. Coreq: 420. Sp

430 Immunology (3) Principles of inflammation and immunity; immunoglobulin structure and theories of formation and diversity; complement, hypersensitivities, cell cooperation and recognitions in immune mechanisms; soluble factors. Prereq: Biology 240. 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. F

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: 320 and Senior standing. Writing-emphasis course. May be repeated. Maximum 6 hours. Only 3 hours may be counted toward the major. F, Sp

MILITARY SCIENCE (688)

110 Basic Military Science (2) Formation and functioning of the American defense establishment and its relationship with American society, customs and traditions of the army, aspects of military physical fitness training and various aspects of the Army Creed. letter grade only. Prereq: United States citizen; freshman or sophomore standing. Students with higher standing require consent of instructor. Letter grade only. F

120 Basic Military Science II (2) Introduction of basic leadership theory, principles and skills, with emphasis on effective oral communication. Students present a military skills subject briefing. Skills taught include rifle marksmanship, small unit communications, and land navigation. Leadership lab includes survival drills, drill and ceremony and optional field training exercises. Prereq: United States citizen; freshman or sophomore standing. Letter grade only. F

130 Army Training Program (1) Challenging instruction that concentrates on students’ individual weaknesses and directly applies exercises designed to increase flexibility, muscular strength, and cardiorespiratory endurance. Student also develops the ability to design and lead a fitness program. May be repeated.

200 Basic Military Studies - Practicum (4) 240 contact hours of instruction and evaluation at Fort Knox, Kentucky over a five week period during the summer. Prereq: United States citizen; minimum of 55 credit hours passed and at least sophomore standing with two years remaining at the University (either undergraduate, graduate or in pursuit of additional degree); GPA 2.0 or above; letter grade only. Prereq: Consent of instructor. E

210 Basic Officer Skills I (2) The study of American Military History from 1775 to present. Studies include the record of military forces in peace and war and focuses on the history of military art, memoirs, battle history, technical studies, and the relationship of armed forces with society. Labs teach rappelling, physical training, drill and ceremony, and historical field trips. Prereq: United States citizen; freshman or sophomore standing; 3 years remaining to complete degree. Letter grade only. F

220 Basic Officer Skills II (2) 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. Sp

310 Advance Military Studies I (4) Discussion and practical exercise of leadership including operation of the military team, small unit unit planning and physical fitness. Tactical and administrative roles in the military are developed in the 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 or graduate); physically qualified; cumulative GPA 2.0 or higher; letter grade only. 3 or 4 years of JROTC (or) 110, 120, 210, 220 completion (or) 200 completion (or) basic training completion. Letter grade only. 3 hours and 1 hour lab. F

320 Advance Military Studies II (4) Preparation of the future first lieutenants to excel at M5 300 Advanced Camp Pracitcum. Instruction builds on lessons-learned in the 310 and refines small unit leadership skills, marksmanship, techniques of playing, care and repair of upper string instruments, and written communication skills, and physical fitness. Includes three field exercises and a leadership laboratory. Prereq: 310. Letter grade only. 3 hours and 1 hour lab. Sp

400 Advanced Camp-Practicum (4) 240 contact hours of instruction and evaluation on individual and group dynamics, communication skills, decision-making skills during the summer between the Junior and Senior year. Prereq: 310, 320. Letter grade only. Su

410 Command and Staff Functions (4) Command and staff duties and responsibilities. Emphasis on leadership skills, group dynamics, communication skills, decision-making skills during the summer between the Junior and Senior year. Prereq: 310, 320. Letter grade only. Su

420 Military Ethics and Law (4) Military profession, ethical reasoning, staff operations, military briefings and leadership, military justice system, individual leadership, laws of land warfare. 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.

493 Military Leadership Topics (1) Topics on principles and style of military leadership. May be repeated for credit. Additional credit provided topic is different. Maximum 4 hours. Letter grade only. Prereq: Consent of instructor. F, Sp

MUSIC EDUCATION (707)

200 Conducting Laboratory (1) A laboratory course designed to afford conducting opportunities for student conductors and to acquaint students with a variety of music literature. May be repeated. Can be taken as elective credit by any student except those registered for MUS Ed 310 and 320. Letter grade only.

201 Field Experience in General Music (1) Observing and assisting in an approved elementary or middle school classroom. May be repeated. Maximum 3 hours. Satisfactory/No Credit only.

210 Class Woodwind Methods I (1) Structure, use, techniques of playing, care and repair of the flute and saxophone 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. Letter grade only.

211 Class Woodwind Methods II (1) Structure, use, techniques of playing, care and repair of the oboe and bassoon 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. Letter grade only.

212 Class Woodwind Methods III (1) Structure, use, techniques of playing, care and repair of the upper brass 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. Letter grade only.

220 Class Brass Methods (1) Structure, use, techniques of playing, care and repair of the lower brass 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. Letter grade only.

221 Class Brass Methods II (1) Structure, use, techniques of playing, care and repair of the lower brass 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. Letter grade only.

230 Class Percussion Methods I (1) Structure, use, techniques of playing, care and repair of the 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. May be repeated. Letter grade only.

231 Class Percussion Methods II (1) Ethnic instruments, marching percussion trends and concepts, percussion literature and training concepts, traditional and non-traditional percussion accessories, steel drums. Letter grade only.

240 Class String Methods I (1) Structure, use, techniques of playing, care and repair of the upper string 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. Letter grade only.

241 Class String Methods II (1) Structure, use, techniques of playing, care and repair of the lower string 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. Letter grade only.

Courses of Instruction 191
241 Class String Methods II (1) Structure, use, techniques of playing, care and repair of lower string 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. Letter grade only.

250 Functional Piano for Teachers (1) Practical piano skills for the elementary/vocal teacher who does not have a keyboard instrument as the applied principal. Techniques of playing, care and repair of lower string instruments. 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, Sp.

300 Music for Elementary Teachers (2) Singing, rhythmic activities, instrumental activities, listening, music reading, and creative activities appropriate for the elementary grades. For elementary education majors only. Prereq: Admission to Teacher Education Program. Letter grade only. F, Sp.

310 Conducting I (3) Basic skills of conducting; baton, time beating of traditional patterns, preparatory beat, cutoffs, cueing. Development of the left hand, fermata, subdividing. Mechanics of full score. Conducting “live” groups. Prereq: Two years of music theory or consent of instructor. Letter grade only.

320 Conducting II (2) Developing advanced baton technique. Multiple rhythms, modern beat patterns and their cutoffs, cueing. Development of the left hand, fermata, subdividing. Mechanics of full score. Conducting “live” groups in advanced works. Prereq: Conducting I or consent of instructor. Letter grade only.

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.

340 General/Vocal Music Methods (3) School methods and materials for teaching music in the elementary, middle and high schools. Intended for the instrumental music education major. Letter grade only.

350 Field Experience in Music Education (1) Prereq: Consent of instructor. Admission to Teacher Education Program. May be repeated. Maximum 3 hours. Satisfactory/No Credit only. E

400 Student Teaching in Music (12) Full time teaching practicum in an approved public school. Prereq: admission to the teacher education program and completion of all Music Education courses required for the Bachelor of Music degree (four-year alternative) in Music Education. Coreq: Music Education 401.

401 Senior Seminar (0) Issues related to the music teaching profession as experienced in Student Teaching. Coreq: Music Education 401.

420 Music Methods for the Junior High School and Middle School (3) Methods and materials for teaching vocal, instrumental, and general music at the junior high school or middle school level. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only.

430 Music Methods for High School (3) Methods and materials for vocal and instrumental music at the high school level, including charting for the marching band. Prereq: Admission to Teacher Education Program and consent of instructor. Letter grade only. F

440 Marching Band Techniques (2) Functions, organization, and direction of a school marching band. Letter grade only.

441 String Orchestra Pedagogy and Rehearsal Techniques (2) Function, organization and direction of a school orchestra program. Letter grade only.

482 Internship II: Grades K-12 (3-6) Demonstration of professional competence in teaching, instruction and classroom management. Internship is offered in local public schools. Prereq: Admission to Teacher Education Program. Satisfactory/No Credit only. Sp.

490 Special Topics in Music Education (1-3) Prereq: Consent of instructor. May be repeated. Maximum 9 hours. Letter grade only. E

493 Independent Study in Music Education (1-5) Prereq: Consent of instructor. May be repeated. Maximum 9 hours. Letter grade only. E

MUSIC ENSEMBLE (708) Prerequisite: By audition or consent of instructor.

301-501 Woodwind Choir (1,1) May be repeated. Maximum 4 hours.

302-502 Jazz-Saxophone Ensemble (1,1) May be repeated. Maximum 4 hours.

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 Tuba Ensemble (1,1) May be repeated.

310-510 Percussion Ensemble (1,1) May be repeated.

311-511 Marimba Choir (1,1) May be repeated.

312-512 Baroque Ensemble (1,1) May be repeated.

315-515 Chamber Music Ensemble (1,1) May be repeated. Maximum 12 hours.

316-516 Steel Band (1,1) May be repeated.

320-520 UT Singers (1,1) May be repeated.

330-530 Chamber Singers (1,1) May be repeated.

334-534 Saxophone Choir (1,1) May be repeated.

340-540 Opera Theatre (1,1) May be repeated.

350-550 Concert Band (1,1) May be repeated.

352-552 Symphonic Band (1,1) May be repeated.

353-553 Wind Ensemble (1,1) May be repeated.

354-554 Pep Band (1,1) May be repeated.

359-559 Marching Band (1,1) May be repeated.

370-570 Symphony Orchestra (1,1) May be repeated.

380-580 Concert Choir (1,1) May be repeated.

383-583 Men’s Chorale (1,1) May be repeated.

389-589 Women’s Chorale (1,1) May be repeated.

399-599 Accompanying (1,1) May be repeated.

MUSIC GENERAL (698) 140 Fundamentals of Performance (1-2) Private instrumental or vocal study, one or two half lessons per week. (1 hour credit - elective, secondary or minor: two hours credit - major.) This course is designed to prepare students for enrollment in Music Performance 103-195. Cannot be used to satisfy applied music requirements at the principal level in the B.M. or the B.A. degree in Music. May be taken for a maximum of 4 credit hours per semester. Admission by audition. A, B, C, N. Requires payment of Applied Music fee. F, Sp.

200 Solo Class (0) 301 Junior Recital (0)

310 Practical Experience in Arts Management (3) Arts management practicum with approved arts organization. Individualized work with music instructor in conjunction with supervised experience in arts organization management. For music majors only. Prereq: Consent of instructor. May be repeated for credit in another area of arts management.

401 Senior Recital (0)

411 Lecture Recital (0)

421 Special Topics in Performance (1-3) Prereq: Consent of department head. May be repeated. Maximum 4 hours.

431 Special Topics in Pedagogy (1-3) Prereq: Consent of department head. May be repeated. Maximum 4 hours.

MUSIC HISTORY (709) 110 Introduction to Music in Western Culture (3) Developing listening skills and understanding of Western music from the ancient world through the 20th Century. For non-music majors. Writing-emphasis course. E

115 Music in the United States (3) Explores musical traditions of the United States. 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. F, Sp.

200 Introduction to Music Literature (3) Basic forms of music and composition through chronological approach. For music majors and minors only. Sp.


290 Introduction to World Musics (3) Survey of music of representative cultures from Africa, Asia, Oceania, and the Americas with a focus on music as sound and as part of the human condition. Also includes an emphasis on applying basic music terminology to describing listening skills.

310 Introduction to African-American Music (3) History of African music, blues, gospel music, and jazz with emphasis on Black artists and their contributions. (Same as African and African-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.)

340-341 Contemporary Trends in American Church Music I, II (2.2) Survey of sacred music in popular contemporary style, emphasizing analysis and evaluation criteria. Must be taken in sequence. 340 includes theory and keyboard harmony appropriate to the style. 350 focuses on composition and arranging within the style. Prereq: Music Theory 210-220.


380 Music in World Cultures (3) Examines music from an ethnomusicological perspective focusing on musical performance and the interrelationships of music, culture, and daily life. The course surveys music from a variety of cultures through a series of case studies. Prereq: 210-220; or permission of instructor.

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 6 hours.

420 History of Opera (3) Dramatic, vocal, and orchestral elements in opera of Italian, French, and German schools. 1600-present.

430 Symphonic Literature (3) Survey of literature for orchestra from Baroque to the present, with emphasis on the evolution of the symphony.

450 Composer Seminar (3) Life and works of a single composer. Subjects vary.

460 Music Aesthetics (3) Nature of music and musical experience, sense perception and emotions, music, and role of artist in society. Aesthetic viewpoint of individuals and historical eras through selected writings. Writing- emphasis course.

480 Music in Christian Worship (3) Hymnody, liturgies, and liturgical music.

493 Independent Study (1-15) Prereq: Consent of department head. May be repeated for credit.
<table>
<thead>
<tr>
<th>COURSES</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>310 Brass Literature and Pedagogy (3)</td>
<td>Survey of brass solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied brass faculty and class members. Prereq: Consent of instructor.</td>
</tr>
<tr>
<td>320 Woodwind Literature and Pedagogy (3)</td>
<td>Survey of woodwind solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied woodwind faculty and class members. Prereq: Consent of instructor.</td>
</tr>
<tr>
<td>330 Percussion Literature and Pedagogy (3)</td>
<td>Survey of percussion solo and ensemble literature, including instructional materials and methods. Application of pedagogical procedures to individual instruction and performance; demonstration lessons by applied percussion faculty and class members. Prereq: Consent of instructor.</td>
</tr>
<tr>
<td>340-350 String Literature and Pedagogy I, II (3,3)</td>
<td>340: Survey of string techniques, issues, research and pedagogies; topical presentations by the applied string faculty and guests. 350: Development of the violin family of instruments and bows; survey of string literature, performances, and performance styles; application of historical, analytical, and pedagogical procedures to performance. Prereq: 340 and applied enrollment in strings at 300 level or above or consent of instructor.</td>
</tr>
<tr>
<td>490 Instrumental Conducting (3)</td>
<td>Knowledge and skills in instrumental conducting; various periods and composers and relationships of different styles to the conductor's art; musical analysis and practice in conducting. Prereq: Music Education 320 or equivalent.</td>
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<tr>
<td><strong>MUSIC JAZZ (711)</strong></td>
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<tr>
<td>110 Jazz Theory (2)</td>
<td>Fundamentals of the jazz language, including tonal analysis, chord symbols, chord scales, and chord progressions, plus ear-training lab. Prereq: Music Theory 110.</td>
</tr>
<tr>
<td>120 Analysis of Jazz Styles (2)</td>
<td>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.</td>
</tr>
<tr>
<td>130-140 Jazz Piano I, II I (1,1)</td>
<td>Harmonic language of jazz. Development of keyboard proficiency, including chord symbols, formulae for voicing chords, chord progressions, and fundamental melody-downstairs improvisation for right hand. Must be taken in sequence.</td>
</tr>
<tr>
<td>160 Introduction to Styles in Jazz Drumming (2)</td>
<td>Development of proficiency in the techniques of jazz drumming. Prereq: Consent of instructor.</td>
</tr>
<tr>
<td>170-270-370-470-570 Cello (1-4)</td>
<td>Continuation of 110-120; May be repeated. Prereq: Studio Music and Jazz major or consent of instructor.</td>
</tr>
<tr>
<td><strong>MUSIC TECHNOLOGY (717)</strong></td>
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<tr>
<td>290 Sound Recording Techniques (3)</td>
<td>Theory and applications of tape recording's sound reproduction and reinforcement systems. Topics include room acoustics, audio measurements, microphones, studio real-time processing, noise reduction, mixing, editing, monitors, system wiring, and maintenance.</td>
</tr>
<tr>
<td>340 Introduction to Computer Music Transcription (3)</td>
<td>Exercise in notation, playback and publishing incorporating elements of word processing, graphic design, sequencing and page layout. Study of Music Instrument Digital Interface protocol as it applies to computer music work station design. Prereq: consent of instructor.</td>
</tr>
<tr>
<td>390 Sound Synthesis Techniques (3)</td>
<td>Studio and real-time applications of synthesizers. Historical background, theoretical concepts, equipment interface and usage, analysis of sounds and compositions. Prereq: 290 or consent of instructor.</td>
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<tr>
<td><strong>MUSIC THEORY (714)</strong></td>
<td></td>
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<tr>
<td>100 Fundamentals of Music (3)</td>
<td>Theory and practice of basic elements of music. Writing-emphasis course. F, S</td>
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<tr>
<td>110-120 Theory I, II (3,3)</td>
<td>Materials of music including basics through secondary dominants and modulation. Exercises in analysis, composition, and improvisation of music with emphasis on common practice. Must be taken in sequence. Prereq: 110 - successful completion of music audition and theory placement exam; 120 - Music Theory 110, grade C or higher.</td>
</tr>
<tr>
<td>140 Ear Training II (1)</td>
<td>Development of proficiency in identifying and notating melodic, harmonic and rhythmic models. Includes computer lab. Should be taken concurrently with 120.</td>
</tr>
<tr>
<td>210-220 Theory III, IV (3,3)</td>
<td>Materials of music including altered chords and analytical methods. Emphasis on literature of the Classic, Romantic, and Contemporary periods. Exercises in analysis, composition, and improvisation of music. Must be taken in sequence. Prereq: 210 - Music Theory 120, grade C or higher, or consent of instructor; 220 - Music Theory 210, grade C or higher, or consent of instructor.</td>
</tr>
<tr>
<td>310 Form and Analysis (3)</td>
<td>Study and practice in analysis of forms of music from smallest structural units to large compound forms. Prereq. Music Theory 210 and 240, grade C or higher.</td>
</tr>
<tr>
<td>320 Instrumentation (2)</td>
<td>Basic techniques in scoring for voice, brass, woodwind and string chords and percussion. To be taken by music theory and composition majors. Prereq: Music Theory 210 and 230, grade C or higher.</td>
</tr>
<tr>
<td>400 Survey of Music Theory (3)</td>
<td>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.</td>
</tr>
<tr>
<td>410 Ear Training Review (1)</td>
<td>Review and application of harmonic and melodic dictation skills for graduate and advanced undergraduate students. Prereq: 240 or the equivalent. Required of entering graduate students with a deficiency in ear-training. Satisfactory/No credit grading only.</td>
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</tbody>
</table>
402 Orchestration (3) Advanced techniques in instrumental writing with emphasis on scoring for the concert orchestra. To be taken by theory and composition majors.

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 and 19th centuries. Prereq: 430: Music Theory 210 and 230, grade C or higher. 440: Music Theory 430, grade C or higher.

450 Choral Arranging (2) Analysis of scores and writing of arrangements for choirs. Prereq: Music Theory 210 and 240, grade C or higher, 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.

230 Acting for Singers (1) Advanced work on song presentation and interpretation; scene study and characterization. Prereq: Consent of instructor. May be repeated. Maximum 4 hours.

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. No graduate credit for students in the M.M. concentration in Vocal Performance.

425 Functional Diction for Singers (3) Comprehensive one-semester course in pronunciation and diction of voices. English, French, German, Italian and Latin and Spanish. Basic instruction in the International Phonetic Alphabet; development of the ability to sing songs in a variety of languages; overview of diction styles and traditions in each language; survey of diction resources and reference materials. Suitable for Sacred Music and Music Education majors with a concentration in Voice and for graduate students in Choral Conducting. Does not fulfill deficiency requirements for graduate students in Voice or Accompanying.

450-460 Pedagogy I, II (2.1) 450-Concepts and approaches to vocal instruction; technical and artistic problems of voices. 460-Vocal teaching materials: includes collateral teaching experiences. Prereq: Consent of instructor.

490 Church Music Methods, K-12 (3) Development of the child's voice using vocal and instrumental techniques for various age groups through high school. Choral literature for the youth church choir, non-vocal musical activities appropriate to various age groups as used in church music programs (e.g., Off, handbells, rhythm activities, etc.)

NUCLEAR MEDICINE TECHNOLOGY (718)

Courses in this concentration are open only to qualified students who have completed the first three years of the Nuclear Medical Technology Curriculum, described in the College of Arts and Sciences catalog, and who have been admitted to the Nuclear Medical Technology Program at UTMCX.

410 Physics for Nuclear Medicine I (3) Nuclear physics, mathematics, and statistics. Survey of historic and current concepts in atomic and nuclear structure, edges, relationships between matter and energy, nuclear reactions, nuclear stability, production of radionuclides, radionuclide generators, decay schemes, and charts used in nuclide identification and behavior prediction. Mathematics and statistics topics include basic arithmetical theories, mathematical manipulations, and applied technical mathematics for use in radio active decay equations, dose calculations and concentration, volume and shielding determinations. Graphing, counting statistics and other physical and chemical applications of mathematics to nuclear medicine are included. May not be substituted for Physics 471 or 472.

411 Nuclear Instrumentation (3) Course concerns non-imaging, imaging, and instrument quality assurance. Non-imaging topics include basic radiation detectors, their applications, functions, and limitations with overview of basic electronic, gas-filled detectors, statistics and counting, solid and liquid scintillation detection systems, semiconductor and magnetic field stabilization, and quality control. Imaging topics are instrumentation of imaging devices, including basic function, application of principles of image formation, tissue sensitivity characteristics, size and function and maintenance requirements of nuclear instrumentation, radiation safety practices, and statistical analysis of quality control data.

412 Radiopharmacy (2) Emphasis on basic chemistry and physics of radionuclides. Basic chemistry and physics of radionuclides used in nuclear medicine. Emphasis on radionuclide production and preparation; quality assurance, radionuclide production, and basic photographic film chemistry. Kinetics, biostatistics, etc.

415 Physics for Nuclear Medicine II (3) Continuation of 410 with focus on radiobiology and radiation safety. Radiobiology topics include interactions of radiation with matter, cellular and systemic responses to radiation, early and late somatic and genetic effects, biological effects of low level radiation, critical organ and dose calculations, and benefit versus risk factor. Radiation safety topics include dose limit recommendations, ALARA philosophy, federal and state regulations, radiation monitoring equipment, and methods and techniques for safe practice of nuclear medicine.

420-430-440 Clinical Nuclear Medicine I, II, III (4, 4, 4) Theories and applications of nuclear medicine. I—Patient care, central nervous system, endocrine system, respiratory system and digestive system: II—hematology, neoplastic and lymphatic system, genitourinary system, musculoskeletal system, organ and influm/immunology, imaging, cardiovascular imaging, non-imaging nuclear medicine: III—single photon emission tomography, positron emission tomography, nuclear medicine quality assurance, pediatric nuclear medicine, radionuclide therapy, and management and administration of nuclear medicine program.

425 Computer Applications in Nuclear Medicine (3) Computer systems, applications, and components in quantitation in nuclear medicine. Topics include acquisition modes and limitations, image processing modes and limitations, and image quantitation with some attention to machine and language architecture and numbering systems.

450-460-470 Clinical Practicum I, II, III (4, 4, 6) Clinical practicum in nuclear medicine conducted at UTMCX and other clinical sites. Clinical instruction activities in imaging, instrumentation, radiotherapy, dose administration, radiation safety and protection, imaging, non-imaging nuclear medicine, basic concepts of drug action and interactions. Major drug classifications. Prereq: Chem 100-110, and at least 6 semester hours of Anatomy and Physiology. Sp

361 Health and Maintenance Across the Life Span (5) Focus on health maintenance and restoration in nursing practice with children or adults experiencing commonly occurring acute or chronic illness. 2 lecture, 3 lab. Prereq: N311, N319, N333, N341, or N342. Coreq: N351. Sp

382 Health Promotion and Maintenance in Community (4) Focus on nursing care of at risk populations. Design and implement interventions to promote and maintain health, including assessment of values, health-promoting behaviors, and environmental factors, health education, and community resources. Prereq: 311, 319, 333, 341, or RN status. Co or Prereq: 351, 361. 2 lecture, 2 lab. Sp

403 Health Promotion and Maintenance in Child Bearing Families (5) Nursing practice for promotion, maintenance, and restoration of reproductive health. Emphasis on therapeutic relationships with childbearing families for long term positive impact on health care and lifestyle. 3 lecture, 2 lab. Prereq: All required 300 level courses or RN status. F, Sp

406 Pharmacology II (2) Continuation of 351 with emphasis on nursing responsibilities in the safe and effective use of therapeutic drugs, recognition and reporting of side effects, and critical aspects of patient education. Prereq: 319, 351. F

415 Family/Community Health Nursing (6) Application of the nursing process to individuals, families, 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. Su

421 Mental Health and Maintenance and Restoration (4) Nursing care for individuals with mental health needs. Emphasis on use of self as therapeutic agent with individuals, groups and families and developing nursing strategies for mental health maintenance and restoration. Prereq: all required 300 level nursing courses or RN status. 2 lecture, 2 lab. F, Sp

311 Foundations of Professional Nursing Practice (5) Emphasis on patient centered communication, therapeutic interventions, and critical thinking as key elements in the provision of quality nursing care. Clinical laboratory experiences provide opportunity for the application of these processes in the care of adults in selected health care settings. 2 lecture, 3 lab. Prereq: 201; Coreq: 319, 353, 341, F

314 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 prevention. Problems will be facilitated by faculty. Open to undergraduate students in all colleges. F

319 Pathophysiology of Health Deviations (4) Application of physiological concepts to health promotion, maintenance, deviations, and restoration. Introduction to psychoneuroimmunology. Emphasis on interactions of body systems, and impact of disease processes on the human body. F
432 Health Promotion, Maintenance, Restoration in the Community (3) Focus on nursing care of at risk individuals, communities, and populations. Assessment of sociocultural values, environmental factors, health education, and community resources. Design of interventions to promote, maintain, and restore health through the use of the epidemiological process.


452 Professional Leadership Issues III (2) Legal and regulatory processes affecting nursing practice and clarification of personal and professional values. Application of ethical principles in practice dynamics and team work on issues having an impact on nursing practice. Prereq: All required 300 level nursing courses and N451. Sp.

461 Health Restoration Across the Life Span (5) Focus on health restoration in nursing practice to support and care for children or adults and their families with acute, complex health needs. Emphasis on quality of care, continuity of care, coordination of care and end of life care. Prereq: All required 300 level nursing courses. 3, 2, 3 lab. F, Sp.

470 Special Topics (1-3) In-depth study of selected nursing problems, topics, or issues not covered in other courses. Topics determined by faculty and student interest. Prereq: Consent of instructor.

471 Nursing Research (3) Introduction to research design, and methodologies. Critique of selected research studies for application to evidenced-based nursing practice. Prereq: All required 300 level courses, or consent of instructor, or RN status.

480 Nursing Informatics I (3) Provides opportunity for nursing students and/or registered nurses to develop beginning knowledge and skills in computer applications and the field of nursing informatics. Existing and future health information systems will be examined. Emphasis is placed on hands-on acquisition of basic computer competencies. Use of electronic communication, word processing, spreadsheet, database, presentation and computer-assisted-instruction programs. Students will also be exposed to nursing documentation, flowcharting, and authoring software. 2 lecture, 1 lab. Prereq: Upperdivision, or RN status or consent of instructor.

482 Health Maintenance and Restoration in Community (4) Analysis of health needs of a selected community utilizing the epidemiological process. Emphasis on visiting clients and families across the life span in their own environment. Prereq: All required 300 level nursing courses for RNs, 305, 333, 351 and pre or coreq: 319. 2, 2 lab. F, Sp.

490 Specialty Preceptorship (4) In-depth practicum to develop knowledge and skill in a selected specialty area under direct guidance of clinical preceptor. Knowledge development in specialty area under guidance of faculty. Prereq: Coreq: N421, N471, N461, N482 or RN Status. 1, 3 lab. 3 credit.

493 Independent Study (1-3) Nursing or health-related topic not covered in other nursing courses. Prereq: Senior standing or consent of instructor.

NUTRITION (726)

100 Introductory Nutrition (3) Conceptual: current consumer issues in nutrition; nutritional needs through life span; nutritional concerns and issues. A nutrition major who has received credit for NTR 300 may not receive credit for this course. F, Sp.

201 Careers in Nutrition (1) Overview of nutrition-related careers. Routes to meeting academic, registration, and experiential requirements. Letter grade only.

300 Fundamentals of Nutrition (3) Nutrition in normal and altered health states during life cycle; nutritional analysis of diets. Prereq: Chemistry 110 or equivalent. Prereq or Coreq: BCBM 230. A nutrition major who has received credit for NTR 100 may not receive credit for this course. Sp.

302 Life Span Nutrition (3) Physiologic development and psychosocial factors that influence nutrient needs and nutrition behaviors of individuals across the life span. Nutrition for special groups for various age groups. Prereq: 100, BCBM 230 or consent of instructor.

303 Foodservice Systems Management (3) Assessment of managerial, organizational and operational structures in foodservice systems with focus on markets related to dietary healthcare; human resource policies and strategies applied to foodservice systems management. Sp.

310 Physiological Chemistry (4) (Same as Biochemistry 310.)

312 Science of Food (4) Elements of food selection, safety, preparation and evaluation. Chemical and physical properties of food related to functional and nutritional properties. Sensory evaluation concepts and techniques. Effects of processing on food. Prereq: 100, Chemistry 350. Coreq: Micro 210, 3 hours and 1 lab.

313 Vitamins and Minerals (3) Functional properties and interrelationships among vitamins and minerals as they apply to human nutrition. Prereq: 100, BCBM 230, Chemistry 350. Coreq: or Prereq: 310.

314 Energy Metabolism and Metabolic Integration (3) Integration of carbohydrate, fat and protein metabolism as applied to nutrient utilization and requirements in humans. Prereq: 310, 313.

410 Professional Issues in Dietetics (1) Dietetic registration, licensure, third party payments; dietetic practice: marketing dietetics; internship application preparation, public policy in dietetic practice. Prereq: Senior standing.

412 Food and Nutrition in the Community (3) Influence of health characteristics, geographic, social, economic, educational and cultural factors on food and nutrition programming; relationship of community food and nutrition programs to programs and services for families and communities with particular attention to disease prevention; public policy. Prereq: 302, 415.


420 Food and Nutritional Analysis (4) Principles, procedures, instrumentation, and computer-assisted instruction programs. Students will also be exposed to nutritional documentation, flowcharting, and authoring software. 2 lecture, 1 lab. Prereq: Upperdivision, or RN status or consent of instructor.


