## The University Calendar, 2001-2003

Calendar subject to change as conditions may require.
Please see class schedule book each semester for registration, fee payment, drop/add, and other important dates.

Contact Guidance Services for dates and times for all entrance exams except for the Graduate Management Admissions Test (GMAT) which will be given at the Sylvan Technology Centers.

## Fall Semester 2001

August 20
September 3
September 4
October 8-13
October 18-20
October 20
October 22 Last day for filing theses and dissertations in Graduate Office for December graduation
October 27 Written Master's and Specialist's comprehensive exams begin
November 22-24 Thanksgiving Holidays - no classes
December 7 Last day to remove " I " grades for those who plan to graduate in December
December 8-14 Final examinations
December 15

## Spring Semester 2002

January 7
January 21
January 22
February 25
March 22
March 25-30
March 29
March 30
April 6
May 1-7
May 3
May 11

Classes begin
Martin Luther King Holiday - no classes
Deadline for filing Intent to Graduate for May 2002
Mid-semester
Last day for filing theses and dissertations in Graduate Office for May graduation Spring Break
University Holiday for all Employees
Written doctoral qualifying exams begin
Written Master's and Specialist's comprehensive exams begin
Final examinations
Last day to remove " I " grades for those who plan to graduate in May
Commencement

## Summer Session I 2002

May 13
Classes begin
May 31 Final Examinations, Session I

## Summer Sessions II, III, and IV 2002

June 3
June 6
June 14
June 29
July 4
July 5
July 6
July 8
August 2
August 8
August 9
August 10

## Fall Semester 2002

August 19
September 2
September 3
October 7-12
October 11

October 17-19
October 19
October 26
November 28-30
December 6
December 7-13
December 14

Classes begin
Labor Day Holiday - no classes
Deadline for filing Intent to Graduate for
December 2002
Mid-semester
Last day for filing theses and dissertations in Graduate Office for December graduation
Fall Break - no classes
Written doctoral qualifying exams begin
Written Master's and Specialist's comprehensive exams begin
Thanksgiving Holidays - no classes
Last day to remove " 1 " grades for those who plan to graduate in December
Final Examinations
Commencement

Classes begin for Sessions II and III Deadline for filing Intent to Graduate for August 2002
Last day for filing theses and dissertations in Graduate Office for August graduation Written doctoral qualifying exams begin Independence Day Holiday - no classes Final examinations, Session II Written Master's and Specialist's comprehensive exams begin Classes begin, Session IV
Last day to remove " I " grades for those who plan to graduate in August
Final examinations, Sessions III and IV; classes meeting $\mathbf{M}-\mathrm{Th}$
Final examinations, Sessions III and IV; classes meeting M-F
Commencement

## Spring Semester 2003

January 6
January 20
January 21
February 24
March 10-15
March 21
March 29
April 5
April 18
April 30-May 6
May 2
May 10

Classes begin
Martin Luther King Holiday - no classes
Deadline for filing Intent to Graduate for May 2003
Mid-semester
Spring Break
Last day for filing theses and dissertations in Graduate Office for May graduation
Written doctoral qualifying exams begin
Written Master's and Specialist's comprehensive exams begin
Holiday - no classes Saturday classes meet
Final Examinations
Last day to remove " I " grades for those who plan to graduate in May
Commencement

## Summer Session I 2003

May 12
May 30

Classes begin<br>Final examinations, Session I

## Summer Sessions II, III, IV 2003

June 2
June 5
June 13
July 28
July 3
July 4
July 5
July 7
August 1
August 7
August 8
August 9

Classes begin