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.

492 Field Experience: Nutrition (1-3) Prereq: Junior or Senior standing, consent of instructor. Satisfactory/No Credit only.

493 Directed Study: Nutrition (1-3) Individual student; faculty experience. Prereq: Junior or Senior standing, consent of instructor. Letter grade only.

ORNAMENTAL HORTICULTURE AND LANDSCAPE DESIGN (740)

110 Introduction to Ornamental Horticulture (3) Survey of the history, science, crafts, professions, and businesses of ornamental horticulture. Prereq: Enrollment restricted to: PSLS freshmen and transfer sophomores; open to all non-majors. F.

220 Basic Landscape Plants (3) Identification, classification, adaptation, culture and landscape design uses of basic ornamental trees, shrubs, and vines. Prereq: 8 hours biological sciences or consent of instructor. F, Sp. 2 hours and 1 lab.

230 Interior Plantscaping (3) History and introduction of the interior plantscaping industry. Identification, culture, propagation, and use of plants for the commercial interior plantscaper. Management of the interior environment including light, humidity, growing media, insects, and diseases. Commercial use of containers, planters, water management, and artificial plants. Prereq: 110 or consent of instructor. F.

231 Interior Plantscaping II (3) Commercial application of design, sales, sales proposals, plantscaping management, and business plantscaping businesses to the interior Plantscaping industry. Prereq: consent of instructor. Sp.

280 Fundamentals of Landscape Design (3) History of landscape design as it relates to contemporary applications. Awareness and sensitivity to the landscape; basic principles and design theory with an emphasis on residential landscape planning. Introduction to landform, landscape materials, and planting design. 1 hour and 2 labs. F.

326 Public Horticulture (3) In-depth study of the public horticulture industry. Attention given to the diversity of public horticulture institutions, career opportunities, and research. Discussion of current topics and issues. Prereq: 110 or consent of instructor. 8 hours of biological sciences or consent of instructor. 2 hours and 1 lab. F.

350 Basic Landscape Construction (3) Basic materials and fundamental techniques of landscape construction and contracting industry; application of landscape materials, wood, concrete and masonry construction; site drainage, and landscape grading. Prereq: 280. 2 hours and 1 lab.

360 Practicum in Landscape Construction (3) Practical experience in implementation of landscape development projects. Directed lab and field instruction in planting operations, 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 the basic components of grounds maintenance including equipment, interpretation and maintenance guidelines. Prereq: 350. 2 hours two lab. F, Sp.

380 Supplemental Landscape Design Graphics (3) Refinement of draftsmanship skills; development of landscape design sections, isometric projections, and perspectives. Lettering, plan graphics, color rendering, and other visual presentation media. Prereq: 280. Two 2 hour labs. F.

389 Fall Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of late summer and fall herbaceous ornamental plants including annuals, perennials, herbs, and ornamental grasses. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 110 or consent of instructor. F.

390 Spring Herbaceous Ornamental Plants (3) Identification, culture, and landscape use of Spring and early summer herbaceous ornamental plants including annuals, perennials, herbs, bulbs and wildflowers. Basic gardening practices and design elements using such herbaceous ornamental plants. Prereq: 110 or consent of instructor. Sp. A-E.


412 Native Plants in the Landscape (3) Native plants and plant communities as a basis for landscape design and environmental restoration. Weekly lecture coupled with either an outing or service practicum of invasive exotic plant removals or planting of natives. Study and work sites will primarily be demonstration projects of the UT Environmental Landscape Design Lab. They include local schoolyard habitats, greenways, wetlands, streambanks, and shorelines. Prereq: ONL 220, Botany 330 or consent of instructor. F.

427 Management and Administration of Public Horticulture Institutions (3) Management of resources in nonprofit institutions, support organizations and communities. Theoretical framework and institutional mission; strategic planning and programming; financial accounting and budgeting; development and fund raising; personnel policies; volunteer development; marketing and publicity; legal issues; relationships between staff and governing boards; the use of information technology in management. Prereq: 220, 330; 426; 429; 430. F.


435 Public Garden Operations and Management (3) An analysis of year-round operations and management of public gardens. Case studies involving time and labor management, design and development and management, implementation of volunteer programs, information dissemination methods for public outreach, management of grounds and facilities using the University of Tennessee Institute of Agriculture Gardens as a model. Prereq: 326. Sp.

436 Plant and Garden Photography (2) Principles and techniques of photography as they relate to plants and gardens. Study of equipment options and field shooting under various weather conditions and in different seasons. Prereq: Senior standing and consent of the instructor. Sp. A

446 Horticultural Therapy (3) Introduction to the application of horticulture as therapy for treatment, rehabilitation and/or training of individuals with disabilities. Senior standing and consent of the instructor. F, A

450 Specialty Landscape Construction (3) Methods of design, materials, and construction techniques for specialized components of the landscape industry. Irrigation systems, outdoor lighting, garden ponds and water features. 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, Sp.

480 Advanced Landscape Design (3) Comprehensive application of landscape design skills to a variety of project experiences with an emphasis on landscape planning and analysis, planting design, and materials estimating. Prereq: 280, 380. Two 3 hour labs. Sp.

485 Computer Aided Landscape Design (3) Overview of Computer Aided Design (CAD) as it relates to landscape design and construction. Emphasis on development of landscape design drawings through utilization of LANDCAD software. Prereq: 280, 380, and Agriculture and Natural Resources 290. F, Sp.

494 Professional Horticultural Communications (3) Communication for public horticulturists through written, oral, and visual media. Emphasis on communication skills using proper writing techniques and grammar for print media, brochure design using desktop publishing, slide show development, oral presentations, and video use for educational and informational presentations in Ornamental Horticulture. Prereq: Agriculture and Natural Resources 290 and senior standing. F. A-E

PERSIAN (744)  

161-162 Elementary Persian I, II (4.4) (Same as Asian Studies 141-142.)

261-262 Intermediate Persian I, II (4.4) (Same as Asian Studies 261-262.)

PHILOSOPHY (745)  

110 The Human Condition: Values 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 110. Writing-emphasis course.

120 Foundations of Western Thought: Antiquity through 1500 (3) Plato, Aristotle, Late Antiquity 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 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 Arts and Sciences Basic Skills Requirement “Mathematics, Computer Science or Logic.”

135 Formal Logic (3) Introduction to formal deductive systems; propositional and predicate logic. Satisfies Arts and Sciences 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.

290 Social and Political Philosophy (3) Basic problems and concepts of social and political philosophy.

300 Special Topics (3) May be repeated. Maximum 6 hours.

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 and Judaic Studies 322.) Writing-emphasis course.

324 Seventeenth- and Eighteenth-Century Philosophy (3) Writing-emphasis course.

326 Nineteenth- and Twentieth-Century Philosophy (3) Writing-emphasis course.

342 Business Ethics (3) Ethical problems as they confront both business as a social institution and individuals in business. Writing emphasis course.

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 law/politics; helping professions (social work, human services, ministry); teaching. Writing emphasis course. (Same as Legal Studies 344 and Religious Studies 344.)

345 Bioethics (3) Ethical issues in health care such as abortion, euthanasia, human experimentation, fairness in health care delivery and the doctor-patient relationship. Writing-emphasis course. (Same as Religious Studies 345.)

346 Environmental Ethics (3) Issues concerning the nature of the environment and the place of humanity within it.

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 Philosophy of Science (3) An introduction to major problems in the Philosophy of Science. Specfic issues vary, but may include: the nature of causality; the relationship between experiments, theories, and scientific practice; how theories change and how scientific disputes get settled; the role played by social organization in science (e.g. gender and race issues); Basic and others. Writing emphasis course. Prereq: None.

370 Religion of Philosophy (3) Analysis of basic issues 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.)

382 Philosophy of Feminism (3) Various feminist theories and their application to social issues of concern to women today. Writing emphasis course. (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.

392 Philosophy of Law (3) A course in analytic and normative jurisprudence. Such topics as the nature of legal systems as normative social practices, the relationship between law and morality, theories of adjudication and legal reasoning, the justification of punishment, theories of legal responsibility, law and economics, and feminist and neo-Marxist critiques of law. Writing emphasis course. (Same as Legal Studies 392.)

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.)

419 Science as Method (3) (Same as Ecology and Evolutionary Biology 419 and Botany 419.)

420 Topics in History of Philosophy (3) One or more focused developments in philosophy through the twentieth century. Prereq: 6 hours of philosophy or consent of instructor. When content varies, may be repeated. Maximum 9 hours.

345 Intermediate Formal Logic (3) Metaphysics of formal logic and philosophy of logic. Prereq: 135 or consent of instructor.

440 Contemporary Ethical Theory (3) Topics in metaethics 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.

462 Philosophy of Biology (3) An introduction to current issues in the Philosophy of Biology. Specific problems vary, but will likely include: the nature of natural selection, adaptation, and fitness; the level of selection debate; the nature of species; the interaction of environment and organism, and others. Prereq: upper division course work in philosophy or biology or permission of instructor.

472 Philosophy of Language (3) Problems of meaning, reference and truth. What is the relation between words and the world? How do sentences manage to be about the world? What is it for something to be true? Prereq: 3 philosophy courses 200 level or above.

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.

479 Studies in Recent Continental Philosophy (3) Selected topics. Prereq: hours to 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 ACTIVITY PROGRAM (764)  

200 Special Topics (1-2) Selected topics in various activities not covered in the regular program. When content varies, may be repeated. Maximum 6 hours. S/NC or letter grade.

202 Badminton (1) Fundamental badminton technique, game strategy, and rules for singles and doubles play.

206 Bowling (1) Introduction to ball selection, approach, spot bowling, rules, scoring, etiquette, and basic terminology necessary for enjoyable recreational bowling.

211 Golf (1) Introduction to chipping, putting, full swing, rules, etiquette, and scoring necessary for enjoyable recreational play.
213 Ice Skating (1) Beginning skills and etiquette in ice skating. Satisfactory/No credit grading only.

216 Martial Arts (Special Topics) (2) Special Topics. Selected topics in various forms of martial arts, including but not limited to jujitsu, judo, karate, and tai chi. When Content varies, may be repeated. Maximum 6 hours.

223 Personal Safety and Self Defense (1) Develop and enhance the options of self defense so they may become viable considerations for personal safety. Satisfactory/No Credit grading only.

224 Physical Fitness: Conditioning (1) Program of flexibility, strength, and cardiovascular endurance through exposure to various exercise forms. Satisfactory/No Credit grading only.

225 Physical Fitness: Exercise to Music (1) Total body workout to music with lecture emphasis on basic fitness components of flexibility, strength, and cardiovascular fitness.

226 Exercise and Weight Control (1) Fitness activities and basic fundamentals of nutrition for students interested in losing weight: includes body composition assessment and instruction on achieving a goal weight.

229 Physical Fitness: Jogging (1) General factors on physical fitness with emphasis on the improvement of cardiovascular fitness through jogging.

230 Physical Fitness: Swimming (1) Introductory course outlining basic principles of fitness, evaluation, and workout design in the aquatic environment.

231 Physical Fitness: Walking (1) Course for those wishing to walk as part of a class program; includes measurement and interpretation of fitness components, including body composition, cardiorespiratory fitness, low back function and nutrition.

232 Racquetball (1) Passing, kill, ceiling shots, and basic serves. Single and doubles strategy, necessary for recreational play.

234 Soccer (1) Introduction to individual and team fundamentals, rules, and strategy.

235 Social Dance (2) Popular ballroom dance forms such as the swing (shag), fox trot, cha cha, tango and rumba.

236 Softball (1) Introduction to individual and team fundamentals, rules and strategy.

239 Beginning Swimming (1) Includes skills in the American Red Cross basic swimming course for the non-swimmer.

240 Intermediate Swimming (1) Crawl stroke, elementary back stroke, side stroke, back crawl, breast stroke, entries and turns.

244 Tennis I (2) Introduction to forehand, backhand, serve, volley, rules, scoring and simple strategy.

245 Tennis II (1) Development of accuracy and improved technique of ground strokes and serve; introduction to smash, spin serve, and advanced strategy.

249 Tumbling I (1) Beginning tumbling skills including forward and backward rolls, twisting, balance, agility, and combinations.

251 Volleyball (1) Introduction to individual and team fundamentals, rules, and strategy.

252 Weight Training (1) Introduction to the principles of strength development and muscle groups through the use of free weights and machines.

254 Yoga and Relaxation (1) Introduction to yoga and various forms of relaxation, with the majority of class time spent learning and refining the postures. Satisfactory/No Credit grading only.

255 Water Safety Instructor (2) Prepares individuals to teach American Red Cross basic swimming and personal safety courses. ARC certification. Prereq: Swim test second day of class.

259 Snow Skiing (1) Development of skills necessary to balance and control while on the slopes. Learn ski etiquette and “Skier’s Responsibility Code.” Satisfactory/No Credit grading only.

260 Western Dance (1) Popular western dance forms including line dances, western social dances, mixers and couples.

261 Scuba Diving (1) Introduction and developmental SCUBA diving skills as well as the theory, safety skills and practical application of skills to open water SCUBA diving.

PHYSICS (773)

101-102 How Things Work (3,3) For students with majors outside of science. Emphasizes familiar objects of everyday experience and leads to an understanding of the physical principles that make them work. No prerequisite.

135-136 Introduction to Physics for Physical Science and Mathematics Majors (4,4) A one year course covering material based on the AP level and above. Alternative to honors physics 137-138 for physics majors. Coreq: Math 141-142, 3 hours lecture, 2 hours lab.

137-138 Honors Fundamentals of Physics for Physics Majors (5,5) For physics and engineering physics majors and qualified students from other majors. Coreq: Mathematics 141-142.

161 Elements of Physics for Architects and Interior Design Students (3) Chosen topics in physics for architecture and interior design students. Course emphasizes material development by logic and lecture demonstration.

221-222 Elements of Physics (4,4) Basic physical principles and applications required in premedical, pre-dental, pre-pharmacy and pre-veterinary programs. 221-Mechanics, heat, wave motion, and optics. 222-Electricity and magnetism, modern physics. Must be taken in sequence. 3 hours lecture, 3 hours lab. Prereq: Mathematics 130 or Calculus.

231 Fundamentals of Physics: Electricity and Magnetism (3) For engineers and Arts and Sciences majors in mathematics and the physical sciences. Required of all engineering students. Prereq: Engineering Fundamentals 102; Coreq: Mathematics 142. 2 hours lecture, 3 hours lab/lecture.


240 Fundamentals of Physics: Modern Physics (3) Special relativity, fundamental concepts of modern physics and their applications to atomic, nuclear, particle and condensed matter physics. Prereq 136 or 138 or consent of instructor.


321 Thermal Physics (3) Concepts of temperature and heat; laws of thermodynamics; elementary statistical mechanics; applications to physical and chemical problems. Prereq. 311, or 136, or 138, or 231.

341 Introduction to Nuclear Physics (3) Introductory theoretical nuclear physics with emphasis on applied aspects. Primarily for Nuclear Engineering majors. Prereq: 240 or 232.

342 Structure of Matter (3) Physics of molecules and condensed matter. Prereq: 240 or 232.

361-362 Electronics Laboratory (3,3) Electronic devices and instrumentation techniques in the physics laboratory. 361-Basic analog and digital electronics, including elementary building blocks of relevance to data and measurement, two-level logic, analog-to-digital conversion, use of standard laboratory instruments, and applications of microcomputers. 362-Advanced instrumentation techniques applied to the study of electronic circuits as dynamic physical systems, feedback and stability, noise, discrete sampling. Fourier analysis and synthesis, nonlinear circuit dynamics. Prereq: 316 or 342, or 232, 6 weeks.

401 A Survey of Physics (3) A survey of physics from earliest times to the present, emphasizing the unifying philosophical and mathematical principles. Classical theories of mechanics, quantum mechanics, relativity, the behavior of particles, and the structure of the atom. Course on modern society and the practice of physics from a value-oriented perspective. Written reports on important original papers, thought-provoking problems combining different fields of classical physics, and a final 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. Rudiments of Fourier optics and holography. Prereq: 431, or 136 or 138 and 232 and consent of instructor. 3 hours lecture, 3 hours lab.

431-432 Electricity and Magnetism (3,3) Electrostatics, magnetostatics, coupled electric and magnetic fields, Maxwell’s Equations, electromagnetic waves and radiation. Prereq: 138 or 136 or 232.

441-442 Contemporary Physics (3,3) An introduction to the major fields of contemporary physics ranging from Cosmology to High Energy. In addition to the discussion of the fundamentals covered in each field, the essential elements of Electricity, Magnetism and Quantum Mechanics will be covered. Must be taken in sequence. Prereq: 240 or equivalent, 311-312, 321.

453-454 Team Research Project (3,3) Student teams will carry out major experimental or computational projects. The team in consultation with the instructor will choose the topic and develop a plan for the project. Each team will conduct several oral presentations in an independent manner, carry out the project, and produce a final written report. Must be taken in sequence. Prereq: 361, 461.

461-462 Modern Physics Laboratory (3,3) 461-Introduction to fundamental and modern techniques in experimental physics, and to the theory and practice of measurement and data analysis. Selected experiments in nuclear, atomic, molecular and solid state physics, and modern optics. Prereq: 361 and either 240 or 411, 462-Advanced experiments and experimental techniques in modern physics; experimental team work. Thorugh quantum mechanics to single and multi-particle systems. May be repeated for credit. Written reports on scientific reports. Prereq: 461. 6 hours lab per week.

490 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.

PLANT SCIENCES AND LANDSCAPE SYSTEMS (790)

471 Statistics for Biological Research (3) Notation, descriptive statistics, probability, distributions, confidence intervals, statistical significance, analysis of variance, mean separation procedures, linear regression and correlation. Prereq: Math 125 or equivalent. 3 hours and 1 rec lab.

490 Seminar (1) Current topics in Horticulture, Crop Sciences, and Landscape Design. Prereq: Senior standing. F, Sp

492 Internship in Horticultural and Plant Sciences (1-3) Supervised work experience with a departmentally-approved employer within the ornamental horticulture, turfgrass, production horticulture, or field crop science industry. May be repeated. Maximum of 6 credits. E
403 Problems in Horticultural and Plant Sciences (3-1) Supervised individual problems relating to the plant sciences or landscape design. May be repeated. Maximum of 6 credits. E

POLITICAL SCIENCE (801)
101 United States Government and Politics (3) Introduction to fundamental institutions and processes of American National Politics including the Constitution, voting, the Presidency, the Congress and the courts.

102 Introduction to Political Science (3) Introduction to politics and political systems.

107 Honors: United States Government and Politics (3) Analysis and American political systems for students with superior ability. Admission by permission of department for students with at least a B average; entering freshmen accepted on basis of strong placement scores and high school record.

300 Introduction to Political Philosophy (3) An introduction to the concepts, enduring questions and significant thinkers associated with political philosophy with specific attention to differing conceptions of human nature, politics, the state, civic obligation and rights, freedom, justice and democracy.

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.

312 Popular Culture and American Politics (3) Popular culture related to American politics and government focusing on television, radio, music, drama, art and sports. Writing-emphasis course. (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 intergovernmental relations.


330 Law in American Society (3) Law as a process through which social problems are addressed in the United States. Examples from case law, legislation, and administrative regulation. Writing emphasis course. (Same as Legal Studies 330.)

340 Introduction to Public Administration and Public Policy (3) Public agencies, their organization, personnel, and financial management and administrative responsibility; the policy-making process, public environment.

350 Political Change in Developing Areas (3) Characteristics and problems of political changes with primary focus on developing areas of the world. Writing-emphasis course.

361 Politics in Western Democracies (3) Political culture patterns, and institutions of Western democratic systems. Writing-emphasis course.

365 Introduction to International Relations (3) Resource availability, international economics, international security, power, war, diplomacy, balance of power, international law and international organization. Writing-emphasis course.

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.

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.

387-388 Junior Honors Seminar (3,3) Required of honors majors; admission with consent of department.

401 Political Analysis (3) Nature, character, and functions of research design, data collection, and statistical techniques used in the study of politics.

410 Special Topics in Political Science (3) May be repeated with consent of department. Maximum 6 hours.


420 Political Attitudes and Behavior (3) Systematic examination of political attitudes, public opinion and political behavior. (Same as American Studies 420.)

421 Political Parties and Interest Groups (3) Analysis of political parties, interest groups, campaigns and elections.

430 United States Constitutional Law: Sources of Power and Restraint (3) Judicial review, constitutional powers of the President and Congress, federalism, sources of regulatory authority, and constitutional protection of political and economic rights. (Same as Legal Studies 430.)

431 United States Constitutional Law: Civil Rights and Liberties (3) Issues in civil rights and liberties including: first amendment freedoms, equal protection, privacy and the rights of the accused. (Same as Legal Studies 431.)

435 Criminal Law and Procedure (3) An overview of the criminal law enforcement, the administration of justice, and with emphasis on constitutional questions and public policy issues.

440 Public Management and Human Resources (3) How to mobilize and manage technical and human resources in pursuit of public sector organization goals.

441 Public Budgeting (3) The process, participants, and political economy of government–emphasis on federal government budgeting. Includes an overview of budget reform measures and their effectiveness.

442 Administrative Law (3) Legal dimensions of administrative power and procedures, and constitutional control over administrators. (Same as Legal Studies 442.)

451 Ethnic Conflict in Foreign Countries (3) Examines political and violent conflict among ethnic and national groups and the challenges these conflicts pose for democratic and democratizing states.

452 Black African Politics (3) Recent evolution and current political environment of Black African nations. Writing emphasis course. (Same as African and African-American Studies 452.)

454 Government and Politics of China and Japan (3) Political setting, structure and political processes in China and Japan. Writing emphasis course.

456 Latin American Government and Politics (3) Introduction to the political development of Latin America with an emphasis on contemporary politics. Writing emphasis course. (Same as Latin American Studies 456.)

459 Government and Politics of Russia and Eastern Europe (3) System transformation, political processes and governmental structure in Russia and Eastern European countries. Writing-emphasis course.

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.

470 International Law (3) Nature and development of international law and compliance with it. Particular attention to function of international law in the context of international conflicts. (Same as Legal Studies 470.)

471 International Political Economy (3) Economic relations between countries: theoretical and case studies of efforts to construct multilateral international institutions. Topics include economic growth, international trade and investment, development and global equity. Writing emphasis course.

472 Normative Issues in International Relations (3) An examination of such normative issues among states as human rights, environmental degradation and distributive justice. Writing emphasis course.

475 Ancient and Medieval Political Thought (3) Major western political thinkers from Socrates to Marsilius of Padua. (Same as Medieval Studies 475.)

476 Modern Political Thought (3) Major western political thinkers from Machiavelli to Marx.

487-488 Senior Honors Thesis and Seminar (3,3) Required of honors majors; admission with consent of department.

491 Foreign Study (1-15) Prereq: Consent of Department. May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Prereq: Consent of Department. May be repeated. Maximum 20 hours.

493 Independent Study (1-15) Prereq: Consent of Instructor. May be repeated. Maximum 15 hours.

494 Internship (1-6) Prereq: Consent of Department. May be repeated. Maximum of 6 hours. May not be counted toward requirements for the Political Science major. S/N only.

PORTUGUESE (611)
111-112 Elementary Portuguese (3,3) Introduction to Portuguese. Must be taken in sequence. Language Laboratory required. F, Sp

199 Portuguese Language and World Business (3) The course will examine the importance of foreign trade at the local, state, and national levels. An interdisciplinary team of faculty from the Colleges of Business and Arts and Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students majoring in the Language and World Business major concentration. See the Director for further information.

211-212 Intermediate Portuguese (3,3) Stresses reading, writing, listening, and speaking of Portuguese to prepare for upper division courses in the language. Must be taken in sequence. Language Laboratory required. F, Sp

301-302 Literature, Culture and Civilization of the Portuguese-Speaking World (3,3) A course for students who have completed the intermediate sequence of Portuguese and wish to enhance their knowledge of language and culture through the medium of literature. Taught in Portuguese. Prereq: 211, 400, or the equivalent.

309 Intermediate Conversation and Composition (3) Designed to improve proficiency in oral and written communication in Portuguese. Prereq: 211, 400, or the equivalent.

315-316 Aspects of Luso-Brazilian Literature (3,3) Luso-Brazilian literature through literary theory and history of literature. Prereq: At least one course at the 300 level or the equivalent. (Same as Latin American Studies 315-316.)

400 Portuguese for Speakers of Another Romance Language (3) (Same as Italian Studies 400) Accelerated class for beginning students of Portuguese with a strong background in another Romance language. Introduction to grammar, reading and culture of Portugal and Brazil. Prereq: 300 level or the equivalent. (Same as Romance Studies 400.)

409 Advanced Conversation & Composition (3) Informal and structured conversation on contemporary topics (business, politics, economics, religion, an culture) and formal writing practice at an advanced level. Prereq: 309 or the equivalent.

431-432 Topics in the Literature & Language of the Portuguese-speaking World (3,3) Outstanding works of literature and culture from the countries where Portuguese is spoken. Topics may vary. May be repeated. Maximum 12 hours. Prereq: At least one course at the 300 level or the equivalent. (Same as Latin American Studies 431-432.)

490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language and World Business Director. For Language and World Business majors only. S/N only.

491 Foreign Study (1-15) 199

493 Independent Study (1-15)

PSYCHOLOGY (830)
110 General Psychology (3) Introduction to primary approaches to the study of human behavior and experience. E

117 Honors General Psychology (3) Open to University Honors Students and to students with ACT'S of 29 or higher (or SAT equivalent). Prereq: Consent of Instructor.

220 Behavior and Experience: Humanistic Psychology (3) Behavioral and phenomenological analysis of individuals and their development in natural environments. Prereq: 110, E.

295 Research Analysis in Psychology (3) An introduction to the research methods and data analyses used in psychological research. This course should be taken as soon as possible after declaring psychology a major. Prerequisite: Psychology 110.

300 Child Psychology (3) The normal child from conception through infancy, childhood, and adolescence. Physiological, cognitive, social, and emotional development. Prereq: 110, E.

310 Learning and Thinking (3) Survey of theory and findings of research concerning both humans and nonhumans. Prereq: 110, F, Sp.


330 Abnormal Psychology (3) Individual and environmental factors in deviant and maladaptive behavior; neurotic and psychotic reactions. Contemporary methods of treatment. Prereq: 110, E.

347 Honors Seminar (1) Classic works in psychology; professional and personal issues in psychology; presentations of faculty scholarship and honors students' projects. Meets weekly (May be repeated (maximum 8 hours). Prereq: Consent of instructor.

360 Social Psychology (3) Theories, methods, and findings of research concerning individual behavior in a social context. Prereq: 110, E.

367 Psychology Honors Project (3) Independent studies course which leads to the Honors thesis. Students must have plans of study approved by their mentor prior to enrollment. May be repeated (maximum 15 hours). Prereq: Consent of instructor.

370 Ethology and Sociobiology (3) (Same as Ecology and Evolutionary Biology 370), Sp.

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 and upper division standing (30 or more semester hours). Maximum of 6 hours may be applied toward major. May be repeated (maximum 15 hours). Prereq: Consent of instructor.

385 Statistics in Psychology (3) Descriptive statistics; logic of hypothesis-testing and statistical inference. Basic parametric and nonparametric tests. Not open to students with credit in Math 115 or Statistics 201, E.

395 Methods of Research in Psychology (3) Fundamentals in inquiry, design, and interpretation of research, including systematic observation, experiments, quasi-experiments, and program-evaluations. Focus on both laboratory and natural settings. Prereq: 110 and 385 or Math 115 or Statistics 201; and Junior standing (60 semester hours). F, Sp.

399 Supervised Research and Field Work (1-3) Field experience in community-based research and service settings. Prereq: Consent of instructor. Note: Any combination of 6 hours of 399, 489, 491, 492, 493 may be used in major. An additional 6 hours may be used as electives. May be repeated.

400 Cognitive Psychology: Language and Symbolic Processes (3) Psychological knowledge, explaining, and understanding. Directed and associative thinking. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. F.

409 Group Facilitation (3) Study of theory and technique through supervised experience in small groups. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. F.

410 Sensory Processes and Perception (3) Physiological and psychological theories of perception. Emphasis on audition and vision. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. Psych 385 or Math 115 or Statistics 201 or Graduate standing. Sp.

415 Psychology of Religion (3) History of the psychology of religion with an examination of various philosophical and empirical orientations. Exploration of the psychological function of religion for individuals and society. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. (Same as Religious Studies 415.)

420 History and Systems of Psychology (3) History of psychological thought. Classical approaches and recent developments. Coreq: 450. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor or Graduate standing.

424 Psychology and the Law (3) Psychological aspects of legal systems. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor or Graduate standing.

430 Health Psychology (3) Psychological factors related to health and illness, including stress, personality, and environment. Applications of psychological treatments to physical illness. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor.

434 Psychology of Gender (3) Biological, psychological, and social factors in gender. Importance of gender roles and stereotypes for behavior and experience. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. (Same as Women's Studies 434.)

440 Organizational Psychology (3) Social-psychological analysis of organizations, emphasizing role-theory and systems theory. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. (Same as Management 440.)

445 Measurement and Testing (3) Theory of test construction and psychological measurement. Statistical methods of measuring existing tests. Prereq: 110, Psych 385 or Math 115 or Statistics 201 and Junior standing (60 semester hours) or consent of instructor.


450 Comparative Animal Behavior (3) (Same as Ecology and Evolutionary Biology 450), F.

459 Comparative Animal Behavior Laboratory (3) Coreq: 450. (Same as Ecology and Evolutionary Biology 459), F.

461 Physiological Psychology (3) Nervous system and physiological correlates of behavior. Behavioral basis of emotion, learning, memory and stress. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. One of the following three sequences: Biology 101, 102; Biology 130 and 140; Anthropology 110 and 210, F.

467 Psychology Honors Thesis (3) Independent study for writing and oral defense of Honors thesis. S/NC only. Prereq: consent of instructor.

470 Theories of Personality (3) Major theories of human personality and their development. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. Sp.

475 Adolescent Development (3) Theoretical perspectives and empirical research findings pertinent to adolescent development. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. F, Sp.

480 Theories of Learning (3) Classical and current approaches to learning and cognition. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. F.

482 Topics in Psychology (3) Intensive analysis of special topics, such as African-American Psychology or evaluation of programs in the community. Prereq: 110 and Junior standing (60 semester hours) or consent of instructor. Coreq: More than 6 hours of Psych 382 and Psych 482 may count toward the major. An additional 6 hours of Psych 382 and 482 may count as electives. May be repeated.

489 Supervised Research (1-9) Prereq: Junior standing (60 semester hours) and consent of instructor. Note: Any combination of 6 hours of 399, 489, 491, 492, or 493 may be used in this major. An additional 6 hours may be used as electives. May be repeated.

491 Foreign Study (1-15) Prereq: Junior standing (60 semester hours) and consent of instructor. Note: Any combination of 6 hours of 399, 489, 491, 492, or 493 may be used in this major. An additional 6 hours may be used as electives. May be repeated.

492 Off-Campus Study (1-15) Prereq: Junior standing (60 semester hours) and consent of instructor. Maximum 12 hours in 399, 489, 491, 492, and 493 may be applied toward major requirements. Note: Any combination of 6 hours of 399, 489, 491, 492, or 493 may be used in this major. An additional 6 hours may be used as electives. May be repeated.

493 Independent Study (1-15) Prereq: Junior standing (60 semester hours) and consent of instructor. Note: Any combination of 6 hours of 399, 489, 491, 492, or 493 may be used in this major. An additional 6 hours may be used as electives. May be repeated.

496 Senior Seminar: Great Ideas in Psychology (3) Key ideas that have shaped conceptions of humankind. Exploration of historical development, scientific evolution, and larger social context. Prereq: Senior standing (90 semester hours). Writing-emphasis course, F, Sp.

PUBLIC HEALTH (839)

300 Introduction to Public Health (3) Aspects of public health including discussion of contemporary and controversial health issues.

305 Disease Epidemiology, Prevention and Control (3) Foundations of epidemiology applied to infectious, acute and chronic diseases. Emphasis on the applications of public health prevention and control initiatives throughout the disease cycle. Prereq: Consent of instructor or Graduate standing. Prereq: 110, 270, 4240, 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 and/or daily living activities. Includes: Drinking water quality (chemical, physical and biological), waste management (liquid, solid and hazardous), vector control, safe food handling, and nutritional 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 Worksite Health Promotion (3) Foundations of health promotion programs delivered in the worksite that revolve around issues relative to employees and management. Emphasis on theory, program design, implementation, and evaluation from the perspective of health promotion specialists. Prereq: Consent of instructor or Graduate standing. Prereq: 1530, Sp.

493 Directed Independent Study (1-3) Individual study of selected issues. Prereq: Consent of instructor. May be repeated. Maximum 6 hours. E.

PUBLIC RELATIONS (841)


320 Public Relations Communications (3) Mechanics of effective writing and research applicable to current public relations projects. Focus on implementation of research-based, planned and managed techniques in a lab setting. Prereq: Consent of instructor. Prereq: 270 or ADV 250, and Journalism 200, or Consent of instructor.

370 Public Relations Cases (3) Oral and written analysis of current and classic case studies in public relations. Ethics, professional organizations, publications, research and analysis of public relations methods of communication and persuasion. Prereq: Consent of instructor. Prereq: 270.

412 Opinion Writing (3) (Same as Journalism 412.)

416 Issues in Public Relations (3) Topics vary. May be repeated. Maximum credit 6 hours. Prereq: Consent of instructor.

470 Public Relations Campaigns (3) Research, planning and communication and evaluation of major public relations projects. Oral and written presentation of a public relations project from inception to completion. Extensive out-of-class work. Prereq: 320 and 370 or consent of instructor.
RECREATION AND TOURISM MANAGEMENT (854)

119 Introduction to the Service Industry (3) (Same as HRA and RCS 119)

201 Recreation and Tourism Foundations and Leadership (4) Introduction to the field of leisure, recreation, and tourism focusing on understanding concepts, philosophies, and professional practices in the leisure service industry. Theories and practices of recreation leadership. F, Sp

290 Practicum in Recreation and Tourism Management (2-3) Supervised practice in approved agencies offering career opportunities in recreation and tourism. Each hour of credit requires 40 clock hours of work. Only for majors only. Prereq: Permission of instructor. S/N/NC only. E

310 Development and Evaluation of Recreation and Tourism Programs (3) Essential elements and principles in the development of Recreation and Tourism, marketing, and evaluation of various types of recreation and tourism programs. Emphasis on development of program objectives. Practical and comprehensive program designs and evaluation for population and facility within student’s area of interest. Prereq: RTM 110, Junior standing, GPA required for admission to major. A-F. Sp Su

311 Developing the Service Workspace (3) (Same as HRA 311 and RCS 311)

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

323 Diversity in the Service Marketplace (3) (Same as HRA 323 and RCS 323)

325 Therapeutic Recreation and Lifestyle Planning (3) Emphasis on how therapeutic recreation specialists can use the application of public principles as a treatment modality. Importance and role of recreation-leisure participation (humor, stress-management, self-responsibility, fitness) in the planning and delivery of therapeutic recreation service for individuals with disabilities. Prereq: consent of instructor. F

376 Strategies for Growth (3) (Same as RCS 376 and HRA 376)

390 Practicum in Recreation and Tourism Management (2-3) Supervised practice in approved agencies offering career opportunities in recreation and tourism. Each hour of credit requires 40 clock hours of work. Only for majors in Recreation and Tourism Management. Prereq: RTM 290 and permission of instructor. S/N/NC only. E

410 Management Concepts of Recreation, Tourism, and Sport Programs (3) Principles for operationalizing recreation, tourism, and sport related programs. Units address utilizing research as a management tool, assessing program cost, facility utilization and evaluation and contemporary management concepts. Prereq: RTM 110, 310 or consent of instructor. A-F, F

415 Development and Maintenance of Recreation, Tourism and Athletic Facilities (3) Principles of designing, planning, equipping, operating and maintaining various leisure facilities. Elements of risk management and safety are incorporated into the design process. Prereq: RTM 310, SM 350, or consent of instructor. A-F, F

420 Principles of Therapeutic Recreation (3) Principles and practices in therapeutic recreation, including activity analysis, activity and program selection, individual and program assessment, treatment plans, documentation, and professional issues. Prereq: 320 or consent of instructor. F

425 Therapeutic Recreation Programming (3) Principles and practices of therapeutic recreation programming for individuals with various, and multiple disabilities. Focus is on the social, interpersonal, and behavioral aspects of working with individuals in inclusive therapeutic recreation environments. Includes lab. Prereq: 320 and/or consent of instructor. Sp

430 Organization and Administration of Leisure and Tourism Services (3) Principles of administration applied to provision of leisure services offered by public, private, and/or commercial enterprises. Organizational structures, personnel management, evaluation, legal authority, introduction to budgeting and fiscal procedures. Prereq: 310 or consent of instructor. F, Su

440 Dimensions of Commercial Recreation and Tourism Enterprises (3) Organizational structures, delivery systems, financing private enterprises and operating selected tourism enterprises. Special topics. Attention is given to market performance and economic impact. Prereq: RTM 110, Junior Standing or consent of instructor. A-F, SP

450 Special Topics in Leisure Education and Tourism (1-4) Development of special topics in Recreation/Therapeutic Recreation and Tourism. A-F, E. May be repeated.

470 Tourism and Leisure Industries (3) An examination of the symbiotic relationship between tourism and various sectors of the leisure industry. Use of resources, natural and developed, and the economic impacts of these ventures. Sociocultural impacts upon the venue and how the venue impacts the local population. Sp

480 Internship in Recreation and Tourism Management (12) First hand practice in all aspects of a tourism management agency. Emphasis on supervisory, and administrative procedures. Prereq: RTM 290, all 300 level RTM courses, Senior Standing, GPA required for major. S/N/C, E

493 Directed Independent Study (1-3) Tutorial and specialized area. Prereq: Consent of instructor. May be repeated. Maximum 6 hours. S/N/C or letter grade.

REHABILITATION AND DEAFNESS (855)

223 American Sign Language I (3) Expressive and receptive skill development in sign communication. Video text and interactive teaching method used. Class conducted totally in sign. This course is a prerequisite for 226.

226 American Sign Language II (3) Expressive and receptive skill development in sign communication. Video text and interactive teaching method used. Class conducted totally in sign. Must be taken in sequence. Prereq: 223.

340 Principles of Interpreting (3) Theory and procedures appropriate to the issues involved in interpreting, transliterating between English and American Sign Language. Ethics and etiquette of interpreting in educational and community programs. History, organizations, certification procedures, trends and issues related to the interpreting profession.

350 Voice to Sign Interpretation (3) Interpreting from English to sign language in a variety of physical settings (one-to-one, classroom, assembly) for students of all ages with varying communication styles; adjusting interpretation to accommodate different student needs. Cross-cultural communication issues interpreting in a manner appropriate to the context; techniques for reducing visual fatigue and overload.

355 Sign to Voice Interpretation (3) Interpreting from sign language to English in a variety of physical settings (one-to-one, classroom, assembly) for students of all ages with varying communication styles. Selecting appropriate to the context. Attention is given to cross-cultural communication issues.

410 Practicum With Deaf/Hard of Hearing (3) Supervised practicum with hearing impaired students in pre-school, public school, and/or residential school setting. Sp

415 Language Development of Deaf/Hard of Hearing (3) Language problems of hearing impaired contrasted with scope and sequence of normal language development. Formal linguistic systems used to describe language development problems. F


419 Speech Development of Deaf/Hard of Hearing (4) Theories of speech development, approaches in training perception and production of speech, and aural habilitation. Practice experience.

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 rehabilitation professionals.

425 Introduction to the Psychology and Education of the Deaf/Hard of Hearing (3) Primarily for those planning to teach the hearing impaired. Research related to psychology, social adjustment, communication methodology, language development and deafness. Special problems and themes for hearing impaired. Survey of literature. Visits to programs.

431-432 American Sign Language III and IV (3, 3) Sequence stresses fluency of expressive and receptive sign communication skills. Using language in context is emphasized. Grammatical structures of ASL and cultural implications of the deaf community. Must be taken in sequence. Prereq: for 431: 432 or consent of instructor. Prereq: for 432: 431 or consent of instructor.

493 Directed Independent Study (1-3) Tutorial and specialized area. Prereq: Consent of instructor. May be repeated. Maximum 6 hours. S/N/C or letter grade.

RELIGIOUS STUDIES (863)

101 World Religions in History (3) Introduction to religion in culture and society, including examination of religious traditions from China, India, and the Mediterranean world. 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 religious traditions. 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 reject, reinforce, transform, ignore, or dominate their culture and society. (Same as Sociology 232.)

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 methods of criticism 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.)
RUSSIAN (886)
101-102 Elementary Russian (4,4) Must be taken in sequence.
199 Russian Language and World Business (3) This course will examine the importance of foreign trade at the local, state, and national levels. An interdisciplinary team of faculty from the colleges of Business and Arts and Sciences will provide an overview of the value of language study and international cultural awareness in world business. Restricted to students in the Language and World Business program. See the Director for further information. F
201-202 Intermediate Russian (4,4) Must be taken in sequence.
221 Rebels, Dreamers and Fools: The Outcast in 19th Century Russian Literature (3) Texts in English translation. No foreign language credit. Writing-emphasis course.
311-312 Russian Composition and Conversation (3,3) Practice in writing and speaking; grammar review and vocabulary building. Prereq. Completion of 202.
325 Russian Film (3) A study of Russian cinema from the earliest days to the present. Writing-emphasis course. (Same as Cinema Studies 325.)
371 Martyrs, Mobs, and Madmen in Russian Culture: 1888-1963 (3) Explores various aspects of Russian music, art, and literature, emphasizing violent cultural clashes that produced extreme artistic reactions. Texts in English translation. Writing-emphasis course.
372 Eros, Death and Resurrection in Modern Russian Culture (3) Examines the obsessions which underlay the intellectual and cultural ferment of 20th Century Russian music, art, and literature. Texts in English translation. Writing-emphasis course.
401-402 Advanced Grammar, Conversation, and Composition (3,3) Prereq. 312 or equivalent.
424 Nabokov's Novels and Stories (3) An intensive course covering several novels and stories, the memoir, and some scientific writings of the prolific Russian-American author. Particular attention given to the author's philosophical views and the contact between his science and his art. In English; readings in Russian for majors. Writing-emphasis course.
430 Selected Topics in Russian Literature (3) When content varies, may be repeated for credit. Writing-emphasis course. Maximum 9 hours.
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.
490 Internship (1-15) Career-related experiences in the United States or abroad with permission of the Language & World Business Director. For Language and World Business majors only. Satisfactory/No Credit only.
491 Foreign Study (1-15)
493 Independent Study (1-15)

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.
443 Sports and Recreational Safety (3) Accident prevention and injury control in sports activities; philosophy of sports safety; human environmental factors and interrelationships in sports injury and control; risk-taking and decision solution strategies; and contributions of sports medicine to safety. 3 hours and 2 labs. Sp
452 Safety Principles and Practices (3) An introduction to the general principles, practices, and procedures in occupational and community safety. A survey of historical and present safety issues, problems, and practices addressing safety of individuals and groups in work-site, school, community, transportation, and industrial settings. Junior/senior standing or consent of instructor. F, Su
460 Fire Risk Management (3) Provides the knowledge and skills necessary to develop, implement, and manage a comprehensive fire safety program. Incorporates basic fire safety principles, codes, and an exposure to basic fire analysis techniques. Prereq: Senior standing or permission of instructor.

SCIENCE EDUCATION (899)
496 Teaching Science Grades 7-12 (3) Methods, materials, recent trends in science and environmental education programs for secondary schools. Prereq: Admission to Teacher Education Program. F

SOCIAL SCIENCE EDUCATION (900)
454 Teaching Strategies and Issues in Social Studies Education (3) Goals, objectives, techniques, materials, and evaluation; directed observation in public schools, preparation of teaching plans and materials; simulated teaching experiences. Prereq: Admission to Teacher Education Program. F

SOCIAL WORK (905)
200 Introduction to Social Work (3) Emergence of the social work profession; professional mission; knowledge, skills, and values; practice settings; client groups; helping services; career patterns; practice methods. Designed to assist students to consider their ability for careers in social work.
310 Social Work Research (3) Scientific method and research strategies to evaluate one’s practice and/or social service delivery. Knowledge of statistical techniques required. Prereq: Mathematics 115 or Psychology 385. Coreq. 380.
312 Social Work Practice I (3) Knowledge, values, and skills for entry level generalist practice in a variety of settings. Topics include: social work methods, different client systems, ethno-sensitive assumptions, and the worker’s regard for person-environment configuration. Concurrent skills laboratory. Prereq: Initial progression. Pre or Core 314.
314 Human Behavior and the Social Environment (3) Interrelatedness of biological, social, cultural, environmental and psychological factors in human behavior. Perspectives on life 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.
316 Culturally Responsive Social Work Practice (3) Social work practice with diverse populations. Variables including race, ethnicity, gender, class and sexual orientations as they relate to generalist social work practice. Students develop self-awareness of their own culture and the culture of others, acquire knowledge and understanding of the impact of oppression or power relations. Coreq: Initial progression.
380 Field Practice in Social Work I (3) Eight-hour-per-week, supervised field experience with practice situations for developing professional skills, values and attitudes. Concurrent seminar in professional knowledge with practice experiences. Prereq: Initial progression. Coreq: 313 and 310.
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412 Social Work Practice III (3) Generalist practice with emphasis on groups and communities, including treatment theories, techniques, and issues. Prereq: Full progression. Coreq: 416 and 480.


460 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.


491 Foreign Study (1-15) Prereq: Consent of instructor.

492 Off-Campus Study (1-15) Prereq: Consent of instructor.

493 Independent Study (1-15) Prereq: Consent of instructor.

SOCIOLOGY (915)

110 Social Problems and Social Change (3) Increasingly acute social problems such as alcoholism, violence, crime, inequality, lifestyle preferences, and environmental abuse within the context of social change. Assessment of control strategies.

117 Honors: Social Problems and Social Change (3) Open to University Honors students and by departmental permission to first year students with 28 or higher ACT or 1200 SAT and other students with a minimum of a 3.0 average.

120 General Sociology (3) Major concepts and theoretical approaches with emphasis on culture, socialization, social organization, and social stratification.

127 Honors: General Sociology (3) Open to University Honors students and by departmental permission to first year students with 28 or higher ACT or 1200 SAT and other students with a minimum of a 3.0 average.

232 Varieties of Religious Community (3) (Same as Religious Studies 232.)

291 Sport in American Society (3) (Same as Cultural Studies in Education 291.)

310 American Society (3) Institutional organization of contemporary American society with particular attention to major social values. Writing-emphasis course.

311 Family (3) Theoretical frameworks and methodological approaches; their application in the sociological study of family life. Writing-emphasis course.

320 Interpersonal Communication Processes (3) (Same as Speech Communication 320.)

321 Sociological Theory (3) Survey of contemporary issues and problems in sociological theory with an emphasis on their historical development and their importance today. Students are required to form critical appraisals of the topics addressed. Prereq: C+ or better in Sociology 110 or 120 or consent of instructor.

331 Sociological Research (3) Selected issues in philosophy of social science, research design, sampling, methods of data collection, and interpretation. Requires written research report. Prereq: C+ or better in Sociology 110 or 120 or consent of instructor. (Same as Legal Studies 331.)


343 Race and Ethnicity (3) Social sources of racial and ethnic cleavages and social, economic, and political consequences of stratification in the United States. (Same as African and African-American Studies 343 and American Studies 343.) Writing-emphasis course.

344 Power and Society (3) Sociological analysis of the formation and application of nation state policies. Examination of who gets what, why, and how. Emphasis on government construction of the control of the state and the relative autonomy of the state.

345 Collective Behavior and Social Movements (3) Collective phenomena leading to social change. Response to disaster, popular crazes, and social protests and an examination of the function and effects of social movements. Emphasis on American cases. (Same as American Studies 345.)

350 Criminology (3) Systemic inquiry into alternative definitions of crime, statistical distribution of different types of crime, and responses to crime, primarily by the police.


352 Deviance and Social Control (3) Deviants, their lifestyles, social organization, and social control.

360 Environment and Resources (3) Relationship between scarcity of natural resources and changes in societal beliefs and social structure. Topics include social and physical limits to growth and collective action problems.

370 Social Psychology (3) Social psychological analysis of social behavior emphasizing its acquisition, its enactment, and its dynamic nature.

375 Gender in Society (3) Exploration of gender in shaping various sociological perspectives with special focus on the relationships between social structures, social roles, and gender identities. (Same as Women’s Studies 375.)

380 Rural Sociology (3) (Same as Rural Sociology 380.)

389 Off-Campus Internship (1-6) Supervised experience at an approved site. Analysis of internship experiences with sociological tools provided through readings and class discussions. Oral and written reports required. Prerequisite: Departmental consent and senior standing in the major.

400 Special Topics (3) Variable topics. Scope of subject matter determined by students and instructor with consent of department. Prereq: Determined by department. May be repeated. Maximum 6 hours.

405 Sociology of Sport (3) Social meaning, organization, and process of sport. Prereq: 291 or consent of instructor. (Same as Cultural Studies in Education 405.)

414 Sociology of Health Care (3) Organization of health care facilities, staff-patient relationships, demographic characteristics, and prevalence of disease.

415 Sociology of Aging (3) How roles and statuses change with age in relation to the major social institutions; the impact that rapid increasing number of older people have on society, the effect of society on older people.

442 Comparative Poverty and Development (3) A critical examination of patterns of poverty and inequality in developing areas of the world, along with a review of major sociological theories which attempt to explain differences in patterns of development. Writing-emphasis course. (Same as African and African-American Studies 442.)

446 The Modern World System (3) Critical examination of the modern state-system as a social system, its coherence, boundaries, regions, member groups, cleavages, and patterns of conflict. Analysis of who gets what, why, and how in the global political economy. Writing-emphasis course.

451 Criminal Justice (3) A critical assessment of the criminal justice apparatus and its components. Brief examination of the police, with most of the emphasis on the courts and correctional institutions and programs such as the prison, probation, and parole. Analysis of their operation and impacts. Prior completion of 350 is recommended. (Same as Legal Studies 451.)

455 Society and Law (3) How laws and legal processes are affected by social change, the social impact of legal sanctions, relations between law and social justice. Writing-emphasis course. (Same as Legal Studies 455.)

459 White-Collar Crime (3) The distinctive nature and dynamics of white-collar crime, victims and costs of white-collar crime, organizations as white-collar offenders, causal theories, and the dynamics of responses to white-collar crime by private and public parties.

462 Population (3) Demographic factors and social structure; trends in fertility, mortality, population growth, migration, distribution, and composition; population policy.

464 Urban Ecology (3) The relation of humans to their urban environment with emphasis on conservation and the use of appropriate technology. (Same as Urban Studies 464.)

465 Social Values and the Environment (3) Human dimensions of ecosystem management and public policy. An applied focus on how social values are activated within specific biophysical and social settings. Prereq: 110 or 120 or consent of instructor.

471 Sociolinguistics (3) (Same as English 471 and Linguistics 471.)

491 Foreign Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

492 Off-Campus Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

493 Independent Study (1-15) Prereq: Advance departmental approval of number of hours and topics. May be repeated. Maximum 15 hours.

SPANISH (924)

111-112 Elementary Spanish (3,3) Language laboratory required. Must be taken in sequence. Not available to students eligible for Spanish 150. E

150 Intermediate Spanish Transition (3) This course is designed to prepare students for enrollment in Spanish 211. Prereq: Two years of high school Spanish a placement score below a level 100 course admittance to Spanish 211. This class will not count toward the College of Arts and Sciences intermediate-level foreign language requirement. Students majoring in the program in Language and World Business. See the Director for further information. F

211-212 Intermediate Spanish (3,3) Prereq: 150 or 112 or Departmental Placement Exam. Must be taken in sequence. Students who place in 200 level courses from high school will receive six hours of elementary Spanish credit. E

217-218 Honors: Intermediate Spanish (3,3) Honors course for students of superior ability in Spanish. Incoming freshmen are admitted on the basis of a diagnostic test, high school average and performance on the ACT. Classes normally held to a maximum of 15 students. Students following the full four-year sequence. F

300 Transition: Composition and Grammar through Reading (3) Provides preparation in writing skills and exercise in key elements of grammar through the development of basic vocabulary, sentence construction, sentence and paragraph structure, and compositions on assigned topics. Available to non-native or non-bilingual students of Spanish only. Prereq: Spanish 212 or equivalent or appropriate score on Spanish placement test.

305 Conversation and Aural Comprehension (3) Develops speaking and listening comprehension skills through a variety of in-class and extra-class activities. Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines. Prereq: Spanish 212 or 218 or permission of department.
323 Upper-level Grammar and Composition (3) Study of the more challenging grammatical issues in Spanish with practical application in composition assignments. An in-depth review of basic covered in previous courses. Emphasis on introduce finer points. Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines. Prerequisite: Spanish 218 or 300 or permission of department. Writing emphasis course.

330 Textual Analysis (3) Introduction to the art of reading and interpreting literary texts and the writing of critical essays, with attention to language structures, literary terminology, theory and concepts such as romance, tragedy, comedy, irony, narrative voice, symbol, meta- phor, etc. Wiley’s book also works such as short stories, one-act plays, essays, and letters. Prerequisite: Spanish 323. Writing emphasis course.

331 Introduction to Hispanic Culture (3) Introduction to the fundamental historical, political and demographic developments that led to the creation, the diverse distribution and distinctive character of Hispanic cultures, with attention to those qualities that distinguish Hispanic culture from other cultures, as well as to ethnic and linguistic components of the Hispanic world in the present day. Prerequisite: Spanish 323. Writing emphasis course. (Same as Latin American Studies 331.)

332 Survey of Spanish Literature: 1700-PreSent (3) Main writers, trends, stylistic periods and artistic movements in Spain and Spanish America up to 1700 set against a broad background of cultural, socio-political and historical developments. Emphasis on Neo-classicism, the Enlightenment, the Romanticism, the Realism, and the Modernismo. Prerequisite: Spanish 323 and 330. Writing emphasis course. (Same as Latin American Studies 332.)

333 Survey of Spanish-American Literature: 1700- Present (3) Main writers, trends, stylistic periods and artistic movements in Spanish America since 1700 set against a broad background of cultural, socio-political and historical developments. Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines. Prerequisite: Spanish 323 and 330. Writing emphasis course. (Same as Latin American Studies 333.)

345-46 Language and Culture of the Hispanic Business World (3) Commercial vocabulary, business letters, import-export, marketing. Hispanic social management culture, and the global significance of economic & political developments in the Hispanic world. Development of the Spanish language of all Spanish majors with a concentration in Language and World Business. Prerequisite: Spanish 323 or permission of department. Spanish 323 and 330. Writing emphasis course. (Same as Latin American Studies 343.)

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. Prerequisite: 6 hours of Latin American Studies courses or consent of instructor. Writing emphasis course. (Same as Latin American Studies 401.)

402 Latin American Studies Seminar (3) Selected topics in Latin American Studies. May be repeated. Maximum 6 hours. Prerequisite: 6 hours of 300 or 400 level Latin American Studies courses counted as upper-division credit and consent of instructor. Writing emphasis course. (Same as Latin American Studies 402.)

421 Phonetics (3) Prerequisite: 323 or permission of instructor.

422 Advanced Grammar and Translation (3) Structure of the grammatical system of Spanish. In-depth analysis of selected syntactic phenomena with practical illustration/application and exercise in Spanish-English and English-Spanish translation, including the economic grammatical structures. Not available to native or bilingual students of Spanish without permission of department. Prerequisite: 323. Writing emphasis course.

423 Advanced Composition and Conversation (3) Develops writing and speaking skills to the advanced level, covering a wide range of topics and situations and including a variety of in-class and extra-class activities. Not available for credit for students whose level of proficiency in Spanish is superior as defined by the ACTFL Proficiency Guidelines. Prerequisite: 323 and permission of department. Writing emphasis course.

425 Introduction to Descriptive Linguistics (3) (Same as French 425, German 425, Russian 425 and Linguistics 425.)

426 Methods of Historical Linguistics (3) (Same as Russian 426, French 426, German 426 and Linguistics 426.)

429 Romance Linguistics (3) (Same as French 429 and Linguistics 429.)

430 Topics in Hispanic Linguistics (3) Introduction to the study of the Spanish language through different areas of linguistics such as phonology, morphology, syntax, semantics, sociolinguistics, dialectology and language second acquisition. Prerequisite: 323, 330, 331 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course. (Same as Linguistics 431.)

433 Images of Woman in Hispanic Literature (3) Examines major Hispanic texts (and/or women authors) in the context of the relation of female individuality to a particular social context, the role of women in society, patriarchal tradition, woman as cultural and as aesthetic value (‘the feminine symbolic’), and feminist theoretical issues. Prerequisite: Spanish 323 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course.

434 Hispanic Culture through Film (3) Analysis of selected films on subjects concerning life, culture, and artistic traditions in the Hispanic world; exploration of ideological, philosophical, social, and political implications of films and a comparison of them with treatments of similar subjects in other fields of Hispanic culture. Prerequisite: Spanish 323, 330 and completion of major or minor requirements in 332, 333, and 334. Taught in Spanish. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course. (Same as Cinema Studies 434.)

461 Special Topics (3) Focus on some aspect of Hispanic literature, culture, linguistics, or foreign language pedagogy. Topics vary. May be repeated with consent of department. Maximum 6 hours.

465 Latin American Film and Culture (3) Explores Latin American and Latino/a films and videos from 1900s to present as works of art and in light of political, cultural, and historical contexts presented in English. Not available for Spanish major or Spanish graduate credit. Graduate credit available for Latin American Studies and Cinema Studies majors. Consent of instructor. 1 hour discussion. Writing emphasis course. (Same as Latin American Studies 465 and Cinema studies 465.)

479 Disenchedanted Texts in Hispanic Literature (3 Texts representing trends and periods of renewal in Spain and Latin American countries. Selected topics on traditions in crisis. Content will vary. Prerequisite: Spanish 323, 330, 331 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course. (Same as Latin American Studies 479.)

480 Social Forces in Hispanic Literary Expression (3) Analysis of major Hispanic texts that address factors and events that influenced and/or continue to influence the political, cultural, and historical contexts of the Hispanic world. Prerequisite: Spanish 323, 330 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course.

482 Trends in Hispanic Thought (3) Intellectual/philosophical currents represented in literary works, selected thinkers, or movements from historical periods of Spain and Latin America, including Latin American philosophy and the Latin American Arts. Prerequisite: Spanish 323, 330 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course.

483 Race, Ethnicity, and Nation in Hispanic Literature (3) Close reading and analysis of literary texts that deal with issues of race and ethnicity in the Hispanic world, experimenting with regard to identity and concepts of nationhood. Among possible course topics: mestizaje, conceptual distinctions between race and ethnicity in Latin America, indígenismo: afrocentrism: issues of monarchy and empire; relationship between Jews, Christians, and Moors in Spain. Prerequisite: Spanish 323, 330 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course.

486 Literary and Artistic Movements in the Hispanic World (3) Examination of relationships (thematic, cultural, socio-political, aesthetic, philosophical, etc.) between specific trends in literature and other artistic media, in the light of the historical contexts in which those relationships emerged. Prerequisite: Spanish 323, 330 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course.

489 Topics in Hispanic Civilization (3) Analysis of major trends, issues and/or movements in the civilizations of Spain and Spanish America. Political, literary, and cultural perspectives dealing with topics from the Middle Ages to the present day may be explored. Prerequisite: Spanish 323, 330 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course.

490 Internship (1-15) Career-related experiences in the field of Hispanic studies. 1 hour lecture, 2 hours screening, and 1 hour discussion. Writing emphasis course. (Same as Cinema Studies 434.)

493 Independent Study (1-15)

498 Topics in Hispanic Civilization (3) Analysis of major trends, issues and/or movements in the civilizations of Spain and Spanish America. Political, literary, and cultural perspectives dealing with topics from the Middle Ages to the present day may be explored. Prerequisite: Spanish 323, 330 and completion of major or minor requirements in 332, 333, and 334. May be repeated. Maximum 6 hours with permission of department. Writing emphasis course.

499 Community Service Practicum (1) Supervised community service with local agencies that assist Hispanic community; or supervised activities with local community groups. Topics vary, subject to approval of department. Prerequisite: completion of 18 hours of upper-division Spanish and consent of instructor. Maximum of one credit hour per semester. May be repeated. Maximum 3 hours.

SPECIAL EDUCATION (932)

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 policies. Prerequisite: Admission to Teacher Education Program. Sp

320 Special Education Strategies (3) Introduction to the numerous strategies and curricula used in special education, including the nature and causes of disabling conditions, family systems, a history of the field, and current policies. Prerequisite: Admission to Teacher Education Program. Sp

402 Professional Studies: Special Education and Diverse Learners (2) Characteristics and needs of students with disabilities and diverse learners with emphasis on educational implications. Techniques, strategies and resources for teaching students with special learning, behavioral or medical needs, and the implementation of service delivery models. Prerequisite: Educational Psychology 210 and Admission to Teacher Education.

419 Psychology and Education of Students with Mild Disabilities (6) Nature and characteristics of persons with mild disabilities. Survey of the educational and social characteristics of the language appropriate for these persons. Prerequisite: 310, 320 and Admission to Teacher Education Program. Coreq: 420. F

420 Field Experience in Modified Programs (3) Practicum in teaching in modified programs: planning, developing, implementing, and evaluating instruction. Prerequisite: Spanish 310, 320, and Admission to Teacher Education Program. Coreq: 420. Satisfactory/No Credit only. F

431 Field Experience in Comprehensive Programs (3) On-site teaching experience with moderately and severely handicapped children. Prerequisite: Spanish 310, 320, and Admission to Teacher Education Program. Coreq: 430. Satisfactory/No Credit only. Sp

204 Courses of Instruction
SPHERE COMMUNICATION (943)

100 Introduction to Speech Communication (3) Fundamental theories and practices with particular reference to intrapersonal, interpersonal, group, organizational, and public communication.

107 Honors: Introduction to Speech Communication (3) Analysis of past and present school practices in reference to curriculum and program implementation. Pre_req: Admission to Teacher Education Program.

456 Speech and Language Basis of Learning Disabilities in the Classroom (3) Normal communication development, understanding of speech and language impairments in school-age students; integration of oral/written communication skills into existing curriculum, especially for high incidence special education students. Sp

470 Psychology of the Exceptional Child (3) General characteristics and educational needs of exceptional children. Implications of developmental variations for functioning as adults. Enrollment limited to non-education majors.


350 Communication Theory (3) Survey of social science approach to theorizing about communication. Prereq: 100.

390 History of Rhetorical Theory (3) Western rhetorical theory from Plato to the present. Prereq: 100.

397 Honors Seminar (1) Required of students enrolled in the honors program; admission with consent of department.

400 Topics in Speech Communication (3) Variable content course affording opportunity to study subject matter not covered in an existing course. Topics, scope of subject matter, and prerequisites to be determined by department. May be repeated. Maximum 6 hours. Major credit limited to 3 hours.

420 Communication and Conflict (3) Communication as a significant factor in the development, management, and resolution of conflict at the interpersonal, small group, organizational, or societal levels.

425 Interpersonal Health Communication (3) Interpersonal communication in health care settings. Topics include provider-client interactions, social support groups, stigma and disease, and contemporary models explaining the use of health-related information.

430 Family Communication (3) Dynamics of interactions within family systems, marriage, and parent-child relationships. Study of verbal and nonverbal communication processes, patterns, and problems. Prereq: Child and Family Studies 220 or Speech Communication 320 or consent of instructor. (Same as Child and Family Studies 430.)

440 Organizational Communication (3) Organizational settings 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 nonprofit organizations, culminating in a written and oral report. Reserved for Junior/Senior level majors with at least a 3.0 GPA, or by special permission of Internship Director. S/NC grading only. May be repeated; maximum 6 hours.

450 Propaganda (3) Study of political, commercial, and social propaganda in United States, World War I to present. Writing emphasis course.

466 Rhetoric of the Women’s Rights Movement to 1930 (3) Historical and critical study of public address in the campaign for women’s rights in the United States from the 1830s to the 1920s. (Same as Women’s Studies 466.) Writing-emphasis course.

469 Freedom of Speech (3) Historical and philosophical perspectives on freedom of expression, legal issues in free speech controversies, and the U.S. Writing emphasis course. (Same as American Studies 469 and Legal Studies 469.)

476 Rhetoric of the Contemporary Feminist Movement (3) Historical and critical study of Rhetoric in the campaign for women’s rights in the United States from the 1940s to present. (Same as Women’s Studies 476.) Writing-emphasis course.

491 Foreign Study (1-15) See description of major concentration. Prereq: Junior/Senior standing with at least a 3.0 GPA; consent of supervising faculty member and Department prior to registration (see Department for proposal deadlines). May be repeated to a maximum 15 hours.

492 Off-Campus Study (1-15) See description of major concentration. Prereq: Junior/Senior standing with at least a 3.0 GPA; consent of supervising faculty member and Department prior to registration (see Department for proposal deadlines). May be repeated to a maximum 15 hours.

493 Independent Study (1-15) See description of major concentration. Selected readings/research in an area of speech communication to be determined by the student in consultation with a faculty member and, ordinarily, in an area of study not covered by departmental curriculum. Application forms available in department office. Prereq: Junior/Senior standing with at least a 3.0 GPA; consent of supervising faculty member and Department prior to registration (see Department for proposal deadlines). May be repeated to a maximum 15 hours.

497-498 Senior Honors Thesis (3,3) Required of students enrolled in the honors program; admission with consent of the department.

499 Proseminar in Speech Communication (1-3) Major theoretical perspectives in speech communication, their interrelationships and applications; consideration of the significance and ethical implications of speech communication in modern society. The course will cover two or more areas of the discipline. Prereq: Senior standing and completion of 100 and at least 12 hours of major requirements in speech communication. Writing-emphasis course.

SPORT MANAGEMENT (957)

100 Orientation to Sport Management (1) Overview of the sports industry and Sport Management major. Taken the first semester as pre-major. F, Sp

250 Foundations of Sport Management (3) An introduction to the scope of the sport enterprise including why business is involved in sport and an overall evaluation of sport management as a profession. Prereq: Sport Management 100. F, Sp

290 Practicum 1 (3) Supervised part-time field experience at an approved site for the purpose of clarifying career goals. Requires a minimum of 120 clock hours. S/NC only. Prereq: Sport Management 100 and progression into the Sport Management major. F, Sp

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. Prereq: Consent of instructor.

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. 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.

330 Sport Communication (3) An introduction to the communications industry and its relationship with sport. Students will explore cultural issues, such as gender and ethnicity, and their relationship to sport and media. The course will also provide students opportunities to develop practical communication skills and learn how media and sport interact.

350 Sport Management: Theory to Practice (3) Overview of managerial theories and applications including responsibilities and practices associated with broad perspectives of sport enterprise. Prereq: Progression into the major, minimum 2.5 GPA, and Sport Management 250 and 290. F, Sp

370 Event Management (1-3) Study of the various principles involved in the development, planning, and management of special events. Students will combine theory and practice through experience with assigned special events. Prereq: Sport Management 290 or consent of instructor.

380 Special Topics (1-3) Study in selected disciplinary or professional areas of Sport Management. May be repeated.
365 Statistical Process Control (3) Concept of special versus common causes of variation. Construction and interpretation of control charts for attributes and vari-
abes data. Pareto charts, cause/effect diagrams, and process flow diagrams. Rational subgrouping issues. Process capability analysis and capability indices. Sta-
istics of control charts; selection and resolution of measurement processes. Quantifying components of variation. Introduction to design of techniques. Discus-
ion of enumerative and analytical statistical techniques.
Prereq. 201 or 251. E


473 Experimental Design Analysis (3) Design and analysis of single factor and many-factor studies. Residual analysis and checking assumptions. Transfor-
ations. Sample size determination and power analysis. Analysis of variance for complex experiments. Fac-
tional factorial and incomplete block designs. Use of standard computing packages. Major writing require-
ment. Prereq. 330. Sp

475 Time Series Analysis (3) Model building techniques for univariate time series data. Box-Jenkins forecasting methods, forecasting based on exponential smoo-
thing, non-stationary time series autoregressive, analysis of residuals. Use of computer packages. Major writing requirement. Prereq. 320. Sp

483 Special Topics in Statistics (1-3) Topics vary. Prereq. Consent of instructor. May be repeated. Maxi-
num 6 hours.


492 Internship (1-4) 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 Chair-
person of the Statistics Department Undergraduate Affairs Committee. Satisfactory/No credit only. May be repeated. Maximum 6 hours.

493 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 or statistical methods, with permission of instructor(s). May be repeated for a total of 9 hours.

320 Regression and Correlation Methods (3) Simple linear regression and correlation analysis, time series analysis, multiple regression, variable selection, regres-
sion diagnostics, partial correlation, and categorical data analysis techniques. Use of statistical computing soft-

322 Regression Analysis (3) Linear regression and correlation analysis, time series analysis, multiple regression, variable selection, regres-
sion diagnostics, partial correlation, and categorical data analysis techniques. Use of statistical computing soft-

330 Experimental Methods (3) Strategies of experimen-
tation, randomization, blocking, factorial experiments, sequential experimentation, blocking and run order re-

201 Introduction to Statistics (3) Data collection; descriptive statistics. Concepts of probability and probabil-
ity distributions. Estimation of means; confidence intervals; hypothesis tests for single mean and proportion. Simple regression and correla-
tion. Contingency tables. Process improvement and statistical process control. Use of statistical comput-
ing software. Applied course appropriate for a general audience. Prereq. Math 125 or 141. E

207 Honors Introduction to Statistics (3) intended as an alternative to 201 for higher GPA students. Involves both lecture and labs, prerequisite: MA 125, 141, or 147 Two 50 minute lecture classes, and one 110 minute lab per week.

251 Probability and Statistics for Scientists and Engineers (3) Data collection; descriptive statistics. Concepts of probability and probability distributions. Discrete and continuous distributions. Estimation of means, confidence intervals, hypothesis tests for single mean and proportion. Simple regression and correla-
tion. Process improvement and statistical process control. Two-level experiments. Use of statistical computing soft-
ware. Prereq. Math 142. F, Sp

300 Play Analysis (3) Study of methods and tools used in script analysis for the purpose of play production. Prereq. 101. F


323 Stage Movement (3) Introduction to movement/ locomotion and awareness. Techniques for developing and resolving movement. Prereq. 220 or permission of instructor.

326 Advanced Voice and Speech (3) Breath-centered voice production; exploration and control of shaping sound; IPA; text work; Geared toward acting for the stage.

340 Introduction to Costume Design (3) Development of research and rendering skills. Prereq. Theatre 200 or consent of instructor.

355 Introduction to Scenic Design (3) Introduction to art and craft of scenic design.

362 Introduction to Lighting Design (3) Mechanics and theory of stage lighting; problems in basic lighting practice. Prereq. Theatre 200 or consent of instructor.

401 Principles of Theatrical Design (3) Visual and structural relationships in theatrical design.

409 Stage Make-Up (3) Study and problems in makeup design and application with emphasis on character analysis. Prereq. 100.

410 Special Studies in History, Literature and Criti-
cism (3) Content varies. Concentrated study in a given period or area of Theatre History, Literature or Criticism. May be repeated.

411 Theatre History I (3) Antiquity to 1700. Major historical periods and diverse cultural traditions in world theatre history. Prereq. Theatre 300 or consent of instructor.

412 Theatre History II (3) 1700 to contemporary theatre. Major historical periods and diverse cultural traditions in world theatre history. Prereq. Theatre 300 or consent of instructor.

420 Special Studies in Acting (3) Content varies. Exercises in selected concerned areas such as style, techniques, approaches, e.g., Shakespeare, movement, humor. Prereq. 320 and consent of instructor. May be repeated. Maximum 9 hours.

421 Theatre Projects in International Theatre (3-5) Study and performance of foreign works. Content varies. Language skills required. Prerequisite: Theatre 320 and permission of instructor(s). May be repeated for a total of nine (9) hours.

425 Selected Musical Theatre Techniques (2) Study and performance of musical theatre material including both dance and vocal work. May be repeated. Maximum 4 hours.

430-33 Principles of Play Directing (3,3) Problems in composition, picturization, rhythm, movement. Prereq. 220. Must be taken in sequence.


446 Costume Patternmaking (3) Draping patterns for period costumes. Includes corsetry and the study of historic patterns 1500-1900.

450 Advanced Scenography Technology I (3) Study and practice of theatre woodworking; production participation will be required. Graduate credit available to theatre M.F.A. students only.

451 Advanced Scenography Technology II (3) Study and practice of metalworking and plastics for theatrical productions; production participation will be required. Graduate credit available to theatre M.F.A. students only.

452 Advanced Scenography Technology III (3) Study and practice of stage rigging for theatrical productions; production participation will be required. Graduate credit available to theatre M.F.A. students only.

454 Scenery Painting (2) Introduction to materials, techniques, and principles of the craft. Emphasis on gaining skill and understanding through studio experi-
ence. Prereq. Consent of instructor.

456 Rendering (3) Techniques in monochrome and full color illustration of space and form. Some acquaintance with basic mechanical perspective and freehand sketch-
ing is assumed.
462 Advanced Lighting Design (3) Advanced problems in lighting design and theory including areas such as lighting musical theatre, opera, and dance. Prereq: 362 or consent of instructor.

464 Computer Assisted Design for Theatre (3) Advanced techniques in computer assisted design for theatre. Work with CAD, Computer Drawing, Graphics, and/or 3D modeling software for preparation of theatrical designs. Specific content varies with semester. Admis-
sion by consent of instructor only. May be repeated. Maximum 9 hours.

470 Playwriting (3) Advanced instruction in the writing of plays. Prereq. Consent of instructor.

481 Applied Theatre (1-2) Laboratory in applied theatre techniques. Small group discussion of various topics. Open to all students. Minimum of 6 hours. E

491 Foreign Study (1-15) May be repeated. Maximum 12 hours. E

492 Directed Independent Study (1-3) Undergraduate honors student. May be repeated. Maximum 6 hours. Satisfactory/No Credit

493 Independent Study (1-15) May be repeated. Maximum 15 hours. E

495 Special Topics (1-3) Topics to be assigned. May be repeated. Maximum 12 hours. E

UNIVERSITY HONORS (983)

117-127 Honors Freshman Seminar (1,1) Sequence required of and limited to all freshman honors students. 117 concentrates on computer skills, contemporary issues, and writing. 127 concentrates on critical thinking, contemporary issues, and international study. Satisfactory/No Credit only. Sp, F

337 Honors: Concentration in the Humanities (3) Small group studies of selected topics, issues or problems with a concentration in the humanistic disciplines. Open to all students with a GPA of 3.25 or greater. Topics vary. May be repeated.

338-348 University Scholars Seminar (1,1) Selected topics; enrollment limited to students in The University Honors Program with permission of Director of University Honors. May be repeated. Maximum 6 hours. Letter grade only.

347 Honors: Concentration in the Social Sciences (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.

357 Honors: Concentration in the Natural and Applied Sciences (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.

458 Senior Honors Seminar (1) Development and presentation of senior honors project limited to and required of all graduating students in The University Honors Program. Should be taken one semester prior to the semester of graduation. Satisfactory/No Credit grading only.

491 Honors: Foreign Study (1-15) 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 (1-15) Open to any undergraduate honors student. Proposals must be approved in advance. See the Director of University Honors for further information.

493 Honors: Independent Study (1-15) Open to any undergraduate honors student. Must be used by all University Honors Scholars preparing their senior projects. Proposals must be approved in advance. See the Director of University Honors for further information. Letter grade only.

494 Honors: Off-Campus Study (1-15) May be repeated. Maximum 9 hours. Permission of instructor.

495 Honors: Independent Study (1-15) May be repeated. Maximum 12 hours. E

UNIVERSITY STUDIES (984)

101 Lives and Times (3) Study of biography, autobiography, and biographical theory including factors that shape individual lives. Writing emphasis. Intended for entering students.

210-220 Special Topics in University Studies (1-9, 1-10) Interdisciplinary approaches to selected topics for lower division students. Small group discussion of various topics that transcend the boundaries of a single discipline. Writing intensive and team taught. May be repeated maximum 9 hours. Permission of instructor required. Variable credit.

227 Honors: Topics in University Studies (3) Interdis-
ciplinary approach to a significant scholarly or social issue for lower division students. Small group discussion of various topics that transcend the boundaries of a single discipline. Writing intensive. May be repeated. Maximum 9 hours. Permission of instructor required.

310-320 Special Topics in University Studies (3,3) Interdisciplinary approaches to issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrangements with the University Studies Program. Taught by faculty from throughout the University (often team-taught). Discussion based and writing intensive. May be repeated. Maximum 9 hours.

311 AIDS and Society (3) Speakers from across the state speak about scientific, social, medical, emotional and financial aspects of acquired immunodeficiency syn-
drome. Students are required to participate in some AIDS related community activity and to describe that activity in writing.

317 Honors: Special Topics in University Studies (3) Honors course utilizing an interdisciplinary approach to a significant scholarly or social issue. Topics change every semester. Consult timetable for current offering. Discussion based and writing intensive. May be repeated. Maximum 9 hours. Permission of instructor required.

321 Aging and Society (3) Multidisciplinary examination of the process of aging and of the medical and community resources for coping with its stresses and challenges.

322 Technology, Society and the Common Good (3) Explores philosophical and religious systems with a commitment to stewardship of the planet and those with an antagonistic or neutral perception of the natural world. Systems are presented in conjunction with cul-
tural and species extinctions caused by or related to their beliefs and values.

410-420 Advanced Topics in University Studies (3,3) Interdisciplinary research approaches to major issues transcending the boundaries of a single discipline. Topics may be initiated by faculty or students through arrange-
ments with the University Studies Program. Taught by faculty from throughout the University (often team-
taught). Discussion based and writing intensive. May be repeated. Maximum: 9 hours.

411 Art and Organism (3) Interdisciplinary investigations of the relationship between art and biology. Readings and dis-
cussions focus on the idea that, while art is one of the most wholly human cultural endeavors, it is undeniably linked to, if not emergent from, our basic biology.

412 Normandy Scholars Seminar: War and Remem-
brance (9) Enrollment is limited to honors students selected for the Normandy Scholars Program. Students take course work and travel as a learning community during their time in the program. The course has three co-
ordinated components: (a) Values and Politics, (b) 20th Century French Literature, Culture, and Language, and (c) World War II. The course is team taught by members of various departments, and prepares students for the culminating integrative four weeks of study in France during the Summer Term. Co-requisite: University Honors. Writing emphasis course.

417 Honors: Advanced Topics in University Studies (3) Honors course utilizing an indepth interdisciplinary re-
search approach to a significant scholarly or social issue. Topics change every semester. Consult timetable for current offering. Discussion based and writing intensive. May be repeated. Maximum 9 hours. Permission of instructor.

491 Foreign Study (1-15) May be repeated. Maximum 12 hours. E

492 Off-Campus Study (1-15) May be repeated. Maximum 15 hours. E

493 Independent Study (1-15) May be repeated. Maximum 9 hours.

URBAN AND REGIONAL 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 planning with special attention to the United States experience in urban and other levels of planning. State of the art, the process, the comprehensive plan, implemen-
ting devices. Planning issues in society. Not for credit for M.S.P. degree. (Same as Urban Studies 402.)


URBAN STUDIES (985)

200 Human-Environment Systems (3) (Same as Interior Design 200.)

250 Introduction to Urban Studies (3) Introductory survey of urban studies. Includes a lecture series with urban scholars discussing urban issues as seen by their disciplines.

321 Urban Politics and Process (3) (Same as Political Science 321.)

323 Behavioral Geography (3) (Same as Geography 323.)

350 Practicum in Urban Studies (3) Introductory semi-

nars, written assignments and hands-on experience in an organization which is working for urban change.

401 The City in the United States (3) (Same as Planning 401.)

402 Survey of Planning (3) (Same as Planning 402.)

441 Urban Geography (3) (Same as Geography 441.)

450 Directed Field Work (3) Participant observation and faculty-directed research. May be combined with 350 in urban studies subject to faculty approval. Open to Urban Studies Majors only. Prereq: Approval of depart-
ment. S/N grading.

454 Cities and Urban American History (3) (Same as History 454.)

460 Senior Seminar (3) A capstone seminar taught by an interdisciplinary team of urban studies faculty in a problem solving context. Prereq: 250, 350, and senior standing. Writing emphasis course.

464 Urban Ecology (3) (Same as Sociology 464.)

481 Real Estate Finance and Investment Analysis (3) (Same as Finance 481.)

482 Urban Development and Finance (3) (Same as Finance 482.)

493 Independent Study (3-6) May be repeated. Maximum 6 hours.

Courses of Instruction 207
WILDLIFE AND FISHERIES SCIENCE (993)

303 Communications in Wildlife and Fisheries (1)


323 Human Dimensions of Wildlife and Fisheries (1)
Examination of the linkages between people, institutions, and society at large to natural resource management practices. Case studies and application of basic skills of group communication and collaborative problem solving and planning will be emphasized. Overnight field trips required. Coreq: 303, 305, 330, 340, 350, 440, 442. Sp

330 Ecosystem Prescription Management (1)

340 Wetlands Ecology and Management (3)

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. Prereq: English 102 and Speech 210 or 240 or consent of instructor. F

350 Wildlife Damage Management (3) Principles and methods for wildlife damage management including biological, regulatory, practical, and social considerations. Weekend field trips (2) required. Prereq: FWF 317, or consent of instructor, 2 hours and 1 lab or field. Sp

440 Wildlife Techniques (3) Methods in wildlife damage control, forest, farmland, and wetland wildlife habitat management, identification of wildlife field sign, wildlife capturing techniques and management plan preparation. Weekend field trips (2) required. Prereq: FWF 317, or consent of instructor, 1 hour and 1 lab or field. F

442 Fisheries Techniques (3) Active and passive sampling techniques for fish and aquatic organisms; population estimation methods; fish handling and transport; food habits analysis; marking and tagging techniques; age determination and incremental growth analysis; stream assessment; equipment and instrumentation usage and maintenance; safety in sampling methods. Weekend field trip may be required. Prereq: FWF 317 or consent of instructor, 1 hour and 1 lab or field. F

443 Fisheries Science (3) Quantification and management of freshwater fisheries including population estimation, age and growth, biological assessment, and stocking. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. Sp

444 Ecology and Management of Wild Mammals (3)
Biological and ecological characteristics of game mammals and endangered mammals. Current principles and practices of wild mammal management. Prereq: FWF 317 or consent of instructor. 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 bird pests. Conservation principles and practices of wild bird management. Prereq: FWF 317 or consent of instructor. 2 hours and 1 lab. One weekend field trip required. Sp

490 Ethics in Wildlife and Fisheries Management (1)
Ethical bases for decision-making and application of methodologies in the practices of wildlife and fisheries management. A series of seminars presented by ethicists, wildlife and fisheries scientists and managers, and foresters will be used to acquaint students with a diverse perspective of ethical behavior in the practices of wildlife and fisheries management. Lectures, panel discussions, and case studies. Team taught. Prereq: Senior standing and major in natural resources. Satisfactory/No Credit grading only. S

493 Independent Study in Wildlife and Fisheries Science (1-15) Special research or individual problem in wildlife and fisheries science. Letter grade or Satisfactory/No Credit. E

496 Internship in Wildlife and Fisheries Science (1-6) Supervised experience at departmental-approved employment location arranged by the student. Internship learning objectives must be pre-approved by the advisor/instructor and the field supervisor. Daily log, supervisor evaluations, and final report required. One credit per two weeks of field experience maximum. Up to 3 credits may be used for science elective. Prereq: Junior standing, consent of instructor. May be repeated. Maximum 6 hours.

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.

215 Images of Women in Literature: Fiction, Poetry, Drama (3) Introduction to the study of women through the genres (fiction, poetry, and drama), including works from diverse historical periods and cultures. Writing-emphasis course.

220 Women in Society (3) Role played by women in various societies during different historical periods, factors which have limited women's participation in society, social scientists' assumptions about women.

230 Marriage and Family: Roles and Relationships (3) (Same as Child and Family Studies 220.)

310 Emergence of the Modern American Woman (3) Role of women in the development of American civilization and values. Major topics include women's legal and political status, the emergence and development of feminism, women and the creative arts, and women's roles in industrial and post-industrial American society. Writing-emphasis course.

320 Women and Religion (3) (Same as Religious Studies 320 and Judaic Studies 320.)

330 Women in Music (3) (Same as Music History 330.) Writing-emphasis course.

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. (Same as Legal Studies 340.)

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 lectures and slide presentations.

375 Gender in Society (3) (Same as Sociology 375.)

382 Philosophy of Feminism (3) (Same as Philosophy 382.) Writing-emphasis course.

383 Women in the Greek and Roman World (3) (Same as Classics 383.) Writing-emphasis course.

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 Britain (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.

433 French and Francophone Women Writers (3) (Same as French 433.)

434 Psychology of Gender (3) (Same as Psychology 434.) Writing-emphasis course.

453 Women in American History (3) (Same as History 453.) Writing-emphasis course.

466 Rhetoric of the Woman's Rights Movement to 1930 (3) Historical and critical study of public address in the campaign for women's rights in the United States from the 1930s through the 1920s (Same as Speech Communication 466.) Writing-emphasis course.

469 Sexuality and Cinema (3) Explores issues surrounding sexuality, gender and cinema from points of view of feminist film criticism. (Same as Cinema Studies 469.)

476 Rhetoric of the Contemporary Feminist Movement (3) Historical and critical study of rhetoric in the campaign for women's rights in the United States from the 1940s to present. (Same as Speech Communication 476) Writing emphasis course.

483 African-American Women in American Sociology (3) (Same as African and African-American Studies 483.)

491 Foreign Study (1-15)

492 Off-Campus Study (1-15)

493 Independent Study (1-15) Registration by consent of chair of Women's Studies.
Honors and Awards

HONORARY AND PROFESSIONAL SOCIETIES

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

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

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

- **Alpha Kappa Psi**, Professional business fraternity for entering freshmen and transfer students in their first year in institutions of higher education courses with at least a 3.0. 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**, for industrial engineering students. Prospective members are chosen from the upper one-third of the senior class and upper one-fifth of the junior class. A minimum 2.5 average is required.

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

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

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

- **Delta 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 graduate students. Prospective members must have a minimum 3.4 average for nine hours of graduate work in business education. Candidates are required to show evidence of their scholarship before initiation by presenting a talk, research abstract, or written paper to the group.

- **Delta Sigma Pi**, professional business fraternity for students enrolled in the College of Business Administration. A minimum of 15 semester hours of University credit with a scholastic average of at least 2.75 is required for initiation.

- **Delta Theta Phi**, for law students.

- **Eta Kappa Nu**, for electrical engineering students. Members may be selected from juniors 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 undergraduate and graduate majors in Health Science/Health Education with a minimum GPA for undergraduates 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 study, must rank in the upper 20 percent of their respective college, and must have attained at least a 3.5 average.

- **Gamma Sigma Delta**, national business honorary society for graduating seniors, graduate students, faculty, and agricultural alumni. Seniors selected must be in the upper one-fourth of their graduating class in the College of Agricultural Sciences and Natural Resources and must have attained at least a 3.5 average in at least 16 hours toward the advanced degree. They must have shown promise or superior ability in carrying on advanced study and/or research directly concerned with agriculture and related fields and of making worthy contributions to their respective fields.

- **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 UT.

- **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 professionals and students in education. A minimum 3.5 grade point average is required. The society recognizes outstanding contributions to the 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 all the sorority/fraternity GPA. The purpose is to recognize those students who have attained a high standard of leadership in intergreek activities.

Phi Alpha, national honor society in social work for undergraduate students and faculty. Student members must have completed initial progression in to the BSSW program with a minimum of 3.25 cumulative GPA and 3.50 in twelve semester hours in required social work courses. The purpose is to recognize and promote scholastic achievement among students and faculty involved in the BSSW program, to promote and further the goals of social work in the community, state, nation, and world, to stimulate interest in preparation for a career in social work, to encourage continued student and research at the undergraduate level and in professional practice, and to recognize professional social workers whose service and leadership are held in esteem.

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 three hours in the college with a minimum of 2.2 overall average.

Phi Beta Kappa, the oldest national academic honorary society, for Arts and Sciences juniors and seniors who are candidates for either the Bachelor of Arts or the Bachelor of Science degree. Grade point average 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 Arts and Sciences Student Academic Affairs Office, 218 Ayres Hall.

Phi Delta Kappa, honorary professional fraternity in education connected with approved colleges and universities of graduate rank maintaining schools, colleges, or departments of education pursuing excellence in service, teaching, and research.

Phi Delta Phi, for law students.

Phi Eta Sigma, for freshmen who have a minimum grade point average of 3.5 the first year while carrying a full academic load. All candidates must rank in upper 20 percent of their class at the end of the freshman year.

Phi Kappa Phi is an interdisciplinary honor society, tracing its origins to 1897. The society promotes the pursuit of excellence in all fields of higher education. The University of Tennessee Chapter, founded in 1899, was one of the three original chapters of the organization, which now includes more than 280 chapters across the country. The Society’s primary objective has been from the beginning the recognition and encouragement of superior scholarship in all fields of study. Phi Kappa Phi has invested more than $3 million in fellowships and awards since 1970.

The University of Tennessee Chapter initiates outstanding junior, senior, and graduate students each fall and spring semesters. UTK alumni are initiated each fall, and selected faculty are initiated each spring.

The John and Dorothy McDow Scholarship is awarded annually to a new inductee of the Society with junior standing at the time of induction. Dr. McDow, former UTK Agricultural Engineering Professor and Dean of Admissions and Records, served as president of the UTK chapter as well as the national organization.

Phi Kappa Phi is the broadest of the national honor societies, recognizing all fields of learning. Prospective members must be seniors ranking among the upper 10 percent of their class, with a minimum 3.0 average. Meeting these requirements does not necessarily assure election.

Pi Alpha Xi, the national honor society for floriculture, landscape and ornamental horticulture, is open to juniors, seniors, graduate students, faculty and alumni in the various areas of horticulture. Members are selected on the basis of academic achievement (3.0 minimum GPA), and departmental involvement (must have completed at least 3 horticulture classes and participated in relevant activities).

Pi Delta Phi, for French students. Prospective members must have a minimum B-minus average in all French courses taken.

Pi Kappa Lambda, for students in music and music education.

Pi Lambda Theta, a national honor and professional association in education. Open to juniors and seniors with a minimum of 3.2 GPA and graduate students with a minimum 3.5 GPA. Membership is by invitation. Pi Sigma Alpha, for political science students and faculty. Student members are elected solely on the basis of scholarship.

Pi Tau Sigma, for mechanical engineering students. Prospective junior members must rank in the upper one-fourth, and senior members in the upper one-third of their respective mechanical engineering class.

Psi Chi. National psychology honor society for students with a major/minor in psychology, with an overall GPA of 3.0 and a Psychology GPA of 3.2. The purpose is to provide a forum for the discussion of current trends in Psychology, to further academic excellence in the field of Psychology, and to act as a meeting place for Psychology students.

Scabbard and Blade, military science honor society for upperclassmen and upperclass graduates, faculty members, and qualified alumni.

Sigma Alpha Iota, professional music fraternity for women interested in music. A 2.5 overall average is required.

Sigma Delta Pi, for foreign students. Prospective members must have a minimum 2.75 average in all University work and a minimum 3.2 average in Spanish and must have completed a junior year in Spanish literature or be registered in the last term of such a course.

Sigma Gamma Epsilon, honor society for students in earth sciences. Membership is by invitation, based on scholarship and interest.

Sigma Pi Sigma, physics honors society for upperclassmen and graduate students, faculty members, and qualified alumni.

Sigma Tau Delta International English Honors Society, is open to undergraduate English majors who have completed two courses in English beyond freshman writing, have at least a B average in English, and a GPA that puts them in the top thirty-five percent of all current English majors.

Sigma Theta Tau, national nursing honor society for those students who have demonstrated outstanding scholastic achievement, professional leadership potential, and/or marked achievement in the field of nursing. Undergraduate students having completed at least two semesters of the upper-division curriculum with a 3.0 average are eligible for membership, as are graduate students who have completed one-half the master’s program with a 3.25 average.

Society of Professional Journalists, professional journalism society. Active membership shall be limited to journalism and broadcasting majors having at least a 2.3 overall grade average and having completed at least 30 hours.

Tau Beta Pi, national honor society for engineering students. The top one-eighth of the junior engineering class and the top one-fifth of the senior engineering class, scholastically ranked, may be elected. Elections are held in the semesters. The organization conducts programs and projects of benefit to students and the University.

Xi Sigma Pi, forestry honor society for upperclassmen and graduate students, faculty members, and persons who have attained a national reputation in forestry. Students must
have completed 66 hours of credit, including 9 hours in professional forestry courses. When practical, initiates are selected during the junior year to provide the greatest degree of benefits of 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.

VICTOR M. DAVIS AWARDS

Granted each year to juniors who demonstrate exceptional campus leadership.

COLLEGE OF AGRICULTURAL SCIENCES AND NATURAL RESOURCES

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

The American Society of Agronomy. A Certificate of Merit is awarded to an outstanding senior in the Department of Plant and Soil Sciences who has a superior academic record and displays evidence of high potential in this field.

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

The American Society for Horticulture Science. A Certificate of Merit for an outstanding senior in either the Department of Ornamental Horticulture and Landscape Design or in the Department of Plant and Soil Sciences is awarded annually. The recipient will have a superior academic record and evidence of high potential in the horticultural field.

The Armistead Award. Each year, one full-time student in the College who is a graduate of a Tennessee high school and has earned the highest grade point average in courses through the fifth semester is recognized for the academic achievement.

The Block and Bridle Club. 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 are recognized for their efforts. Junior and Senior recipients may be entered in National Competition resulting in other awards.

Dee 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 and Bridle member with interest in the affairs and activities of the Department of Animal Science, and a member of the Meats and/or Livestock Evaluation and Judging Teams.

Forestry Faculty Award. Awarded to the rising senior with the highest GPA in the Department of Forestry, Wildlife and Fisheries, regardless of major.

Forestry Spring Block Award. Awarded to the outstanding student participating in the Forestry Spring Block based on leadership, professionalism, congeniality, and superior performance. Recipient nominated by students and affirmed by the faculty.

M. Jacob Animal Husbandry Award. Originally sponsored by the J.B. Madden family to honor Dr. M. Jacobs who was both head of the Department of Animal Science and later Dean of the College of Agricultural Sciences and Natural Resources, this award is presented to a senior in Animal Science based on scholarship and overall animal production ability.

Kentucky-Tennessee Society of American Foresters Scholarship. Awarded annually to a senior forestry student who has excelled in academic achievement, as well as student and professional activities.

Arch E. McClanahan Scholarship. Awarded to a maximum of 6 outstanding incoming freshmen, and renewable for the four-year baccalaureate program. This award was established by Mr. McClanahan, a Davidson County dairy farmer and breeder of Jersey cattle, to contribute toward the training and development of Tennesseans who have a commitment to agriculture.

Tennessee Farm Bureau Leadership Scholarship. Established by the Tennessee Farm Bureau to cultivate future leaders for Tennessee agriculture. Awarded to students whose parents are full-time Tennessee farmers.

Tennessee Farmers Cooperative Scholarship. Provided to two students who have been raised on a farm and must be the child of parents who are members of a local county supply cooperative.

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

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 students in each class with the highest scholarship averages.

The Wall Street Journal Student Achievement Award. Presented each year to the outstanding majoring student in Agricultural Economics and Business. Award selection criteria include academic excellence, demonstrated leadership ability, and professional promise.

Howard and Ruby Wilkerson Scholarship. Awarded to sophomores, juniors and seniors who are Tennessee residents who demonstrate financial need and academic achievement.

The College of Agricultural Sciences and Natural Resources offers an additional 100 scholarships established by various donors including industries, businesses, agricultural and natural resources related agencies and organizations, special groups, college alumni, faculty and friends.

COLLEGE OF ARCHITECTURE AND DESIGN

AIA Medal and Certificate of Merit. Each year, the American Institute of Architects awards an engraved medal to the top ranking graduating student in each architecture program accredited by the National Architectural Accrediting Board. A Certificate of Merit is also awarded to the second ranking graduating student.

Alpha Rho Chi Medal. This prestigious award is given yearly at each architectural school across the United States. Outstanding students are selected by faculty based on their unselfish service to the School and the University.

American Institute of Architects. Annually, the national AIA awards over one hundred scholarships to highly qualified third or fourth year undergraduate and second year graduate students. Each accredited school of architecture may nominate a certain number of students, based on the average graduation rate. The Scholarship Committee will nominate the allotted number of students. The student must complete an application form and submit three letters of recommendation to the AIA.

Barber and McMurry Scholarship for Excellence in Architecture. Established by the partners of Barber and McMurry, Inc. in Knoxville created this endowment in 1996 to honor the memory of the founding partners, Charles I. Barber and Ben F. McMurry. The award will be given to a third, fourth, or fifth year undergraduate student who has demonstrated excellence in design work and other demonstrations of exceptional professional promise. Selection is made by the School with input from the firm. The first award was for the 1998-99 academic year, and the award amount will grow as the endowment is finalized.

Hubert Bebb Scholarship. Established in 1986 by Community Tectonics, Inc., this scholarship is in honor of Hubert Bebb, the firm’s founder. For entering third year students, submission includes submittal of a transcript, a written statement regarding career goals and the motivation for studying architecture, a portfolio of the student’s best work during second year, (including a written problem statement and an explanation of the solution as well). Selection is made by the School.

Neil Mann Brown Scholarship in Architecture. Open to all students in good standing in the School of Architecture. This is an endowed scholarship in honor of Neil Mann Brown.

Bullock, Smith and Partners Scholarship for International Travel. This endowment, created in 1997, will enable a student to participate in one of the School of Architecture’s International Programs. Selection will be based on an outstanding academic record: generally the student must be in the top 20% of his or her class. The award will be made to a rising fourth-year student.

The Cope Associates Leadership Prize. Lanny Cope, a 1974 graduate of the School of Architecture, has created this award to support excellence. The prize will be awarded to a student in the fifth year who has demonstrated superb leadership ability as evidenced by problem solving, strategic planning, management ability, a quality that shows initiative, and other accomplishments.

CSI Technical Prize. This monetary prize is awarded at the annual hooding ceremony to the graduating senior with exemplary achieve-
ment in the technical courses offered in the school. The award is provided by the Knoxville Chapter of the Construction Specifications Institute.

The Jack A. Davis Scholarship. This scholarship was established in 1997 by Tho-
mas E. Davis, Director of Student Advising, in memory of his father, Dr. Jack A. Davis. The award is for African-American students with a preference for an incoming first-year student.

Dewitt, Henley and Wilkerson Architects. Established in 1995, this endowment provides funds for a selected student from either the undergraduate or graduate program. The first priority is a minority student who is a resident from Tennessee.

Faculty Award. This award, implemented in 1996, is given to the outstanding senior design project at the annual housing cer-
emony. This award is selected by the faculty. This project will be displayed with the Letters of Excellence winners and the Bronze Medal winner.

Mark Freeman Association. Open to third, fourth, fifth year students who have a financial need. Established in 1996 by Mark Freeman (Class of 1981), Option of paid internship.

General Shale Scholarship. For students with fourth-year undergraduate or second year graduate standing, one to five awards are made for a total of $10,000. Awards are made by the scholarship committee. A long time benefactor of the School, General Shale Products Corporation of Johnson City is one of the nation’s leading manufacturers of high-quality face brick. This scholarship program was established in 1980.

Goodstein and Associates Architects Inc. Technical Draftsman Award. Estab-
lished by Mr. Joseph Godstein in 1982, this award is to be given to a student selected from first year.

The Ben Allan Gregory Memorial Scholar-
ship. This scholarship was established by Dwight and Linda Gregory in memory of their son Ben Allan Gregory. Ben was a second year architecture student at the time of a tragic accident that took his life in November of 1997. This scholarship was first awarded in Fall 1998 to a student from among those who requested the scholarship. The award shall be given to a third, fourth or fifth year architecture student who has demonstrated a successful academic performance. Financial need shall be a factor.

Jami S. High Memorial Scholarship. Open to sophomores, juniors, or seniors. Based on academic merit, career potential, and financial need. Interior design majors only.

Hnedak Bobo Group, Inc. Graduate Fellowship. Established in 1994 by the Memphis architectural firm of Hnedak Bobo Group Inc., this graduate fellowship is intended to encourage minority students to enter the profession of architecture. Greg Hnedak is an alumnus of UT School of Architecture. Up to three awards will be made each year, and are renewable. Each award is worth $2,500. In addition, the firm intends to offer an opportu-
nity for some of these students to receive their degree at no cost.

King and Johnson Architects, Inc. Scholarship. Open to all undergraduate stu-
dents entering third, fourth and fifth year, with a true financial need. This scholarship was es-
stablished in 1991 by David King and Fred Johnson, both graduates of the School and successful practitioners in the Knoxville area. Recipients will also have an opportunity for part-time employment during the academic year, or during the summer after the scholarship is received.

Letters of Excellence. These awards are presented to the outstanding thesis as nomi-
nated and selected by the fifth year faculty. These projects go into a special exhibit during the summer following graduation.

The Lewis Group Architects, Inc., P.C. This award is open to students completing their first year in the program who have a financial need. Award is open to students with a 3.0 or greater GPA. Students selected should not have another scholarship.

MX-Design Minority Scholarship. Estab-
lished in 1987 by Reginald Ruff, a graduate of the program and a practicing architect in Chickasha. Students must have completed their first semester in school.

Ed Meiers Memorial Scholarship. Estab-
lished by the Tennessee Foundation of Archi-
tecture to honor Ed Meiers, a Nashville archi-tect. Graduate or undergraduate students are eligible who have a financial need and strong academic standing.

Pella Traveling Scholarship. Based on design performance. For the second semes-
ter of the third year, this award recognizes the importance of travel in the education of an architect. This is a premiated award. The recipient must apply the award towards approved travel expenses associated with the student’s architectural education. This award was established in 1984 by Tate Window and Door Company, the local distributor for Pella Windows.

Pilot Corporation Fellowship. Awarded to a graduate student with professional promise. This fellowship includes tuition, fees, and a required paid internship in the Architecture Division at Pilot Corporation in Knoxville. Selection is made by the Graduate Committee with input from Pilot Corporation.

Alma and Hal Reagan Scholarship. For undergraduate and graduate students entering their last year of study, with a distinguished record of service to UT and an outstanding academic record. This scholarship was endowed in 1988 in honor of Alma and Hal Reagan, who were friends of the school from the Pigeon Forge area. At least one award each year shall be based on academic and design excellence with additional scholarships being awarded to help minority students and women in architecture.

Malcolm Rice Architecture Award. For a third year student showing exceptional achievement in their studies during that year. Established in 1980 in honor of Malcolm Rice a retired architect who worked with I.M. Pei on the National Gal-
lery of Art in Washington, DC. Mr. Rice also served as the University Architect.

Ruby Ruckman Scholarship. Established in 1980 by the Knoxville Chapter of the Na-
tional Association of Women in Construction, this scholarship is for fourth, fifth year students residing in East Tennessee. The School of Architecture makes this award in alternate academic years commencing with even num-
bbers. The award helps needy and deserving upper-class students.

Darrell Russell Scholarship. This endow-
ment provides funds for an incoming first-year Architecture or Interior Design student with sig-
nificant financial need. Darrell Russell (B.Arch. 1982) established this endowment in 1998 based on a desire to help students in the same way he had been helped with a scholarship in his freshman year.

Susie Benson Slyman Scholarship. Established in 1994 by the ChattanoogAAAIA chapter in memory of Robert Seals, a highly respected Chattanooga architect. This substantial award is for students from Chattanooga/Hamilton County or East Tennessee who demonstrate academic excellence and financial need. The Robert Seals Scholarship is open to students at any level.

DOBBIE SAWYER Interior Design Scholar-
ship. Student awarded this scholarship shall have demonstrated academic performance and financial need in the broadest sense. Open to all years. Interior Design majors only.

School of Architecture Endowment. A number of scholarships based on need for undergraduate or graduate students in good academic standing. This scholarship has been endowed by funds received over the past 30 years from numerous donors.

Robert Seals Scholarship. Established in 1994 by the ChattanoogAAAIA chapter in memory of Robert Seals, a highly respected Chattanooga architect. This substantial award is for students from Chattanooga/Hamilton County or East Tennessee who demonstrate academic excellence and financial need. The Robert Seals Scholarship is open to students at any level.

Susie Benson Slyman Scholarship. Established by the Knoxville Chapter of the Na-
tional Associate of Women in Construction, this award honors a former director of the chapter. Preference shall be given to women, and students should be in their third, fourth, or fifth year of the undergraduate program. They should demonstrate academic excellence, professional promise and financial need. The School of Architecture makes this award in academic years commencing with an odd number.

Taub Sigma Delta Delta Bronze Medal. The Bronze Medal is awarded to the outstanding senior design project each year. The Architec-
tural Honor Society, Tau Sigma Delta, or-
ganizes the selection of this award. Meritorious thesis projects are nominated by the faculty and by fifth year students. These nominees are judged by a panel of jurors from the archi-
tectural profession. The project will be dis-
played with the letters of excellence in the summer following graduation.

West Virginia Society of Architects. For a West Virginia resident who has completed six or more semesters at the undergraduate level or is enrolled in a graduate program. Eligible students should contact the West Virginia Society of Architects prior to April to apply.

Shelby Williams Fund for Excellence. Preference given to those attending high school in greater Morristown area. Consideration may be given to superior out-of-state stu-
dents. Open to all years. Interior design majors only.

Zuckerman Family Scholarship. For fourth or fifth year students displaying out-
standing academic achievement. Established in 1990 by Haim Zuckerman, a successful graduate of the School of Architecture in Atlanta.

COLLEGE OF ARTS AND SCIENCES

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

College of Arts and Sciences Scholar-
ships. This is a general award for students in the College of Arts and Sciences who have
demonstrated academic promise and financial need.

**Bain-Swigett Poetry Prize.** For excellence in writing conventional forms of English poetry.

**John H. Barrett Prize.** Presented to the outstanding senior student.

**Dr. Mary Ann Bass Memorial Scholarship Award.** Dr. William Bass set up this award in his wife's memory, to help Cherokee Native Americans attending UT, Knoxville. Dr. Mary Ann Bass served as an officer in the Women's Medical Specialty Corps and was a dietician at Ft. Knox, Kentucky and Walter Reed Army Hospital in Washington, DC from 1971 to 1992. She taught in the College of Hu-
man Ecology and the Department of Anthro-
pology at UT, Knoxville, and worked for many years as a consultant to the Cherokee Tribal Council.

**Henry and Jane Bertelkamp Scholarship.** Henry Bertelkamp, a 1953 graduate of the University of Tennessee and President of Bertelkamp Automation, Inc. of Knoxville, Tennessee, and his wife, Jane, are long-time residents of Knoxville and supporters of the University of Tennessee. Students eligible to receive this award must be enrolled in the College of Arts and Sciences, have a financial need and demonstrated successful academic performance.

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

**Eleanor R. 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.

**Terry Burnette Memorial Award.** is given to a graduate art student based on need and portfolio submission.

**James T. Chappell Award.** This award was set up for Arts and Science students with preference given to those from western North Carolina. Financial need can be taken into account in the selection procedure.

**Philanthelial.** Set up in honor of Mr. Philander P. Claxton, for whom the College of Education’s building on UTK campus is named. Candidates must be graduating from the College of Arts and Sciences and planning to enroll in UTK’s graduate education program fro the required internship and be planning to teach in a Tennessee public school after receiving certification. The award is presented at the Arts and Science’s Board of Visitors spring meeting.

**Randall Cline Award.** For writing an outstanding master’s degree thesis in mathematics.

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

**Robert A. and Mary Neal Culver Scholarship.** Awarded to Undergraduate Theatre Major.

**William Desmond Scholarship in Performance Arts.** Awarded to undergraduate/graduate students in performing arts.

**Dorothy H. Dille Scholarship Awards** are given to art majors in the following categories: outstanding undergraduate art history paper; study travel; purchase of materials; outstanding graduate art student; outstanding undergraduate art student; and cash awards for the Annual Student Art Competition.

**Arnett A. Elliott Award.** Established by the Department of Political Science to honor Arnett A. Elliott, a member of Political Science 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 “distinghied and high ranking student” in any of the three fields of study. 

**The Buck Ewing Graduate and Undergraduate Awards** are given to art students based on outstanding portfolios.

**James Frederick Fields Scholarship.** Awarded to undergraduate Theatre Major. 

**T. H. and Jeanette Gillespie Scholarship.** An award given to an undergraduate art major for an outstanding portfolio.

**Ann Hight Gore Scholarship.** Awarded to the English major who is judged the most outstanding student for two honors courses, English 398 and 498.

**Edgar G. Guenther Scholarship.** For any student who resides in the City of Kingsport, Tennessee and who is enrolled in the study of municipal government, management, planning or other related subjects.

**Edward H. Hamilton Scholarship.** Awarded to deserving initial teacher licensure students in Music Education.

**James and Natalie Haslam Scholarship.** James A. Haslam II and his wife, Natalie, set up the Haslam Scholarships at the University of Tennessee, Knoxville to attract outstanding students to the University. A total of twelve scholarships are to be funded each year with eight being in the College of Arts and Sciences and four in the College of Business Administration. There are to be two Haslam Scholars in each of the four classes (freshman, sopho-
more, junior and senior) in the College of Arts and Sciences. Students selected must be currently enrolled or have been admitted to UT, Knoxville, have a minimum high school grade point average of 3.5 with a minimum ACT score of 27, have a demonstrated financial need and demonstrated leadership ability. A minimum UTK grade point average of 3.0 is required, with a minimum of 12 hours carried each semester with satisfactory progress being made toward an undergraduate degree.

**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 Merit Scholarships.** Awarded annually to the top ten declared English majors. An additional scholarship is awarded to the top minority declared English major. Scholarships pay full tuition. Applications available spring semester.

**D. Frank Holtman Award.** Presented to a graduating senior for outstanding academic achievement in Political Theory.

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

**Charles E. Jett II Memorial Scholarship.** Awarded to students who have been accepted in the College Scholar Program at the Univer-
sity of Tennessee, Knoxville and are in their junior or senior year. The award was set up by Lt. Col. Charles E. Jett in memory of his son, Charles E. Jett II, a graduate of University of Tennessee, Knoxville student. Applications are made to Dr. Jack Reese, former mentor of Mr. Jett and current director of the College Scholar Program. The award is made each spring se-
mester.

**Florence Sanders Jones College Scholar Award.** Established by Donald H. Jones and Florence Sanders Jones, long-time friends of the College of Arts and Sciences and the Uni-

**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.

**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.

**John C. Hodges Merit Scholarships.** Awarded annually to the top ten declared English majors. An additional scholarship is awarded to the top minority declared English major. Scholarships pay full tuition. Applications available spring semester.

**D. Frank Holtman Award.** Presented to a graduating senior for outstanding academic achievement in Political Theory.

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

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**The Charles W. Keenan General Chemistry Award.** An annual award presented to the outstanding student enrolled in first year chem-
istry classes.

**J.P. and Gladys Maples Scholarship.** J.P. and Gladys Maples set up the Maples Scholarship Endowment Fund to honor their children, Kaye Maples Cooper, Joyce Maples Moore, Dianne Maples Forry and James Ronald Maples, all of whom are graduates of the University of Tennessee and are married to UT graduates. The scholarship will rotate between the Colleges of Arts and Sciences (1995 through 1999), Education (1999 through 2001), and Business (2001-2003) with the cycle continuing every eight years. Recipients will need to show evidence of motivation by working for part of their school expenses, be enrolled at the University of Tennessee, Knox-
vilie as juniors or seniors and have a minimum of 2.5 with demonstrated financial need.

**James Marable Award.** The Marable Award was set up in memory of Dr. James H. Marable who received his Ph.D. in physics.
from UT, Knoxville in 1967. He and his wife, Barbara Davidson Marable, founded the Knox-
ville Symphony Youth Orchestra and he was con-
ductor of the Johnson City Symphony for ten 
years, as well as the assistant conductor of the 
Oak Ridge Symphony for many years. The 
Marable Scholarship is open to UTK students 
who have demonstrated successful academic 
performance and are enrolled in the depart-
ment of Music, Physics or Computer Science.

Charles T. McClung Prizes. Cash prizes to 
junior and senior Speech Communication 
majors for excellence in compositions pertinent 
to the speech discipline.

Louise Carr McClure Scholarship. Estab-
lished for undergraduate students in the 
Humanities 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.

J. Owen Moss Scholarship. The fund was 
set up for Arts and Science students who have 
demonstrated successful academic perfor-
mance, a financial need, a high moral charac-
ter and willingness to secure a college 
education through hard work and patience.

Native American Studies Scholarship. 
This award was set up by Mr. and Mrs. Dale J. 
Roberto for students majoring in Anthropology 
with an emphasis in Native American Studies 
and/or undergraduate students of Native 
American origin who are currently enrolled 
in the College of Arts and Sciences or who have 
been admitted to the University of Tennessee. 
The recipient shall have demonstrated suc-
cessful academic performance.

Alvin Nielsen College Scholar-
ship Award. The Alvin Nielsen College Schol-
arsship Award was established in 1977 on the 
ocasion of Dr. Nielsen’s retire-
ment as Dean of the College of Liberal Arts. 
Dr. Nielsen was very proud of the 
College Scholars Program which was first implemented 
during his tenure as Dean. This program was 
designed to meet the needs of superior, highly 
motivated and creative students. The scholar-
ship is available to students in the College 
Scholar major who are rising juniors or seniors. 
Applications are submitted each Spring Se-
mester and are announced at the annual 
Spring dinner. Judged by faculty members 
who work with the program, selection is made 
on the basis of the curriculum and grade point 
average, the student’s educational objectives, 
and recommendations by the Scholar’s faculty 
advisor and another faculty member.

Opening Night Club Scholarships. 
Awarded to undergraduate and upperclassmen 
and graduate students. Must be a Theatre 
Major. Demonstrated financial need.

Paula and Joe Peeden Scholarship 
Award. The Paula and Joseph Peeden 
Scholarship Award was established by the 
Dr. Peeden to provide scholarship assistance 
for deserving students in the College of Arts 
and Sciences at the University of Tennessee, 
Knoxville. Dr. Joseph Peeden is a 
pediatrician in private practice in Knoxville and 
maintains active study and research in genet-
ics at the University of Tennessee Medical 
Center, while Dr. Paula Peeden is an OB/GYN 
in Knoxville. Both received undergraduate de-
grees from UT, Knoxville and received their 
MD degrees from UT, Memphis College of 
Medicine. Students who have demonstrated 
successful academic performance and who 
have a financial need are considered for this 
award, while extracurricular activities and com-
unity service are also taken into consider-
ation. A $1,000 award is made each year to a 
deserving student who has plans to enter the 
field of medicine.

Larry Ratner Scholarship. Set up by the 
Board of Visitors, staff, and faculty of the Col-
lege of Arts and Sciences to honor Dr. Ratner 
upon his retirement from the 
Deanship in 1996. The scholarship is given to 
students who are currently enrolled or have 
been admitted to the University of Tennessee, 
Knoxville and are enrolled in an Arts and Sci-
ences program, who have demonstrated suc-
cessful academic performance, and most 
importantly have demonstrated financial need.

Nina Ratner Memorial Scholarship. The 
Nina Ratner Memorial Scholarship was set up by 
Dr. Larry Ratner, Dean of the College of 
Arts and Sciences, in memory of his late wife. 
Mrs. Ratner was a patron of the arts in the 
East Tennessee area. Students who are in the 
College of Arts and Sciences, majoring in the 
arts or humanities, and who show academic 
promise and financial need are eligible to apply 
for this award.

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 course of his retirement from the 
Department of Chemistry. A $1,000 award is made each year to a 
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ation. A $1,000 award is made each year to a 
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field of medicine.
Logistics and Transportation students.

David C. Duckett Scholarship in Marketing. Must be a junior or senior majoring in Marketing with a GPA minimum of 2.75.

DuPont Minority Scholarship in Accounting. Must be majoring in Accounting.

Eastern Minority Scholarship in Accounting. Awards for minority students.

David Ferrell Memorial Scholarship. Awarded to a rising junior or senior who wishes to major in marketing.

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

Jack G. Frazier Scholarship. Awarded to undergraduate business students with preference given to Rhea County/East Tennessee students with successful academic performance and/or financial need.

Frito-Lay Minority Scholarship. Awards for minority students.

James A. and Natalie L. Haslam Scholarship. Awarded to business students with emphasis on academic achievement and leadership.

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

Mr. and Mrs. Jeff L. Hempfill Scholarship. Awarded to a student who has demonstrated outstanding academic achievement, participation in extracurricular activities. Financial need may also be considered.

Home Federal Bank of Tennessee Scholarship. Preference is given to students from counties served by Home Federal Bank (Knox, Anderson, Blount and Sevier) and entering freshmen with ACT scores between 23-28 (or SAT of 1050-1260).

J.J.B. Hillard and W.L. Lyons Scholarship. Junior or senior majoring in Management.

John Fred Holly, Jr. A memorial scholarship endowed by parents. Awarded annually to a rising junior or senior.

John F. Humphrey Metal Fabricators, Inc. Awarded to a student from Knox County majoring in Logistics.

Insurance Scholarship. Students from Tennessee in the Finance Department.

George R. Johnson Scholarship in Business. Preference given to students who have demonstrated financial need and who reside in the following counties: Bledsoe, Bradley, Grundy, Hamilton, Loudon, Marion, McMinn, Meigs, Monroe, Polk, Rhea, and Sequatchie in Tennessee and or Catoosa, Dade, Murray or Walker counties, Georgia.

Edward E. Judy Scholarship. Seniors in Accounting.

Mack E. Kiger Scholarship in Accounting. Awarded to a Junior or Senior accounting major with outstanding academic achievement, leadership, and communication abilities. Financial need may also be considered.

Ben and Margaret Kimbrough Scholarship. Preference will be given to those students who demonstrate outstanding academic achievement.

E. Ward King Scholarship. Recipient must be majoring in Logistics.

Knoxville Community Housing Resource Board Minority Scholarship. Established through grant from HUD for minority students in Finance.

Guy L. Lachine Memorial Award. Award given to Accounting students.

Thomas S. Lewis, Jr. Scholarship. Award given to Accounting students.

Mike Littlejohn Minority Scholarship. Open to Tennessee African-American students in College of Business.

The James F. Lyle, CLU Insurance Scholarship. Awarded to undergraduate or graduate students majoring in Marketing with a GPA minimum of 2.75.

G.W. McCall, Sr. Scholarship. College of Business students with outstanding GPA.

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

Mr. and Mrs. James Miller Scholarship. Awards made to Marketing students.

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

Fulton Beverly Moore, III Memorial Real Estate Scholarship. A memorial scholarship fund endowed by the parents of Mr. and Mrs. Pearl and Edward Moore.

Scholarship for Economics majors.

Roger M. Moore, Sr. Scholarship. Students with outstanding academic success with interest in Finance Department.

Tom and Linda Morris Scholarship. Awards to business students when available.

Check and Ena Neel Scholarship. Preference to undergraduates who are first generation college students.

Thomas P. Nelson Memorial Scholarship. Awarded to a full-time undergraduate student.

Pan Energy Corp. Students must have high ACT/SAT score and high school G.P.A.

Ken and Wanda Patton Scholarship/ Fellowship in Finance. This is available to undergraduate students or students enrolled in the master’s degree program.

Phillips Petroleum Transportation Scholarship. Preference given to students majoring in Transportation.

Pilot Oil Corporation Minority Scholarship. Awarded to a full-time minority student intending to major in Accounting.

Beulah Collins Post Scholarship in Economics. Students must be majoring in Economics.

Octavia McNair Post Scholarship in Economics. Students must be majoring in Economics.

Procter and Gamble Alumni Scholarship. Recruitment of outstanding students.

Quaker Oats Minority Scholarship. Awarded to a minority student intending to major in Logistics.

Jefferey H. Reagan Scholarship. Awarded to CBWA undergraduate students majoring in Business.

Freshments, Inc., Undergraduate Scholarship. Preference will be given to students from Jackson, Tennessee area (includes Jackson, Selmer, Savannah, Lexington, Humboldt, Paris, Huntingdon and the areas in between).

King Rogers, Jr. Scholarship. Awarded to high school graduate in Dyer County area.

Rosemary Snyder Rousher Scholarship. Junior or senior from Tennessee with 3.0 GPA.

Milton and Ruth Scholtzman Scholarship in Business. Preference will be given to students with outstanding academic achievement who have graduated from any public high school in the state of Tennessee.

Robert C. Schutt, Jr. Scholarship. Awarded to a Junior or Senior student majoring in Logistics and Transportation who intends to pursue a career in transportation or rigging. Must have a 3.0 GPA and demonstrate leadership potential/character through extracurricular activities.

Emile Seilaz Scholarship. Recipient must maintain a 2.50 average.

Michael Shaffer Memorial Scholarship. Awarded to undergraduate, full-time CBA students with outstanding academic scholarship. Financial need may also be considered.

Shelby Accounting Scholarship. Awarded to undergraduate students majoring in accounting in their junior or senior years who plan to pursue a career in accounting. Successful academic performance with emphasis in oral and written communication skills. Financial need may also be considered.

Shell Oil Undergraduate Awards. Used to assist undergraduate business students who are U.S. citizens or have permanent resident visas.

Betsy and Toby C. Silverman Scholarship. Awarded to undergraduate, full-time Finance majors. Preference given to students with a concentration in insurance. Outstanding scholastic achievement. Financial need may also be considered.


William B. Stokely, Jr. Scholarship. Primary consideration is given to students from Cooke, Monroe or Louden counties.

Joe Sullivan, III Scholarship. Awarded to students majoring in Logistics.

Suntrust Bank Scholarship in Finance. Awarded to undergraduates in Finance.

Tennessee Undergraduate Scholarship in Business. Awarded to undergraduate business majors who are Tennessee public high school graduates with outstanding scholastic achievement. Financial need may also be considered.

The Thomas S. Smith Finance Scholarship. Awarded to undergraduate or graduate Finance students. Successful academic performance with preference given to those interested in real estate or urban development.


Mary Elizabeth Testerman Memorial Scholarship. Scholarship for students who have demonstrated successful academic performance.

The Thomas S. Smith Finance Scholarship. Awarded to undergraduate or graduate Finance students. Successful academic performance with preference given to those interested in real estate or urban development.


William B. Stokely, Jr. Scholarship. Primary consideration is given to students from Cooke, Monroe or Louden counties.

Joe Sullivan, III Scholarship. Awarded to students majoring in Logistics.

Suntrust Bank Scholarship in Finance. Awarded to undergraduates in Finance.

Tennessee Undergraduate Scholarship in Business. Awarded to undergraduate business majors who are Tennessee public high school graduates with outstanding scholastic achievement. Financial need may also be considered.

Daniel H. Testerman Memorial Scholarship. Awarded to a junior or senior majoring in Finance, who has an interest in Real Estate.

Charles Thigpen Scholarship in Statistics. Monies awarded to Statistics students when available.

Stephen R. Trotter Memorial Scholarship. Full-time students in Accounting.

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

G.W. McCall, Sr. Scholarship. Recipient must be a junior majoring in Marketing.

William Way, Jr. Memorial Scholarship. Scholarship for students with financial need who are Transportation majors.

John and Wanda Wisecarver Scholarship. Students with outstanding academic achievement.
Ronald Wolfe Scholarship Fund. Monies awarded to Economics students when available.

Singleton Wolfe Scholarship. Awarded to an undergraduate Accounting major who shall be a member in good standing of the Alpha Lambda Chapter or Beta Alpha Psi.

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.

Alpha Epsilon Rho Scholarship. For a junior, senior or graduate student in broadcasting with a minimum of 3.0 GPA in recognition of merit, radio-related activities and financial need.

Karl and Madira Bickel Scholarships. Freshmen, upperclass and doctoral scholars. Open to all students showing academic performance (3.5 or better), professional promise, and need.

Zack Binkley Memorial Scholarship. Given to an undergraduate or graduate student in news-editorial journalism with a minimum 3.0 GPA in recognition of outstanding professional promise.

Lowell Blanchard Scholarship. Given to a full-time rising junior or senior Broadcasting student with a minimum 3.0 GPA. Recipients will have distinguished her/himself in curricular or extracurricular Broadcasting activities.

The Bohan Scholarships. Given to advertising students based on academic performance and financial need.

Amanda M. Bonham Journalism Award. Given to an outstanding entering freshman, majoring in journalism, and graduate of a Tennessee high school.

Frederick T. Bonham Journalism Award. Given to an outstanding entering freshman, majoring in journalism, and graduate of a Tennessee high school.

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

Tutt and Elizabeth Bradford Scholarship in Journalism. Awarded to juniors or seniors majoring in journalism.

Broadcasting Scholarship. Given to graduate or undergraduate students in the Department of Broadcasting who have demonstrated outstanding academic achievement and professional promise.

Janet Fay Breazeale Scholarship. Given to an undergraduate student in the School of Journalism with a minimum 3.0 GPA.

Nat P. Caldwell Journalism Scholarship. Given to a junior or senior in the School of Journalism who has demonstrated high standards of professional conduct and concern for the public welfare.

Josephine Chambers Scholarship. Given to an outstanding undergraduate in the Department of Advertising.

Myron G. Chambers Scholarships. To one or more outstanding undergraduates in the Department of Advertising.

Coca-Cola Minority Scholarship. Awarded to gifted minority students in Communications with a minimum of 3.0 GPA and taking into consideration financial need.

Charles B. Davis Scholarship. Given to an outstanding rising senior in the Department of Advertising.

Frank Gorrell/Jamison Bedding Scholarship. Given to a full-time graduate or undergraduate student who demonstrates a strong work ethic and persistence both in and outside of the classroom.

Alex Haley/Playboy Interview Scholarship in Magazine Journalism. Given to an upcoming junior, senior or master's degree student majoring in journalism with a minimum 3.0 GPA based on academic performance, professional promise and financial need.

Julian and Virginia Harriss Memorial Scholarship. Given to an outstanding student in the School of Journalism who has an interest in a career in public relations.

John P. Hart Scholarship in Broadcasting. Given to an undergraduate student in the Department of Broadcasting who has demonstrated outstanding academic achievement.

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

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

Darrel W. Holt Scholarship. Given to graduate or undergraduate students in the Department of Broadcasting who have demonstrated outstanding academic achievement and professional promise.

Richard Joel Scholarship. Given to students in Advertising.

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.

Holt/Howard Broadcasting Scholarship. Given to a full-time degree student in the broadcasting program with a minimum 3.0 GPA, based on academic performance, professional promise and financial need.

Journalism Faculty Scholarship. Given to an outstanding junior or senior in the School of Journalism.

Nellie D. Kenyon Journalism Scholarship. Given to a female Tennessee resident in the School of Journalism who has an interest in a career in newspaper journalism.

Society of Professional Journalists Scholarships. Awarded to students in Communications with a minimum of 3.0 GPA and taking into consideration financial aid.

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.

Society of Professional Journalists Scholarships. Given by East Tennessee professional chapter of SPJ to a junior majoring in news-editorial journalism or broadcasting news/public affairs. Funds are raised by the chapter’s annual Front Page Follies.

The Knoxville News-Sentinel Advertising Scholarship. Given to one or more students in Advertising who have shown exceptional professional promise.

Avron Spior Jr. Advertising Scholarship. Given to an outstanding student in the Department of Advertising.

Tom Sweeten Memorial Journalism Scholarship. Given to an undergraduate student in the School of Journalism with a minimum 3.0 GPA based on professional promise.

Claude A. Tomlinson Scholarship. Given to a junior or senior in the Department of Broadcasting, Tennessee resident preferred.

Escar Thompson Memorial Scholarship. Given to an upcoming 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.

Willys C. Tucker Scholarship Award. Given by Society of Professional Journalists. Silver bowl or key to graduating senior with outstanding journalism.

Georgiana Fry Vines Scholarship. Given to a student with a minimum 3.0 G.P.A., who has demonstrated professional promise by
having distinguished him/herself in curricular or extracurricular journalistic activities.

Horace V. Wells Jr. Scholarship. Given to an outstanding student in the School of Journalism based on professional promise.

Leslie Meredith Williams Scholarship. Given to a junior or senior journalism major interested in a career in newspaper graphic arts.

Richard Worden Scholarship. Given to an outstanding Journalism student.

COLLEGE OF EDUCATION

J. Clayton Arnold Teacher Training Scholarship. Preference given to fifth-year teacher interns from southern states who are seeking initial teacher licensure.

Max B. and Lalla B. Arnstein Scholarship. Awarded to meritorious and deserving teachers desiring to improve teaching abilities who teach at one of the College’s Professional Development Schools.

David T. and Jane O. Bailey Scholarship. Preference given to fifth-year teacher interns seeking initial teacher licensure who are from Williamson County.

Kitty and William Beasley Teacher-Intern Fellowship. Awarded to fifth-year teacher interns seeking initial teacher licensure who are from Knox County, Tennessee high schools.

Edna M. and K.M. Benson Memorial Scholarship. Awarded to teachers from Rhea County High School.

Jame Irene Bradley Memorial Scholarship in Elementary Education. Preference given to fifth-year teacher interns seeking initial teacher licensure in Elementary Education who graduated from a Tennessee high school.

Ethel Beecher and Lois Roark Bridges Scholarship in Elementary Education. Awarded to fifth-year teacher interns seeking initial teacher licensure in Elementary Education who are from Hawkins County.

Dr. Betty Broman Textbook Scholarship. Awarded to fifth-year teacher interns seeking initial teacher licensure in Elementary Education.

Paul C. Burns Memorial Scholarship. Awarded to fifth-year teacher interns seeking initial teacher licensure in Elementary Education.

College of Education Alumni Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher licensure in Elementary Education.

College of Education Alumni Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher licensure.

The Billie Grace Goodrich Scholarship Fund. Awarded to a fifth-year teacher intern seeking initial teacher licensure who is from Gibson County.

Dr. Lillian L. Gore Scholarship Endowment in Elementary Education. Awarded to fifth-year teacher interns seeking initial teacher licensure in Elementary Education.

Ernie G. Graff Scholarship. Awarded to a deserving doctoral student in Educational Leadership.

Orin B. Graff Scholarship. Awarded to a deserving full-time doctoral student in Educational Leadership.

Helen Giffin Headlee Memorial Scholarship. Preference given to fifth-year teacher interns seeking initial teacher licensure who are from Loudon County.

Richard J. Hincke Scholarship. Preference given to fifth-year teacher interns seeking initial teacher licensure.

A.W. Hobt Memorial Scholarship Fund. Awarded to Graduate Teaching Associates in the Physical Education Activity Program.

Harry and Mary Hudson Scholarship. Awarded to a deserving student in the Human Services Program in Theories of Curriculum Development.

Gippie Jones Scholarship Endowment Fund. Preference given to an initial teacher licensure freshmen from Cumberland County.

Helen Carter Murray Scholarship. Awarded to student enrolled in the master’s degree program in school counseling.

Charles M. Peccolo Scholarship. Preference given to fifth-year teacher interns seeking initial teacher licensure.

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


Andrew Charles Robinson Memorial Scholarship. Preference given to fifth-year teacher interns seeking initial teacher licensure in either Elementary Education or Special Education.

Scott County Intern Scholarship Fund. William B. Stokely, Jr. Scholarship Endowment Fund. Preference given to fifth-year teacher interns seeking initial teacher licensure who are from Cocke, Monroe, or Loudon Counties.


Charles Whiteside Memorial Scholarship Fund. Preference given to fifth-year teacher interns seeking initial teacher licensure.

Louise Manning Wiley Fellowship. Preference given to fifth-year teacher interns seeking initial teacher licensure.

Dr. A. Paul Wishart, Sr. Science Scholarship. Preference given to a student with financial need.

Dr. Richard W. Yoakley Scholarship. Preference given to fifth-year teacher interns seeking initial teacher licensure.

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

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.

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.

Joel F. Bailey Scholarship. Given to a freshman in mechanical engineering.

Boeing Company Scholarship. Awarded annually to an outstanding junior in either aerospace, electrical, or mechanical engineering.

Herschel and Louise Brand Scholarship. Given to a co-op student who is at least a junior with successful academic performance.

Fred D. Brown, Jr. Minority Scholarship. Preferably awarded to African American sophomore-senior leaders.

J. Callaway Scholarship. Given to civil engineering students.

Chopra Family Scholarship. Awarded preferably to chemical engineering students on the basis of financial need and academic performance.

Alan Rice Cox Scholarship. Awarded to an upperclassman with financial need, above average academic standing and high moral character.

Hugo Colditz Memorial Scholarship. A four-year award for TN resident who is a leader with high academic standing.

Robert and Evelyn Condra Scholarship. Given to a student with financial need and successful academic performance.

Albert H. Cooper Memorial Scholarship Award. Annual award by the American Chemical Society to outstanding chemical engineering senior. Certificate and cash award.

Grace O. Davis Scholarship. Given to electrical engineering sophomore-senior with emphasis in electronics from selected Tennessee counties.

Charles H. Dean Scholarship. Scholarships established to honor Charles H. "Chili" Dean. Given to a student from east Tennessee with financial need, successful academic performance, leadership, and community service.

Nathan W. Dougherty Scholarship. Established to honor Dr. Nathan W. Dougherty, former dean of the College of Engineering. Awarded to an upperclassman.

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.

Eastland Family Scholarship. Preference given to Overton county residents attending Livingston Academy, then to Overton County
residents, Putnam County residents and then Tennessee residents with outstanding potential.

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

ETA Kappa Nu Scholarship. Awarded to electrical engineering, second semester sophomore taking or having completed circuits course.

Charles Edward Ferris Scholarship. Given to an upperclassman with good academic standing and demonstrated leadership skills.

Finner Family Scholarship. An annual scholarship awarded to one or more engineering students in memory of Mr. Glenn Finner, former engineering instructor, and his family.

Walter Welch Gentry Scholarship. Given to engineering student with financial need.

Henry C. Goodrich Scholarship. Supports engineering co-op students.

William and Pat Grecco Scholarship. Supports civil engineering students who are members of Chi Epsilon.

Henry A. Haensler Engineering Scholarship. Awarded annually to one or more engineering students in memory of Mr. Haensler.

Urban and Susan Hilger Scholarship. Given to electrical engineering student who is at least a sophomore.

Hughes Hall Memorial Scholarship. Awarded to a co-op student with good academic standing.

John D. Harper Scholarship. Preference given to an electrical engineering student from Blount County, TN.

S.T. Harris Scholarship. Given to electrical engineering student with strong commitment to success.

Eunice Hinkle Biomedical Engineering Scholarship. Scholarship honors Eunice Hinkle who spent 25 years working with faculty and students in engineering science and mechanics as department secretary and staff supervisor. Awarded to a junior or senior with outstanding academics and a biomedical focus.

Ina B. Howard Engineering Scholarship. Awarded to a civil engineering major from Giles County.

James L. Howard. Preference given to Giles County residents.

Michael James Memorial Scholarship. Scholarship started in memory of Michael James, former student in the College of Engineering. Annual award to a successful junior or senior in mechanical engineering. Name added to permanent plaque.

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

W. Crawford Jordan, Jr. Scholarship. This scholarship was established in honor of Mr. Jordan who earned a B.S. degree in electrical engineering at UT and was a native of Memphis. Recipient must be a resident of Shelby County.

Dwight and Gloria Kessel Scholarship. Scholarship awarded to a sophomore or junior in industrial engineering with preference given to materials handling and/or warehousing.

Kimberly Clark Chemical Engineering Scholarship. Annual award by Kimberly Clark Company to outstanding chemical engineering junior or senior.

Robert and Alliene Lay Scholarship. Awarded to an electrical engineering student who is a resident of East Tennessee.

W.O. Leffell Scholarship. Awarded to an electrical engineering undergraduate or graduate student.

Colonel Samuel H. Lockett Engineering Scholarship. Awarded annually to one or more engineering students in memory of Colonel Lockett, Professor of Engineering and Mechanics at the University of Tennessee and designer of the base and pedestal on which the Statue of Liberty rests.

Martin Company Scholarship. Awarded to a freshman or rising sophomore on basis of academic record.

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.

Edgar Wyman McCall Scholarship. Given to a junior or senior in electrical engineering on the basis of academic achievement and financial need.

Billy J. and Sylvia F. Moore Scholarship. Preference given to a senior co-op electrical engineering student.

Herman Morris Scholarship. Preference given to sophomore or junior mechanical or aerospace engineering students who achieve academic success and are community leaders.

Len and Nancy Neubert Scholarship. College-wide award.

Randall K. Nutt Scholarship. Scholarship established by the family of Randall Nutt in his memory. Randall was killed in a motorcycle accident on Cumberland Ave. while a student at UT. The award is given with preference to electrical engineering students from Farragut High School, Knoxville, Ooltewah High School or Hohenwald High School.

Pasqua Scholarship. Given to outstanding students majoring in nuclear engineering.

Joseph Penland Scholarship. Given to a junior or senior who has demonstrated promise by research, internship or co-op.

Donald and Betty Pitts Scholarship. Given to a mechanical and aerospace engineering student with demonstrated leadership.

Powell Alumni Engineering Scholarship. Given to a Powell High School graduate based on academic ability and financial need.

Rachef Scholarship. Given to materials science student based on academics.

Leonard and Betty Shealy Scholarship. Awarded to an electrical engineering student.

E.D. Shipley Scholarship. Given on the basis of financial need and academics.


Charles Francis Schultz Scholarship. Awarded to an upperclassman who is a resident of Tennessee or Kentucky based on financial hardship and academics.

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

Spickard Family Scholarship. Awarded to a full time student with financial need and good academic performance.

E. Eugene Stansbury Scholarship. Given to a student in materials science and engineering based on contribution to the science of metallurgy and/or potential for such contribution.

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

J.W. Lonas/TN Road Builders Scholarship. Civil engineering students get priority for award and is based on academics and financial need.

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

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

Anthony L. Vest Scholarship. Awarded to students from Dobyns-Bennett High School, Kingsport, Tennessee, or other Kingsport high schools.

Frederick B. Vreeland Scholarship. Awarded to industrial engineering students on the basis of character and academics.

Charles Weaver Engineering and Band Scholarship. Awarded to a freshman enrolled in engineering and The Pride of the Southland Marching Band. Available for four years with successful 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.

John H. Winstead Memorial Scholarship. Awarded to student with high academic standing and financial need.

Arthur Brownlow Wood Memorial Scholarship. Given on the basis of academic achievement and financial need.

COLLEGE OF HUMAN ECLOGY

Ida A. Anders Scholarship. Awarded to graduate students in Retailing and Consumer Sciences and Textile Sciences.

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

Margaret Cornelia “Connie” Rankin Brock Scholarship. Awarded to a freshman with preference going to a student from McMinn or Polk Counties.

Catherine Burton Chi Omega Scholarship. Awarded to junior women.

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

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

Commercial Interiors Entrepreneurial Scholarships. Student in any Human Ecology major must exhibit an entrepreneurial spirit as evidenced through work experience and extracurricular activities.

Nellie Crooks Award. Award to an outstanding student.

Ella J. Day Scholarship. Awarded to a rising junior or senior in Child and Family Studies.

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

General Human Ecology Scholarship Fund. Awarded to upperclassman or graduate in the College of Human Ecology.
Goody's Family Clothing Scholarship in Retailing. Awarded to students who are outstanding in Retail and Consumer Sciences.


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

Ann McGuire Grooms, M.D. Scholarship. Awarded to students entering the junior or senior year in all majors.

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

Helen Sharp Hakala Scholarship. Awarded to an outstanding Human Ecology student.

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

Ruth Huenemann Fellowship. For graduate students in Public Health Nutrition.

Fred Hurst Scholarship. Awarded to students in all majors.

Buford and Beatrice Irwin Scholarship. Awarded to students from Claiborne and Rutherford Counties.

Jefferson County Cooperative Scholarship in Agriculture. Shared with Agriculture Education.

Edith N. Jessop Scholarship. Awarded to deserving students in Recreation and Leisure Studies.

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

Knoxville A La Carte Scholarship. Awarded to students in Hotel and Restaurant Administration.

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

Inez Lovelace and Lavera Lovelace McKenzie Scholarship. Awarded to an outstanding Human Ecology student.

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

Nancy McClary McAllister and Lewis W. McAllister Scholarship. Awarded to graduate or undergraduate students majoring in Child and Family Studies.

Jacquelyn Hobbs McInnis Family and Consumer Sciences Internship Award. Awarded to a student enrolled in the secondary school internship program.

Bernadine Meyer Professional Development Fund. Awarded to students enrolled in any major in the College of Human Ecology.

Clarence Hillman Moody Scholarship. Awarded to a student from Carroll or Henry County.

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

James D. and Monica Moran Awards. For graduate students in Human Ecology.

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

Martha L. Peters Scholarilship. Awarded to deserving student in Recreation and Leisure Studies.

Geraldine M. Piper Fellowship. Awarded to a graduate student in Public Health Nutrition.

Eleanor M. Pratt Human Ecology Scholarship. Awarded to students enrolled in any major in the College of Human Ecology.

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

Harwell Proffitt Scholarship. For students in Retailing and Consumer Sciences.

Beville Hal Reagan Scholarship. Awarded to students in Hotel and Restaurant Administration.

Ruby McKee Rives. Awarded to a deserving student in Human Ecology.

Johnnie Rogers Scholarship. For needy Knox County students majoring in Nutrition.

Jane Savage Scholarship. Awarded to nutrition students.

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

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


Patricia Grubbs Sherwood Scholarship. Awarded to a student from Blount County or East Tennessee.

SKAL Club of Nashville Scholarship. Awarded to Hotel and Restaurant Administration students.

Hazel Taylor Spittle Graduate Fellowship. Awarded to doctoral students in Home Economics Education.

Sadie Katherine Stanton human Ecology Scholarship. Awarded to graduate students and graduating seniors in the College.

Connie Steel Scholarship. Awarded to an outstanding student in Human Ecology.

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.

Tony Torrice Educational Environments Graduate Fellowship and Research Award. Awarded to a student showing outstanding professional promise and for research.

UTK Tourism, Food, and Lodging Scholarship. Awarded to upperclassman majoring in Hotel and Restaurant Administration.

George A. Wagener Graduate Scholarship. In Business Education for Masters or Doctorate students in Business Education.

Eleanor Waters Wilson Scholarship. Awarded to deserving students in Human Ecology.

George and Louise Zirkle Scholarship. Awarded to students in all majors in the College of Human Ecology.

COLLEGE OF NURSING

Baptist-Fields Minority Scholarship. Open to sophomore junior and senior African-American nursing students who have demonstrated acceptable academic progress and financial need. Preference is given to native Tennesseans.

Theresa and Harold Dyer Fellowship. Variable amount awarded annually to native East Tennesseans or who plan to work in East Tennessee for a minimum of three years after graduation. The student must be enrolled in one of the graduate programs of the College of Nursing. A student who has demonstrated successful academic performance and/or financial need.

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

Betty Jo McAfee Greene Nursing Scholarship. Open to junior or senior nursing students who have demonstrated academic achievement and financial need.

Sylvia Hart Scholarship Endowment. Open to full-time nursing student who has completed at least 90 hours of BSN curriculum, earned a B or higher in junior level nursing courses, and a GPA of 3.25 or higher.

Knoxville Academy of Medicine Alliance Scholarship. Available to junior and senior nursing students with a minimum GPA of 2.5. Based on financial need. Priority to Knox County residents.

Knoxville Orthopedic Clinic Scholarship. Awarded annually to a rising senior nursing student with a strong academic background, well developed clinical skills, and demonstrated financial need.

Susan Maples Scholarship. Awarded to a junior nursing student with proven academic achievement in first semester of junior year or a rising senior who has demonstrated abilities in the classroom and clinical area.

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

Sally E. Townsend Memorial Scholarship. Open to Junior and senior nursing students with demonstrated abilities in the classroom and clinical area.

UT Hospital Auxiliary Nursing Scholarship. Available each year to either junior or senior students. Based primarily on financial need and preference is given to in-state students.

SCHOLARSHIPS

Acacia Fraternity John L. Wooten Jr. Scholarship

Accenture Scholarship in Business Accounting Development Scholarship Accounting General Scholarship Fund ACE Awards Alumni Scholarships Roy and Mildred Acuff Scholarship in Band Roy and Mildred Acuff Scholarship Choral Program and UT Singers Roy and Mildred Acuff Scholarship in Music Jennie M. Adcock Memorial Scholarship Sol Adler Memorial Scholarship African American Achievers Scholarship African American Achievers Incentive Grant Agricultural Communications Scholarship Agricultural Engineering Scholarship Fund Agricultural Extension Education Fund James and Judge Thurman Allor Memorial Scholarship Air Force ROTC Leadership Grants ALCOA Foundation Scholars Program in Engineering ALCOA Foundation Scholarship in Law ALCOA Foundation Scholarship ALCOA Foundation/MESP Scholarship ALCOA Foundation Scholarship in Transportation Alcoa Way Optimist Club Scholarship Howard F. Aldmon Scholarship Elsie P. Alexander Scholarship Allen and Hoshall, Inc. Engineering Scholarship Allen Medal Award Fund Clyde and Grace W. Alley, Sr. Agriculture Scholarship
Allied Scholars Program Scholarship
Allied-Signal Scholarship Fund
Allied-Signal Scholarship – Mechanical and Aerospace Engineering
Allied-Signal Hopewell/MESP Engineering Scholarship
Alpha Delta Kappa Agnes Shipman Robertson Scholarship
Alpha Gamma Rho Scholarship
Alpha Gamma Rho John Dale Ross Scholarship
Joe M. Alphin Scholarship
Alumni Music Scholarship
American Association of Cost Engineers
American Express Graduate Scholarship
American Industrial Hygiene Foundation Fellowship Scholarship
American Marketing Association Knoxville Chapter Scholarship
American Nuclear Society Need Scholarship
American Society of Real Estate Counselors
American Society of Women Accountants
Knoxville Chapter
American Welding Institute Graduate Fellowship
Amoco Foundation, Inc. Scholarship
AMOCO Scholarship in Logistics and Transportation
Ida A. Anders Scholarship
Arthur Anderson Alumni Fund
Anderson Consulting Engineering Scholarship
Anderson County Agricultural Scholarship
Winfred A. Anderson MBA Fellowship
Professor Duncan Agnus Scholarship
Animal Science Scholarship
The American Society of Civil Engineers Student Chapter Scholarship Endowment
Anonymous Scholarship Awards
Anonymous Accounting Scholarship
Anonymous Nursing Scholarship
Anonymous Student Award
Anthropology Department Scholarship
Architecture Discretionary Fund
Architecture General Scholarship
The Armisted Award in the College of Veterinary Medicine
James H. Armistead Journalism Scholarship
Armistead Scholarship
Armstrong Minority Education Scholarship
Army ROTC Leadership Grants
J. Clayton Anderson Teacher Training Scholarship
Max & Lalla Arnsent Scholarship
Art Department Enrichment Fund
Art Scholarship
Arts Council Legacy Award-Interdisciplinary Art Scholarship
Captain Samuel Earl Asher Memorial Scholarship
Ashrae Scholarship in Mechanical Engineering
Atlantic Richfield Foundation Fellowship
Arts and Sciences Scholarship
Audiology and Speech Pathology Scholarship
Earlene Chandler Aytes Scholarship
BA&F Management Fellowship
BA & FL MLT Fellowship
BA & FL Accounting Fellowship
BA & Business Alumni Friends Graduate Fellowship
Babcock and Wilcox Scholarship
The Bacon Beard Scholarship in Philosophy Fund
Karl F. Bahneman Award
David T. & Jane O. Bailey Scholarship
Hop Bailey Sr. Scholarship Fund
Joel F. Bailey Scholarship Endowment
Bain-Swiggert Poetry Prize Scholarship
Howard Baker Memorial Scholarship
Howard H. Baker, Jr. Student Leadership Award
Band Licensing Scholarship
Band Scholarship
Barber and McMurry Endowment for Excellence in Architecture
Battelle Scholarship
Lois Beatrice Dunn Barbee Scholarship Endowment Fund
Raymond L. Barnes Award for Excellence in Woodwind
John H. Barrett Memorial Fund
Colonel T. H. Barton Scholarship
Dorothea H. Barton Scholarship Endowment
Betty J. Basler Winner Circle Scholarship
Bass. Berry & Sims Student Scholarship
Dr. Mary Ann Bass Scholarship
William M. Bass Endowment
Grace and Brodie Baynes Scholarship in Accounting
Dr.和Mrs. Joe Beals Endowed Scholarship
Alvyn G. & Sally M. Beanam Scholarship Fund in EBEad Scholarship
Harry E. Beard Memorial Scholarship
The Beard Scholarship in Philosophy Fund
Bearden Lyons Club Scholarship
Kitty and William Beasley Teacher-Intern Scholarship
John Beauty Scholaristic Award in Ornamental Horticulture and Landscape Design
Hubert Bebb Memorial Scholarship
Bechtel/MESP
Ethan Beecher & Lois Roark Bridges Scholarship in Elementary Education
J. Garrett Beegley Scholarship in Accounting
Janet Belden Fellowship
Roy F. and Addie J. Bell Scholarship
Belcore/MESP Scholarship
Belissouth Tennessee Scholarship in Business
Belissouth Tennessee Scholarship in Engineering
Carl M. Bennett Scholarship Fund
Edna M. and King M. Benson Scholarship
Edna M. and K. M. Benson Scholarship
Berkline Corporation Scholarship
Berkline MBA Graduate Fellowship
The Henry F., Jr & Jane L. Bertelkamp Scholarship Program
Beta Theta Pi Memorial Scholarship
Beta Phi-Eta Kappa Nu Scholarship
Better English Graduate Aid
Bible-Harris Smith Scholarship
Bicentennial Scholarship
Karl A. and Madira Bickel Scholarship
Big Orange Swimming Scholarship
Biomedical Engineering Scholarship
Zack Binkley Memorial Scholarship
J. J. Bird Memorial Scholarship in Agriculture
Dr. William Bishop Scholarship
Yolisa Bituh Scholarship
Black Cultural Programming Committee Scholarship
Black Faculty/Staff Association Scholarship
The Lindsay F. Black Civil Engineering Scholarship
J. Paul Blakely Scholarship in Technical Communications
Lowell Blanchard Scholarship Fund
John Smith Block and Briddle Leadership Fund
Robert E. Bodheimer Scholarship
Elmo and Ernest-Lou Rowland Scholarship
John D. (Bo) Bohanan Award
Boeing Company Scholarship
The Bohan Scholarships
Edward J. and Carolyn P. Boling Special Awards
Carrie Rymer Boling Scholarship Fund
Amanda M. Bonham Journalism Award
One-Year Frederick T. Bonham Scholarships
Four-Year Frederick T. Bonham Scholarships
Frederick T. Bonham Law Scholarship
Frederick Bohnam Journalism Award
Walter Melville Bonham Graduate Fellowship
Frank and Patsy Borricht Scholarship Fund
Kenneth E. Boring Civil Engineering Cooperative Scholarship
Bosh Braking Systems Johnson City Plant Scholarship
Martha Bowen Scholarship
Edwin Watson Bowie Scholarship Endowment
Mary T. Boynton Scholarship
Cameron Brackney Scholarship
Tutt and Elizabeth Bradford Scholarship in Journalism
Tutt and Elizabeth Bradford Scholarship in Advertising
Dr. and Mrs. Donald H. Bradley, Sr. Scholarship Endowment
Jamie Irene Bradley Memorial Scholarship
Fund in Elementary Education
Dr. Patrick S. Brady Fund
Cary L. and Eva Mae Trail Branch Scholarship Endowment
Herschel C. And Louise Runnion Brand Scholarship
Janet Fay Breazeale Memorial Scholarship
Broadcasting Department Scholarship Fund
Magaret Cornelia “Connie” Rankin Brock Scholarship
Galen Brooker British Studies Scholarship
Dr. Betty Bromman Textbook Scholarship
Sarah Alice and Tommy Bronson Excellence Scholarship
Gordon Wayne Broome III Memorial Scholarship in Accounting
Brooks, Ledgerwood, Testerman Memorial Merit Scholarship
J. Cary Brossman Memorial Scholarship
Carey and Joan Brown Scholarship in Business
Clarence Brown Career Development Awards
Elaine and Arthur Brown Microbiology Scholarship
Fred D. Brown, Jr. Minority Scholars/Fellowship Program
Grover C. Brown Memorial Scholarship
Brown-Hayward Family Memorial Scholarship
Nell Mann Brown Scholarship in Architecture
Nell Mann Brown Scholarship in Agriculture
Brown Stove Works, Inc. Free Enterprise Scholarship
William Lester Brown Memorial Fund
Betty Berggren Bryan Scholarship
Pat and Frank Bryant Scholarship
Frank C. Bryant Memorial Scholarship
The William Bryant Memorial Scholarship
Calvin A. Buehler Chemistry Scholarship
Bullock Smith & Partners International Travel Scholarship
W. W. Burchfield Scholarship
The Sam Burge Nursing Scholarship Endowment Fund
The Edwin G. and Patsy H. Burdette Graduate Fellowship Endowment Fund
Captain Robert A. Burke Scholarship
Eleanor R. Burke Scholarship
James Henry Burke Scholarship
Evelyn and Howard Burke Scholarship
Burlington Industries Fellowship
Burlington Masonic Lodge Scholarship Endowment Fund
Performing Arts Scholarship
George F. Devine Scholarship
Dorothy N. Dille Art Scholarship
Robert R. Dince Memorial Scholarship in Finance
Dr. Kenneth G. Dixon Scholarship
Randall and Patricia Doerter Scholarship
Grace Darden Doggett Scholarship Fund
Florence L. Dom Scholarship in Piano
David D. Dortch Scholarship in Logistics and Transportation
Nathan W. Dougherty Memorial Scholarship
G. Mack and Nancy R. Dove Foundation Scholarship
Mildred E. Doyle Scholarship Fund
Drama Teacher Education Fund Scholarship
The David C. Duckett Scholarship in Business
Duke Energy Corp Scholarship
Duke Talent Identification Program
Earl and Mary W. Dunlap Memorial Agricultural Endowment Fund
Herbert G. and Lilian C. Scholarship
Emmett W. and Lucille K. Dunn Memorial Scholarship
The Mattie S. Dunn Memorial Scholarship
Dupont Fellowship
Dupont Minority Scholarships in Chemistry
Dupont Ph.D. Fellowship in Electrical Engineering
Dupont Ph.D. Fellowship in Chemical Engineering
Dupont Accounting Department Scholarship
Dura-Line/Asahi Paresh Memorial Scholarship
ELO Touchsystems/MESP East Tennessee Scholarship
East Tennessee Environmental Association East Tennessee Hemerocallis Society Scholarship
East Tennessee Gold Course Superintendent’s Association Scholarship
East Tennessee Natural Gas/MESP Scholarship
Eastland Family Scholarship
Eastman Chemical Engineering Scholarship
Eastman Chemical Co. Scholars
Eastman Chemical Co. Scholars – MESP Eastman Chemical Co. Scholars – Industrial Eastman Chemical Co. Scholars – Mechanical Eastman Chemical Co. Scholars – Electrical Eastman Co-op Education Award Fund Eastman Graduate Scholarship Eastman Kodak Employee/Alumni Scholarship in Civil Engineering
Eastman Kodak Scholars Scholarship in Architecture
Eastman Undergraduate Chemical Engineering Scholarship
Dorothea and Edgar Eaves Mathematics Fund Kenneth E. Edds and Christine M. Edds Memorial Scholarship
Educational Interpreting Program Educational Talent Search Educational Leadership Minority Student Scholarship
B. E. Edwards Agricultural Scholarship
B. E. Edwards Memorial Scholarship
Bluford E. Edwards Scholarship for Financially Underprivileged Students
E. I./MESP Minority Engineering Scholarship
EXCEL Program Scholarship
EXXON/MESP Scholarship
EURCA Awards – University Honors Electrical Engineering Scholarship Fund
Arnett Elliot Award Fund
James O. and Reddie Leinhardt Elliot Scholarship
Kenneth M. Elliot Chemical Engineering Scholarship
Scholarship Endowment
Edye Ellis Scholarship
Emergency Student Aid Fund in Social Work
Emergency Subsistence Aid Fund
Robert J. T. and Sandra Powell Emond Scholarship
John B. Emperor Scholarship
Richard W. Empey Memorial Scholarship Fund
Engineering Scholarship
Engineering Science and Mechanics Scholarship
Engineering Science and Mechanics Fund
Entomology and Plant Pathology Reentry Student Scholarship
The Environmental and Wildlife Studies Scholarship
Ethnic Minority Scholarship
James A. Euler Memorial Graduate Scholarship
Bob Evans Memorial Scholarship
Will H. and John Liggett Evan Scholarship
John Evans Memorial Medical Technology Scholarship
Buck Ewing Scholarship Fund
Excellence Undergraduate Education Fund
Exceptional Financial Need Scholarship
Faculty Women’s Club Scholarship
John Richard Fain Student Aid Fund Blaine Jackson Farmer, Jr. Drum Major Scholarship
Farm Credit Services of Mid-America ACA Scholarship
Emily Mahan Faust Graduate Fellowship in Theatre
Dr. Mark P. Fecher Agricultural Scholarship
David Ferrel Memorial Scholarship
Charles Edward Ferris Engineering Scholarship
Field Practice Fellowship
Fred Fields Undergraduate Award in Theatre
Financial Management Association of Knoxville Graduate Fellowship in Finance
First Tennessee Bank Scholarship Fund
Robert A. Finley Memorial Scholarship
Finner Family Scholarship
Fitzgerald Scholars
The Judy Flanagan Special Events Scholarship
Food Science and Technology Scholarship
Henry L. Ford Agricultural Scholarship Fund
Judge and Mrs. Richard R. Ford and Sue Ford Harris Scholarship
Foreign Studies Enrichment Scholarship
Forestry, Wildlife and Fisheries Scholarship
E. Bruce and Mary Evelyn Foster Scholarship
Liston Marshall Fox Memorial Undergraduate Scholarship
Thomas E. and Elizabeth Fox Scholarship
Fraker Family Nursing Scholarship
William and Margaret Fraser Scholarship Fund
Jack G. Frasier Scholarship
Julius-Henrietta Freed Scholarship Katherine and Helen Freed Memorial Scholarship
Freedom Forum Scholarship Fund
Mark Freeman Associates Scholarship
Paul Freeman, Jr. Scholarship Fund
Robert E. Freeman Scholarship
Katherine M. Frierson Memorial Scholarship
Frito-Lay Minority Business Scholarship
E. Guy Frizzell Scholarship Fund
Ralph Frost Scholarship Fund Joe Frye Endowment Fund in Transportation
Gideon Frye Scholarship
The Joseph O. Fuller Scholarship
GKAC Scholarship - Graphic Design
Harry and Carolyn Galtbraithe Scholarship
Gottfried Galston Music Endowment – Piano
Christine M. Garcia Scholarship in Marketing
Laurence Gardner Scholarship Fund
Claire Garland Memorial Scholarship
The Garrett Family Scholarship Endowment Fund
E. E. Garrison Excellence Scholarship in Marketing
Sam and Millie Gelber Winners Circle Basketball Scholarship
Gen Biology Teaching Award
General Electric Scholarship
General Electric Cincinnati/MESP Minority Engineering Scholarship
General Home Economics Scholarship
General Scholarship – Licensing
General Shale Products Corporation Fellowship Fund
Walter Welsh Gentry Engineering Scholarship
Geography Enrichment Fund
Geologic Science Professors’ Honor Fund
Irm Fitch Giffels Faculty Enrichment Fund
T. H. and Jeanette Gillespie Art Scholarship
George W. Gleaves, Jr., Memorial Fund
The Dale Goodfellow Scholarship Endowment
Mary Lynn Glustoff Memorial Scholarship Fund
Goodstein Architects Inc.
The Billie Grace Goodrich Scholarship Fund
Henry C. Goodrich Fund
Goody’s Family Clothing Scholarship in Retailing
Anne Hight Gore Scholarship
The Lillian L. Gore Scholarship Endowment in Elementary Education
The Frank Gorrell/Jamison Bedding Scholarship Dr. June D. Gorski Scholarship
Tim D. Gowder and Connie Lester Loan Fund
James M. Gower MBA Fellowship
Michael and Diane Gower Scholarship
Graduate Student Incentive Fund
Leroy P. Graf Scholarship
Erma G. Graf Scholarship
Orin B. Graf Scholarship
John Joseph Graham Scholarship
Grainger County Farm Bureau Scholarship
James T. Granberry Memorial Scholarship
Ben P. Granger Scholarship
Graphic Design Scholarship
Senator Andrew Jackson Graves Memorial Scholarship Fund
MSC/MAE Pomeroys Graves Scholarship
R. McDonald Gray Scholarship Endowment
Greater Knoxville Advertising Club Scholarship
The Greater Knoxville Chamber of Commerce Teachers of the Future Scholarship
The Greater Kingsport Kennel Club Scholarship in Veterinary Medicine
William and Patricia Grecco Scholarship Endowment
Bette M. McInerney Greene Nursing Scholarship Endowment
John W. Green Scholarship
Green Family Scholarship
Greene Farmers Cooperative Scholarship
Irene Hill Greene and Condon L. Greene Scholarship Endowment
John W. Greenawalt Prize in Molecular Biology
B. L. and Margaret Greer Endowment Fund
Ben Allen Gregory Memorial Scholarship
Harriet C. Greve Scholarship
Harriet Greve Alpha Omicron Pi Scholarship
Isabel Gideon Scholarship
Ann McGuire Grooms Scholarship
Edgar G. Guenther Scholarship
The Joe K. Hach Family Scholarship
Henry A. Haenseler Engineering Scholarship
Len D. Hagaman, M.D. Memorial Scholarship
The Mildred Morris Haines And William Elijah Morris Scholarship
Helen Sharp Haskala Scholarship
Alex Haley/Playboy Interview Scholarship
George D. Hall Scholarship
George D. Hall General Scholarship
The Hughes Hall Memorial Scholarship Fund
The Dr. and Mrs. James Wilson Hall Scholarship
Robert W. Gilbert and Judy S. Halterman Scholarship
Hambien Farmers Cooperative Agricultural Scholarship
Hambien County Agricultural Extension Agents Scholarship
Edward H. Hamilton Scholarship
Hancock County Farmers Cooperative Scholarship
Hanes Her Way Scholarship
Bill Harms Drum-Set Percussion Scholarship
John D. Harper Scholarship
Jessie W. Harris Scholarship
Maria Haan Harris Student Travel Scholarship
Polly Anna Harris Mathematics Scholarship Fund
S. T. Harris Scholarship
George E. and Alice H. Harrison Scholarship Endowment
Julian Harris Scholarship Fund
John and Louise Harrison Social Work Scholarship
Madge M. and David Harrison Scholarship
C. B. Harrison, Sr. Scholarship Endowment
John P. Hart Scholarship in Broadcasting
Sylvia Hart Nursing Scholarship
James A. and Natalie L. Haslam Scholarship in Business
James A. and Natalie L. Haslam Scholarship in Arts and Sciences
Hastings Scholarship
Travis Hawk Fellowship Endowment Fund
Ed Hawkins Memorial Scholarship
Hawkins County Agricultural Extension Scholarship
Hawkins County Farm Bureau Scholarship
Hawkins Farmers Cooperative Scholarship
Ed Hawkins Memorial Scholarship
James Hawley Scholarship in Music
Maud Calloway Hayes Scholarship
William T. and Emma M. Hays Memorial Agricultural Scholarship Fund
M. A. Hayward and Winfred H. Brown MBA Fellowship
Michael Steven Head Memorial Scholarship
Damon Rivers Headden Memorial Scholarship
Helen Griffin Headlee Memorial Scholarship
Thelma Newhart Health Scholarship
Ernest and Fannie Glass Hedgcock Scholarship
James H. Healy Scholarship in Business (Tennessee Executive Development Program)
Elizabeth and Alice Help Scholarship Quasi-Endowment Fund
Chet Hedgcock Scholarship
Mr. and Mrs. Jeff L. Hemphill Scholarship
H. L. Hendricks Memorial Scholarship in Law
Harold W. Henry Scholarship Fund
Ronald and Susan Henry Scholarship in Industrial Engineering
Linda Miller Herbert Scholarship
G. L. Herrington 4-H Agricultural Scholarship
Holf-Dieter Hermann Scholarship in Philosophy
Herman Hickman Memorial Scholarship
Jami S. High Memorial Scholarship in Interior Design
Charles Evans Higdon Leadership Scholarship Fund
Donald G. Hileman Scholarship
J. B. Hilliard, W. L. Lyons Scholarship Fund
The Urban and Susan Hilger Engineering Scholarship
Eunice Hinkle Biomedical Engineering Scholarship
The Richard A. Hincke Scholarship
Louise Hisey Scholarship Endowment Fund
Tom and Mae Hitch Scholarship
Lea John Hisey Scholarship
Hnedak Bobo Group, Inc., Fellowship
John Wendell and Clara Lee Hobby Scholarship
C. S. Hobbs Scholarship Fund
W. Hobt Memorial Scholarship Fund
Harry G. Hodges Memorial Scholarship Endowment Fund
Hodges Better English Fund
Margaret Elizabeth Hodges Scholarship
Hoechst-Celanese Corporation Student Award Fund
Hoechst Celanese Junior Award
Hoechst Celanese Outstanding Junior Award
Hoechst-Diafoil-MESP Minority Undergraduate Scholarship
Clyde McLeod-Hoffman Memorial Scholarship
J. Wesley Hoffman Agricultural Scholarship
Alexander Hollander Graduate Fellowship
Otis Ray Holley and Frances Holley Memorial Scholarship Fund
The J. Fred Holly Endowment Fund for Excellence in Economics
J. Fred and Wilma D. Holly Scholarship
John Fred Holly, Jr. Memorial Scholarship
Dr. Andrew D. Holt Scholarship in Marketing
Darrell W. Holt Scholarship Fund
Herbert C. Holt Scholarship
The Holt/Howard Broadcasting Scholarship
Martha and Andy Holt Scholarship Fund for Milan High School
Dr. D. Frank Holtman Scholarship Fund
Home Federal Bank of Tennessee Scholarship Endowment Fund
Home Federal Savings and Loan Association of Johnson City
Paul M. Hogue Memorial Scholarship
Marion D. Hoppe Scholarship
Neilah Cameron Hopper Scholarship in Education
Arthur and Nellie Hord Scholarship Endowment
J. Elmer Housley Scholarship Endowment Fund
David V. and Hortense G. Howard Memorial Scholarship
David V. Howard Scholarship
George Wesley Howard Memorial Scholarship
Ina B. Howard Scholarship Fund
Isaac B. Howard Memorial Scholarship Fund
The Jama Frances Howard Scholarship Endowment Fund
James Dunn Howard Memorial Scholarship Fund
James L. Howard Scholarship Fund
Janie Howard Memorial Scholarship
Dr. J. Eugene and Thelma J. Howard Scholarship Endowment
The Martha D. Howard Memorial Scholarship Fund
The James L. and Martha D. Howard Scholarship Fund
Hubbard Farms Poultry Science Scholarship
Harry and Mary Hudson Scholarship Fund
H. Wayne and Betty B. Hudson Scholarship Endowment
Ruth Huemann Memorial Scholarship
H. H. Huffines Agricultural Scholarship
Human Ecology 60th Anniversary Scholarship
John F. Humphrey Metal Fabricators, Inc. Scholarship
Jack B. and Judy M. Humphreys Civil Engineering Scholarship Endowment
Human Services Department Excellence Fund Scholarship
Human Services Advisory Board Scholarship
Hunter Hills Scholarship in Theatre
Joseph N. Hunter Memorial Scholarship
Hunton and Williams Scholarship
Gertrude Garner Hurbut Scholarship
Fred Hurst Scholarship
Walter and Bertha Mays Huskey Scholarship
Arthur B. Hyman Memorial Scholarship Fund
IBM/MESP Minority Engineering Scholarship
IBM Minority Scholarship Fund
Industrial Engineering Scholarship
The I.E.E. Scholarship
Buford and Beatrice Irwin Scholarship Fund
Institute of Geotechnology Scholarship
Institute of Nuclear Materials Management Scholarship
Institute of Resistance Ionization Spectroscopy Symposia Scholarship
Instrumentation Society of America Engineering Scholarship
Insurance Scholarship
IT Scholarship/MESP Scholarship
Charles Jackson Disability Services Award
Charles Jackson Memorial Fellowship
Jimmy Jackson Conservation Award Fund
Michael James Memorial Engineering Scholarship Endowment
Owen James Memorial Agricultural Scholarship
Jacob K. Javits Fellows Program
Jay and Bee Winners’ Circle Scholarship
Jazz Program Endowment Fund
Jefferson Farmers Cooperative Scholarship in Agriculture
Jefferson Federal Savings and Loan Scholarship in Business
A. L. Jerden Memorial Scholarship Fund
Edith N. Jessop Scholarship
Charles E. Jeff II Memorial Scholarship Endowment
Richard Joel Advertising Scholarship
Denny Johnston Memorial Fellowship for Non-Traditional Students in Student Work
The Homer Johnson Scholarship in Material Science
The Homer Johnson Scholarship in Chemical Engineering
Howard Johnson Tennessee Food and Lodging Scholarship
The Judy and Joe Johnson Scholarship Endowment
George R. Johnson Scholarship
Robert L. Johnson Handicapped Scholarship
Sally Holder Johnson Memorial Scholarship
Wanda Wheeler Johnston Memorial Scholarship
Ellie Naemi Jones Scholarship
Gippie Jones Scholarship Endowment Fund
L. E. and Emma E. Jones Scholarship
The Mark G. Jones Scholarship Fund
Florence Sanders Jones College Scholars Fund
West Crawford Jordan, Jr. Scholarship
Willa Jordan MBA/CEO Intern Program
Journalism Faculty Scholarship
Edward E. Judy Scholarship
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Honors and Awards

W. J. Julian Pride of the Southland Band Scholarship Endowment
KAMA Scholarship
Lisa Kahn Memorial Award for Excellence in Undergraduate Research
The Bernard Kaplan Women’s Athletic Scholarship
Kappa Sigma Lambda Chapter
Katz Family Law Scholarship Endowment Fund
Abraham Aaron Kaufman and Pamela Lesley Kaufman Scholarship
Jay Keele Memorial Scholarship
Charles W. Keenan Chemistry Excellence Endowment Fund
Estes Kefauver Memorial Endowment Fund
R. J. Kelly/T. H. Edwards Scholarship
Kentucky Educational Excellence Scholarship (KEES)
Nellie D. Kenyon Scholarship in Journalism
Tim Kerin Memorial Scholarship
Wallace Dwight Kessel Industrial Engineering Scholarship
Gordon Keyes Memorial Scholarship
Jack E. Kiger Scholarship in Accounting
Dr. John J. Kilkenny Scholarship
Kimberly-Clark Chemical Engineering Scholarship
Kimberly-Clark, GA/MESP Minority Engineering Scholarship
Kimberly-Clark Chemical Scholarship
Ben and Margaret Kimbrough Scholarship
John L. and Elsbeth Kind Scholarship
The Bernard King Communications Scholarship
E. Ward King Scholarship in Transportation
James M. King Scholarship
King and Johnson Architects, Inc. Scholarship
Kingsport Bar Association Scholarship
James C. Kirby, Jr. and Barbara Eggleston Kirby Scholarship
Kathy Kirby Music Scholarship Endowment Fund
J. Bryant Kirkland Agricultural Education Scholarship
James Kite Memorial Scholarship
Adam J. Klein, Jr. Memorial Scholarship
Phillip C. Klipsch Scholarship
Knickerbocker Poetry Fund
Joseph L. and Patricilla L. Knott Scholarship
Knob Hill AGC Scholarship
Knoxville News Sentinel Advertising Scholarship
Knoxville News Sentinel Journalism Scholarship
Knoxville A La Carte Scholarship
Knoxville Auxiliary Tennessee Bar Association Scholarship
Knoxville Auxiliary Tennessee Bar Association Law Review Awards
Knoxville Community Housing Resource Board Minority Scholarship
Knoxville Orthopedic Clinic Scholarship
Knoxville Garden Club/Emily Bruner
Knoxville Watercolor Society Scholarship
Knoxville Women’s Club Scholarship in Music
KOC Training Scholarship
Kodak Fellows Program in Chemical Engineering
Kodak Minority Scholarship in Accounting
Stanley Kogut Scholarship
The Eleanor & George Kokiko, Sr. Foundation Scholarship
The Clarence and Augusta Kolwyck Academic Achievement Scholarship
Louis & Lillian Kotler Scholarship Fund
Clarence Kuo Memorial Fund
Gerald LaBorde Memorial Scholarship
Forrest W. Lacey Scholarship
Guy M. Lachine Memorial Fund Award
John M. Lain Business Industrial Communications Award
Mr. and Mrs. John M. Lambert Endowment Fund
Lamar Advertising Scholarship
L.A.M.P. Foundation Scholarship
Marjorie M. Langhorst Memorial Scholarship
Aliene Lay Electrical Engineering Scholarship
Law Affirmative Action Scholarship
Law Class of 1993 Scholarship Endowment
Law Class of 1996 Scholarship Endowment
Law College Scholarship
Law College Alumni Scholarship
The Rodney and Dell Lawler Scholarship
The Faye Pressnell Layne Memorial Scholarship
L.C.D. Scholarship
Lucille and Herbert Lee Mathematics Scholarship
McAfee Lee, Jr. Memorial Scholarship
The William M. Leech, Jr. Memorial Scholarship
Russell B. Leffell Scholarship Endowment Fund
W.O. Leffell Scholarship Fund
Kelly Leiter Scholarship Fund
Paula Hicks Lemler Scholarship for Teacher Education Fund
Leslie Leslie Vocational Scholarship
Lawrence D. Levine Marketing Scholarship
Abraham Levy Scholarship Fund
Lewis Group Architects
Pat Letitia Lewis Scholarship
Thomas S. Lewis, Jr. Scholarship in Accounting
Levisohn Scholarship Endowment
Lexmark/MESP Scholarship
Lincoln County Alumni Agricultural Scholarship
Mike Littlejohn Scholarship
Joe P. Little Agricultural Scholarship
Col. S.H. Lockett Engineering Scholarship
Col. S.H. Lockett Scholarship
J.W. (Bill) Lonas/Tennessee Road Builders Association Scholarship
John R. & Sarah N. Long Scholarship
Ruth and Jewell Love Voice Scholarship Fund
Inez Lovelace & Laveria Lovelace McKenney
Inez Lovelace/Laveria McKenney 4-H Club
J.H. Loving Family Scholarship
W.T. “Bill” Lowe Scholarship
Howard H. Lumsden Scholarship Fund
Harold L. Luper Student Assistance Fund
Walter L. Lusk Scholarship
J.B. Lyle Music Education Scholarship
The James F. Lyle, Clu Insurance Scholarship
R N Lyon Engineering Endowment Fund
Macon County Anonymous Agricultural Scholarship Fund
James B. Madden Memorial Award
James B. Madden Memorial Prize Stock Judging
Mr. and Mrs. L.H. Magee Scholarship Fund in Business Administration
MagnaVox-May Costa Scholarship in Voice
Marier & Herod Scholarship
The Majorette Scholarship
The Frank McKinney Memorial Scholarship
Gus and Margaret Manning Athletic Scholarship
The Peyton Manning Scholarship Fund
J.P. & Gladys Maples Scholarship
The Susan H. Maples Scholarship Endowment Fund
James and Barbara Marable Liberal Arts Scholarship
Marketing Enrichment Scholarship
Marketing, Logistics & Transportation Learning
John Long Marks Scholarship
Dawn M. Marsh Scholarship Endowment Fund
Dr. James D. Marsh Memorial Scholarship
A. David and Beverly Martin Scholarship in Accounting
A. David Martin Investment Management Scholarship Endowment
Martin Company Engineering Scholarship
Martin Marietta, Oak Ridge/MESP Minority Engineering Scholarship
Martin Marietta Minority Accounting Scholarship
James E. Martinson Memorial Scholarship Fund
Materials Joining Scholarship
Material Science & Engineering Scholarship
Materials Science & Engineering (MSE) Scholarship
Pi Mu Epsilon Scholarship
Judge Louis Kirby Matherne Scholarship
Mrs. J. Harvey Mathes DAR Award
Matthews-Jeter Scholarship
Lori Mayes-Re-ENTRY Women’s Graduate Fellowship
College of Business Maytag Scholarship in Marketing
MBA Student Award Fund
MBA Excellence Scholarship
Nancy McClary McAllister & Lewis McAllister Scholarship
Edgar Wyman McCall Scholarship
G.W. McCall, Sr. Scholarship
Dorothy Ryan McCarthy Scholarship
A.E. McClanahan Agricultural Scholarship
Arch E. McClanahan Agricultural Memorial Scholarship
McClung Declaration Prize Scholarship
Louise Carr McClure Scholarship
McClure Fellowships
Mark Lee McCormack Scholarship Endowment
S. Lloyd McCulloch Scholarship
Stewart K. McCrosey Memorial Fund
Barry L. McDonald Scholarship
K. Dwight McDonald Memorial Scholarship
Reverend J. Irvin McDonough Memorial Scholarship
William G. McDonough, Jr. Scholarship
McDow Phi Kappa Phi Scholarship
Henry George McGinley Scholarship
Jaquelyn Dobbs McInnis Endowment for the Family and Consumer Science Education Internship Award
McKenzie Scholars Endowment
Robert L. McKnight Memorial Scholarship in Labor Law
Neal McMeans Memorial Scholarship
Helen Ross McNabb Mental Health Center
Lisa McReynolds Memorial Scholarship
Clayton McWhorter Scholarship
Wade Meadows Scholarship
The Mechanical and Aerospace Engineering General Scholarship Fund
The Edward J. Meeman Fellowship in International Communications
Melaven-Rhenium Scholarship
Teresa Maples Melton Memorial Scholarship Endowment
Memphis Botanic Garden Foundation Agricultural Scholarship
Memphis Gridiron Show Scholarship
Memphis Light, Gas and Water/MESP Minority Engineering Scholarship
J.T. Mengel Forestry Scholarship
Tom and Brenda Mentzer Endowment in Marketing and Logistics

Bernadine Meyer Professional Development Endowment Fund
Bernadine Meyer Scholarship in Food Technology and Science
Isabel and William Michalopolous Memorial Scholarship
Robert and Majorie Michel Scholarship
The Microbiology Scholarship Endowment Fund
Middle Tennessee Veterinary Medical Association Scholarship in Veterinary Medicine
Mike Miller Memorial Scholarship
J. T. Miles Food Technology and Science Scholarship
John M. and Grace G. Millen Fellowship
Millennium Scholarships in Business
Carl M. Miller Memorial Student Assistance Fund
Charles Miller Award of Excellence in Civil Advocacy
Evelyn Miller Music Scholarship
Mr. and Mrs. James Miller Scholarship
Harlan D. Mills Scholarship
John W. Minchey Scholarship
Minority Scholarship Fund in Accounting
Minority Engineering Scholarship Incentive Grant
3/M Minority Engineering Scholarship
Donald O. Mirts Memorial Scholarship
Miscellaneous Student Aid Fund
James W. Mitchell Memorial Scholarship
T. A. Mitchell Scholarship
MLT Learning Partnership Scholarship
Mobil Research and Development Fund
Anne Y. and Herman L. Modlin, Jr. Scholarship
Susan L. Moeller Memorial Scholarship
Phillip W. Moffitt Scholarship
Chester A. Molley Memorial Scholarship
Clarence Hillman Moody Scholarship – Human Ecology
Clarence Hillman Moody Scholarship – Agriculture
Robbie D. Moon Scholarship Fund
Fulton Beverly Moore, III Memorial Real Estate Scholarship
The Grace Moore Scholarship in Voice
James L. Moore, Jr. Golf Scholarship
The Kyle Campbell Moore Scholarship Endowment
The Moore Company Scholarship
Pearl E. and Edward R. Moore Memorial Scholarship
Richard L. Moore, Jr. Graduate Fellowship
Roger M. Moore, Sr. Scholarship Endowment Fund in Finance
Billy J. – Sylvia F. Moore Scholarship
Sylvia F. and Billy J. Moore Scholarship
Moorman Company Fund Scholarships in Agriculture
The James D. and Monica Moran Dissertation/Thesis Awards
Mabel Miller Morelock Scholarship
The Charles and Sherry Morgan Fellowship Endowment Fund
Charles F. Morgan Scholarship
Golda Moss Scholarship Endowment
J. Owen Moss Scholarship Fund
Mrs. Yuen Leung Mo-Tak Scholarship Fund
The David F. Mould Scholarship in Journalism
Carmen Linkous Moulton Memorial Fellowship
Leonard B. Murray, Sr. Scholarship Fund
The Richmond Carter Murray Scholarship Fund in the College of Education
Master Degree Students in Rehabilitation Counseling
Music Department Scholarship
Music Department Cello Scholarship
MX – Design Scholarship in Architecture
Millard L. Myers Scholarship
Myron Taylor Myers Scholarship Fund
Jesse B. Naïve Scholarship
Native American Studies Scholarship
The Nashville Banner Scholarship
Earl W. Napier Memorial Scholarship
Nashville Area Home Economics in Home and Community
National Action Council for Minorities in Engineering
National Broadcasting Society – Alpha Epsilon Rho Scholarship
National Science Foundation Scholarship
NationsBank Student Leadership Award
Martina Navratilova Tennis Scholarship
Jeff Neely Athletic Scholarship
Lindsey Nelson Scholarship
Thomas P. Nelson, III Memorial Scholarship Fund
Arie L. and Michael T. Nettles Endowment
Len and Nancy Lois Neubert Scholarship
Newsletter Association Foundation Fund – Scholarship
Earle R. Newton Memorial Scholarship
Robert R. Neyland Scholarship
NFS Memorial and Honor Scholarship
J. H. Nicholson Memorial Scholarship Fund
Harry Nides Scholarship in Violin
Alvin H. Nielson College Scholars Scholarship Fund
Nissan/MESP Engineering Scholarship
Paul and Rita Nolan Scholarship
Rod Norman Memorial Scholarship Fund
Randall K. Nutt Engineering Scholarship
The Oak Ridge Kennel Club Scholarship in Veterinary Medicine
Mary Ellen O'Camp Scholarship
O'Charley’s MBA Fellowship
Vernon O'Dell Memorial Scholarship
The Francis "Red" O'Donnell Scholarship Fund
Odyssey of the Mind Scholarship Fund
Jerry W. Ogle Memorial Scholarship in Accounting
Oldham Scholarship
Olin Chemicals/Charleston MESP Engineering Scholarship
Olin Chemicals/KY MESP Engineering Scholarship
Olin Chemicals/LA MESP
Gene Oliver Memorial Scholarship Endowment
James R. Omer Scholarship
Rhoda O'Meara Scholarship
O'Neal Family Scholarship in Veterinary Medicine
Opening Night Club Steering Committee Scholarship
Ornamental Horticulture and Landscape Design Scholarship
W. Hugh Overcash Tax Law Scholarship Endowment
Woodrow W. Overcast Agriculture Scholarship Fund
Pacific West Cancer Fund
Colonel John Wallace Page Memorial Scholarship
Paine Scholarship Endowment Fund
Kathy Palko Memorial Scholarship Award
Panenergy Corporation Scholarship
Mr. and Mrs. Marcus Parker Agricultural Scholarship Fund
Hugh Clinton Parkey and Wayne Parkey, Jr. Memorial Scholarship
Larry Parks Agriculture Scholarship
Mary Lu Bodkin Parks and Robert G. Parks, Jr. Scholarship
Travis M. Parman Public Relations Scholarship
Pasqua Excellence Freshman Scholarship
William L. and Frances R. Patterson Engineering Scholarship
Ken and Wanda Patton Scholarship/Fellowship
Charles M. Peccolo Scholarship
Paula Z and Joseph N. Feeden Scholarship
Pelia Traveling Scholarship
Mike R. Pelton-Ober Gatlinburg Scholarship
Joseph R. Penland Memorial Fund
William Britt Pennebaker Scholarship Fund
J.C. Penney Scholarship in Retailing
J.C. Penney Scholarship in Business
Angie Warren Perkins Scholarship Prize Fund
Perry Scholarship
Martha L. Peters Scholarship
Dr. Marija Petrovska Scholarship Endowment
Carl I. Peterson Scholarship Endowment Fund
Phillips Petroleum Transportation Scholarship
Ronald J. Phillips Scholarship
Phillips Consumer Electronics Marketing Scholarship
Phi Kappa Phi Scholarship
Phi Sigma Kappa Fraternity Scholarship
Phi Theta Kappa Transfer Student Scholarship
Pilot Corporation Minority Student Scholarship in Finance
Pilot Corporation Architecture Internship/Fellowship
Paul Pinckney Scholarship
Piper-Lewis Scholarship
Geraldine M. Piper Fellowship Endowment
James T. Pippin Scholarship
Donald R. and Bettie J. Pitts Mechanical and Aerospace Engineering Scholarship Endowment
Plant and Soil Science Scholarship
James L. Pointer Agricultural Scholarship
Polk County Agricultural Extension Scholarship
Political Science Head Support Fund
Marcella Pollard Memorial Scholarship
William Walter Potter, M. D. Athletic Scholarship
Powell High School Alumni Association Scholarship
Powell Alumni Engineering Scholarship
James Powers III Clinical Achievement Award of Excellence in Criminal Advocacy
Eleanor M. Pratt Human Ecology Scholarship Endowment
Presidential Scholarship
Presser Foundation Scholarship
Shade and Dolly Pressnell Scholarship
Proctor and Gamble Alumni Fund in Business
Proctor and Gamble Cellulose/MESP Minority Engineering Scholarship
Proctor and Gamble Minority Chemical Engineering Scholarship Fund
Proctor and Gamble Cincinnati – MESP Scholarship
Proctor and Gamble GA/MESP Minority Engineering Scholarship
Proctor and Gamble General Minority Scholarship
Proctor and Gamble Minority Scholarship
D. W. Proffitt Foundation Scholarship Fund
Harry H. Proffitt, Sr. Agriculture Scholarship
The Harwell Proffitt Excellence in Retailing Scholarship
Project Include
Pugh and Company Scholarship Endowment
Gary R. Purcell Scholarship Fund
Purity Dairies Food Technology and Science Scholarship
Scripps-Howard Ernie Pyle Award
Quaker Oats/Jackson – MESP Scholarship
Quaker Oats Minority Scholarship in Logistics and Transportation
P. David Qualis Fellowship
Ralph E. Quaries Scholarship
Janenne Jones Quillen Memorial Scholarship Fund
Rachef Scholarship in Metallurgical Engineering
Rader Merit Scholarship for Composers
Ira Vincent and Sophronia Ragsdale Memorial Scholarship
W. F. “Rex” Raney Scholarship
Albert Rapp Memorial Scholarship Endowment
Virginia M. Raskin Scholarship Endowment Fund
Ratledge Family Student Support
Larry Ratner Scholarship Fund in Arts and Sciences
Nina V. Ratner Memorial Scholarship in the Arts and Humanities
Virginia Thrapp Raulston Music Scholarship
John R. and Nancy S. Ray Scholarship Endowment
Richard and Ann Ray College Scholarship Endowment
William T. Ray Endowment Scholarship
Reagan Undergraduate Scholarship
Reagan Excellence Fund
Alma and Hal Reagan Scholarship
Alma and Hal Reagan MBA Fellowship
Beville and Hal Reagan Scholarship in Human Ecology
V. Hal and Beville Hal Reagan Scholarship in Veterinary Medicine
Beverly Hal Reagan Scholarship in Animal Science
Kyle Reed MBA Scholarship
Reeder-Siler Scholarship Fund
The Reeder-Siler Graduate Fellowship in Communications
Refreshments, Inc. Undergraduate Scholarship
Rehabilitation Counselor Education Program
Rehabilitation Corporation of Tennessee Scholarship
Rehabilitation Corporation of Tennessee Scholarship in Veterinary Medicine
Dr. Barbara M. Reid Minority Nursing Scholarship
Republic Newspaper Inc. Scholarship
R. J. Reynolds Tobacco Company Scholarship
Noah Porter and Myrtle Couts Rhinehart Scholarship
J. Clark Rhodes Graduate Scholarship Music Education
The Malcom Rice Architectural Award
Richland Ventures MBA Fellowship
Alex and Candace Richmond Scholarship Endowment Fund
Rich’s/Lazarus/Goldsmith’s Retailing Scholarship
Stephen Dean Rimmer Memorial Scholarship
Chris H. Ritts Scholarship
Ruby McKeel Rives Scholarship
Claude K. Robertson Scholarship
Judson Hall Robertson Scholarship Prize in Analytical Chemistry
Victor Mansfield Robertson Awards for Military Excellence
Allie Mae Howard Robinson Endowment
Andrew Charles Robinson Memorial Scholarship
Thomas L. and Emma H. Robinson Scholarship
Fred M. Roddy Scholarship
Fred M. Roddy Merit Scholarship
Roddy Upper-class Scholarship
Johnnie Rogers Scholarship
King W. Rogers, Jr. Scholarship Endowment
Ralph T. & Louise Rogers MBA Fellowship in New Venture Analysis & Entrepreneurship
Rohm and Haas Tennessee/MESP Minority Engineering Scholarship
The Ruby Ruckman Knoxville Chapter of National Association of Women in Construction
Romance Languages General Scholarship Fund
T. Harold Rose Scholarship
Callie Wood Ross Scholarship
Douglas V. Roseberry Memorial Fund
The Rosemary Snyder Rousch Memorial Scholarship
W. Harold Row, Jr. Memorial Scholarship
Ruby Ruckman Scholarship
Darrell Russell Scholarship Endowment in Architecture and Interior Design
The Margaret and Robert Russell Scholarship Endowment Fund
The William L. and Sarah E. Russell Scholarship
Dr. J. E. Salsbury Foundation Veterinary Medicine Endowment Fund
The Dottie Sanders Interior Design Scholarship Endowment Fund
Sander(s) Minority Scholars
Saturn/MESP Scholarship
Jane R. Savage Scholarship
The Norman B. Sayne Scholarship
Milton/Ruth Schololottmann Scholarship
Bernadette E. Schmitt Award
Cooper D. Schmitt Mathematics Scholarship
Gary and Joretta Schneider Scholarship Fund
Schneider Honors Award College of Veterinary Medicine
John F. Schrankel Scholarship
Scholars Bowl Scholarship
Scholarship Appreciation Scholarship Endowment Fund
School of Social Work Alumni Association Scholarship Fund
Robert C. Schutt, Jr. Scholarship
Scribbs Intern Program Fund
Robert Seals Scholarship
SEDGwick Construction Industry Engineering Scholarship
Louise and Aileen Seilaz Scholarship Endowment
Emile Seilez Scholarship Endowment Fund
College of Business Administration
Louise Sr. and Lydia BUFFET Seilaz Memorial Scholarship Fund
Mary Louise Seilaz Scholarship Endowment Fund
Sevier County Scholarship in Organ
Sevier Farmers Cooperative Agricultural Scholarship
Sevier County Swim Scholarship
Richard C. Sexton Memorial Rugby Scholarship
Jeff Seymour Memorial Scholarship
Evelyn Martin Shafer Human Ecology Scholarship
Michael Shaffer Memorial Scholarship
J. & Evelyn Sharp Endowment Fund
Dr. and Mrs. David L. Shea Award for Excellence in Theatre Movement or Dance
Leonard and Betty Shealy Scholarship
J. Rueben Sheeler-Writing and Research Award
Shelby Accounting Career Scholarship
Shell Oil Undergraduate Awards
Shell Mechanical Engineering Scholarship
Mary Phipps Shepard Graduate Fellowship Fund
Mr. and Mrs. E. D. Shipley Engineering Scholarship Quasi-Endowment
Gordon Sherman Scholarship
Patricia Grubbs Sherwood Scholarship
David A. Shirley Scholarship/Fellowships
L. Raymon Shobe Scholarship
Beverly Shrode Agricultural Scholarship
Charles Francis Shultz Scholarship
The Keith David Sidorsky Memorial Scholarship
Stewart G. and Ann T. Stewart Endowment Fund in Accounting
Sigma Phi Epsilon Balanced Man Scholarship
Betsy and Toby C. Silberman Scholarship
Tom Siler Scholarship
Burton B. Simcox Chemical Engineering Scholarship Fund
Colonel Lawrence S. Simcox Scholarship Fund
Howard Simmons Agriculture Scholarship
Charles S. Simms Scholarship
Carlas and Winnie Simpson Scholarship
Gladys Glapha Simpson Memorial Scholarship
Irving G. Simpson Award
Robert H. and Jean S. Sinclair Scholarship Endowment
The SKAL Club of Nashville Scholarship
Warren Slagle Accounting Scholarship
Susie Benson Slyman Scholarship
Flora Smith Small Scholarship
Elizabeth Z. Smith Scholarship
Hilton A. Smith Scholarship
Clarice and Orville Smith Scholarship
Thomas Smith Finance Scholarship
Wade and Mary Smith Scholarship Endowment Fund
Smoky Mountain Antique Engine and Tractor Association Scholarship in Agriculture
Charles D. Snepp Scholarship
John Milton Sneedor Scholarship Endowment Fund
Joe and Patricia Sneedgrass Scholarship
William T. Snyder Engineering Scholarship Endowment Fund
Social Work Undergraduate Scholarship Fund
Society of Professional Journalists – Broadcasting Scholarship
Society of Professional Journalists Scholarship Fund
SOILS Judging Fund
Wayne and Margaret Solomon Scholarship
Southern Appalachian Science and Engineering Fair
The Gilbert Southern Corporation Scholarship in Civil Engineering
W. H. H. Southern Memorial Student Assistance Fund in the College of Law
The Southeastern Bankruptcy Law Institute, Inc. Scholarship Endowment
Southeastern Food Processors Association
Southeastern Regional Fellowship
Southeastern Transportation Center Scholarship
Richard T. Sowell Memorial Scholarship
Andrew W. and Marcia K. Spickard Engineering Scholarship
Herman Spivey Graduate Fellowship
Avron Spira, Jr. Advertising Scholarship
The Hazel Taylor Spitzke Graduate Fellowship

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Springs Industries/FT Mills Minority Engineering Scholarship
Springs Industries – Lancaster/MESP Caesar and Edith Stair Music Education Fund A.E. Stanley Manufacturing Company PhD Fellowships
Jonathan C. Spear Memorial Scholarship Endowment
Special Education Enrichment The Mary Stannell Home Education 4-H Club Endowment
E. Eugene Stansbury Endowment in Materials Science and Engineering
Sadie K. Stanton Human Ecology Scholarship
Stapcraft Scholarship
William J. Starr Suzuki String Scholarship
Statistics Excellence Fund
The Statler Foundation Scholarship Fund
Connie Stelle Scholarship
Manfred and Fern Steinfeld Scholarship in Hotel/Restaurant Administration
Manfred and Fern Steinfeld Interior Design Scholarship
Dorothy B. Stephens Student And Faculty Support Fund
The Ruth Stephens Scholarship in International Relations, International Law, and International Organizations
The Ruth Stephens Award
Ruth Stephens/J. Wesley Hoffman Scholarship
Edith Smith Steven Scholarship Quasi-Endowment
Stevenson/Stephenson Family Endowment for History
Hassie Stiner Scholarship Endowment
Pauline Harsson Stockton Scholarship Endowment Fund
William B. Stokely, Jr. Scholarship Endowment Fund
William B. Stokely, Jr Foundation Masters of Business Administration Fellowship Endowment Fund
Stokely Institute for Liberal Arts Education
The Art Stolnitz Scholarship
MSC/Elsa Walburn Strong Music Scholarship
Stouffers Food Scholarship Fund
Judy Eller Street Golf Scholarship
Student Publications Scholarship Fund
Louis Henry and Beatrice Cawn Sturm Memorial Scholarship
Joe Sullivan, III Scholarship
Glenn G. Summers Agricultural Fund
1990 Summer Institution/MESP Scholarship
Pat Head Summitt Women’s Athletic Scholarship
Sun Coal Company MBA Fellowship
SunTrust Bank Scholarship in Finance
Mr. and Mrs. W. H. Swain Endowment in Education
Swan Brothers Scholarship
Roy L. and Joyce W. Sweeney Scholarship
Tom Sweeten Memorial Journalism Scholarship
Swimmers Ex-Varsity Scholarship Fund
The George D. Swingle Graduate Fellowship in Geology
The Tampa Bay Alumni Chapter Scholarship
Tau Sigma Delta Design competition Scholarship
Judge George C. Taylor Memorial Scholarship
Brigadier General Louis Carlton Taylor Scholarship
Taylor Young Life Scholarship
Mr. And Mrs. Harvey R. Teague Scholarship
Teacher Internship
Jane Temple Memorial Scholarship
Tennessee Association of Agricultural Agents and Specialists
The Tennessee Bar Foundation Iloita Scholarship
Tennessee Business Education Partners Scholarship Endowment
Tenneco Gas
Tennessee Council of Cooperative Agricultural Scholarship
Tennessee Eastman Scholarships in Anthropology
Tennessee Farm Bureau Leadership
Tennessee Farmers Cooperative Scholarship
Tennessee Farmers Mutual Insurance Company
Tennessee Federation of Garden Clubs
The Tennessee General Sessions Judges Auxiliary Scholarship
Tennessee Higher Education Commission African American Teachers Scholarship
Tennessee Higher Education Commission Teachers for Today Scholarship
Tennessee Higher Education Commission Minority Undergraduate Scholarship
Tennessee Higher Education Commission Minority Teaching Scholarship Project Enable
Tennessee Holstein Memorial Scholarship
Tennessee Law Review Editing Award
Tennessee Mathematics Contest Scholarship
Tennessee Plant Food Educational Association Scholarship
Tennessee Rangers Scholarship Fund
Tennessee Tomorrow Law Scholarship
Tennessee Undergraduate Scholarship Endowment (In Business)
Tennessee Valley Personnel Scholarship
The Tennessee Valley Kennel Club Scholarship
Tennessee Road Builders Association Scholarship
Tennessee Higher Education Commission Tennessee Junior Science and Humanities Symposium
Tennessee Scholars
Tennessee Valley Section Society of Tribologists and Lubrication Engineers Mechanical Engineering Scholarships
Daniel Hanley Testerman Memorial Scholarship
Texaco Inc. Fellowship
Texas Instruments Graduate Trainee Scholarship
Dr. Charles C. Thigpen Scholarship
Alan K. Thompson Scholarship
B. Ray Thompson Plant and Soil Science Scholarship
B. Ray Thompson for Ag Engineering Scholarship
The B. Ray Thompson Veterinary Medicine Scholarship Fund
Esclar Thompon Memorial Fund
Lloyd Lawson Thornton Winner’s Circle Scholarship
William M. Tolley Scholarship
Helen Bickford Vreeland Endowment Fund
Fred Smith Vreeland Scholarship
Charles P. Tombras, Sr. Scholarship
Claude Tomlinson Scholarship
Tony Torrice Educational Environments Graduate Fellowship and Research Award
The Beth Adair Townsend and Anne Adair Smith Scholarship
The Sally E. Townsend Memorial Scholarship Endowment Fund
Tourism, Food, and Lodging Scholarship Fund
Toys "R" Us Scholarship
Toyota Scholarship in Business Transportation & Logistics Excellence Fund
Tredagar Industries Scholarship
Tri-Delt Transfer Student Scholarship
Stephen R. Trotter Memorial Scholarship Fund
A.J. Troxier Scholarship Endowment Fund
Trustees Scholarship
TRW Foundation Minority Scholarship
R. S. Tucker Graduate Fellowship Fund
TVA Minority Forestry Scholarship
TVA/MESP Minority Engineering Scholarship
USDA Minority Forestry Scholarship
US Forest Service Minority Scholarship
USDA 95-38413-1376 Multicultural Scholarship
US Forest Service/MESP Scholarship
US Student Abroad Scholarship
Union Planters Public Relations Award
United Handicapped Workers Scholarship
U.T. Evening School Scholarship
Upward Bound Scholarship
UTK Black Alumni Associates Scholarship Endowment Fund
University Book and Supply Store Award
University Book and Supply Store Award (College of Business)
UTK Chemistry Support Scholarship/Fellowship Award
USDA African American Scholarship in Animal Science
U.S. Army Corps of Engineers MEP Scholarship
UT Singers Scholarship
UT Hospital Nursing Auxiliary
UT Retirees Association Scholarship
UT Federal Credit Union Academic Scholarship
UTK General Scholarship Fund
UTK College of Nursing Scholarship Fund
UTK Math Enrichment Scholarship
UTK National Piano Scholarship
UTK School of Architecture Endowment Fund
UTK-UTC/CHS Graduate Program in Medical Ethics
UTK 1968 Senior Class Scholarship
UWA Employee Scholarship Fund
R.R. Vance Scholarship Fund
Balance "Sal” Vaughn Women’s Golf Endowment
Lee L. Verstanding Scholarship
Anthony L. Vest Engineering Scholarship
Annette Roberson Vestal Scholarship
John M. and Manora C. Viles Scholarship Fund
Carl A. Vines Scholarship
Georgiana Fry Vines Scholarship
Vinson & Enkis Scholarship
Visual Arts Committee Competition
Vocational Agriculture Education Fund
Volunteer Human Resource Scholarship
Volunteer of the Year Torch of Service Scholarship Award
Frederick Bickford Vreeland Scholarship
Fred Smith Vreeland Scholarship
Helen Bickford Vreeland Endowment Fund
Frankie Wade & T. Robert Hill Scholarship
Tom and Patti Wade Scholarship Endowment
Dwight R. and Kate Reagan Wade College Scholars
The Wagner Scholarship
George A. Wagner Graduate Scholarship in Business
Fred Collins Walker Scholarship
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Herbert S. Walters Scholarship
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Washington Farmers Cooperative Scholarship
Eugene A. and Mildred T. Waters Scholarship
John and Patty Waters Law Scholarship
Ira A. Watson Retailing Scholarship
Wattec Scholarship
WATTeC Past Chairman’s Scholarship
William Way, Jr. Memorial Scholarship
William Way Scholarship
Charles Weaver Engineering and Band Scholarship Endowment
George T. Weaver Memorial Scholarship Awards
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Dr. Ray Wells Memorial Scholarship Endowment
Horace Wells Jr. Scholarship
Ida B. Wells
Colonel Jack K. Westbrook ROTC Scholarship Endowment
Westinghouse/MESP Minority Engineering Scholarship
West Knoxville Sertoma Club Scholarship
Daniel B. Wexler Scholarship
The Charles and Julie Wharton Scholarship
Charles M. Wheeler Scholarship Endowment
Joe and Marianna Scholarship
White Lilly Consumer Services Internship Program
Charles F. Whiteside Memorial Scholarship Fund
Jerry H. Whittener Scholarship Endowment
Chris Whittle Scholarship
Whittle Scholarship
William H. Wicker in Law
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Howard and Ruby Wilkerson Scholarship
Marijohn Wilkin Scholarship
Williamson County Scholarship Fund
Don Williams Scholarship
Shelley Williams Travel Scholarship
Shelley Williams Portfolio Scholarship
Leslie Meredith Williams Scholarship
Eleanor Waters Wilson Scholarship Endowment
Wilson Farm Cooperative
Frank W. Wilson Scholarship
H. W. Wilson Scholarship
William B. Wilson Scholarship Endowment
Tony Wilson Memorial Athletic Scholarship Fund
J. H. Winstead, Jr. Memorial Scholarship Fund
John Q. and Wanda Wisecarver Scholarship
Dr. A. Paul Wishart, Sr. Scholarship
Ronald Wolf Excellence in Economics
Singleton Wolf Scholarship
James Wolfkiel Scholarship in Graphic Arts
Arthur Brownlow Wood Fund
George H. and Martha Wood Scholarship
The Nancy R. Wood Scholarship Fund
Pat Wood Family Scholarship Endowment in Marketing
Glenn W. Woodlee Memorial Scholarship
Margaret Artytle Woodruff Scholarship in Creative Writing
The John Wooten Scholarship Fund
The Richard Worden Scholarship
Working Students Assistance Fund
Senator J. Parks Worley Scholarship
Jack Wright Memorial Scholarship Endowment Fund
Gerti Wunderlich Fund
C. E. Wyle Scholarship
Arthur E. Yates Graduate Fellowships
Yellow Freight Transportation Scholarship
Dr. Richard W. Yoakley Fellowship
Emily W. Yoakum Winning’s Circle Basketball Scholarship
David A. York Scholarship Fund
Zydrka Choon Memorial Scholarship
George and Louise Zirkle Endowment
Morgan and Kathryn Zook Scholarship
Morgan and Kathryn Zook Scholarship Fund
Zukerman Family Scholarship Endowment
Edwin F. Zwicker Scholarship in the Agricultural Plant Sciences
ALCOA/MBA Minority Business Fellowship Fund
Bill Adams Student Emergency Fund
Agriculture Support Fund
Eugene Akins Graduate Fellowship
Tom and Mary Allen Scholarship
Alpha Gamma Rho Endowed Scholarship
Eleanor Audigier Art History Award
Evelyn H. Bales Scholarship
George Bitzas Voice Scholarship Quasi-Endowment
John D. (Bo) Bohanan Excellence in Marketing
Mary E. (Betty) Bolog Piano Scholarship
Mary E. Boling Piano Scholarship
Bridgestone/Firestone MBA Graduate Fellowship
Bridgestone/Firestone Engineering Scholarship
Charles E. Clark, III Memorial Scholarship
Class of 1945 College of Veterinary Medicine Scholarship Endowment
Philander Claxton Award
William Coffield Memorial Fund
Computer Science Enrichment Fund
Construction Specifications Institute Technical Prize in Architecture
Judith E. and Joseph C. Cook, Jr. Engineering Scholarship Endowment
E.C. Crafton Scholarship
Daimler Chrysler Corporation Fund
O. H. Clements Memorial Scholarship Endowment Fund
College of Education Alumni Scholarship
Bruce C. and Cleo G. Cox Scholarship Endowment
The Davidson Audiology Scholarship Endowment
Demco Manufacturing of Tennessee Minority Scholarship
Dr. Kenneth Dixon Scholarship Fund
Downtown Sertoma Club Scholarship Endowment
Dr. Theresa S. Dyer and Harold K. Dyer Graduate Nursing Scholarship Fund
Eastman Chemical Engineering Scholarship
Eastman Graduate Scholarship
Educational Leadership Enrichment Employee Education Assistance
Bob Evans Memorial Scholarship
Friends of Music Scholarship
Judge Carey E. Garrett Scholarship
Charles B. Garrison Fellowship in Economics
Graduate Enrollment Incentive
Jimmy and Vannah Greer Agricultural Program Development Fund
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HCC Minority Graduate Fellowship in Engineering
The Harris M. Morton, Jr. Scholarship Fund
Haslam Torch Investment Scholarship Fund
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Hoechst Celansese Chemical Engineering Scholarship
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J. Fred and Wilma D. Holly Scholarship
Ray Holton Botany Scholarship
Arthur and Nellie Hord Memorial Endowment
John S. Humphrey Scholarship
Christopher L. “Chip” Ingle Memorial Scholarship
Vernon Iredell Award Fund
Buc-Beat Beatty Irwin Scholarship
Gloria “Babe” Joe Endowment
Mary A. Jones Scholarship
Kentucky Educational Excellence Scholarship
Kimberly Clark Corporation Scholarship
LAMP Foundation Scholarship
Leadership Studies Mini-Grant
Mrs. Ralston Matheny Scholarship Fund
Susan Elizabeth McCollum Memorial Scholarship
Colonel R. McDonald and Dorothy Gray Scholarship Fund
Wade Meadows Scholarship Fund
Gladys A. Million Memorial Scholarship
Minority Information Science Scholarship
Music Education National Scholarship
James I. Newsome, Jr. Scholarship
North Carolina Coal Institute Scholarship
Overall/Bunch Army ROTC Scholarship
Political Science Head Support Fund
Rattle F. Family Student Support Fund
Harol Read Scholarship
Reagan Excellence Fund
Artie Ruth Reilly Scholarship
Claude K. Robertson Quasi-Endowment Fund
Michael D. Rose MBA Fellowship
Carl McNabb Rummon Memorial Scholarship Endowment
SIS Enrichment Fund
Jeffrey C. Sekula Memorial Scholarship Fund
Service Management Scholarship
Dennis Randall Shockley Memorial Scholarship
Thomas S. Smith Finance Scholarship
William T. Snyder Music Scholarship Endowment
Social Work Graduate Fellowship
Society Maintenance and Reliability Professionals Scholarship
Southern Co – DESP Scholarship
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Howard G. Swafford Scholarship
TVA Investment Challenge Fund
Virginia and Toabias Orchezial Scholarship Fund
Torchbearer 2000 Scholarship
Tri-it Scholarship
Veronica Tyler Minority Scholarship
USDA – Multi-Cultural Scholarship
UT – Oak Ridge Graduate School Biomedical Fellowship
UT Retirees Association Scholarship Fund
UTK Chemistry Support Scholarship Fellowship
University Excellence Scholarship
University of North Carolina Haughton Scholarship
Upward Bound Scholarship
Walgreen’s Scholarship in Retailing
Gary Frank Wallace Scholarship
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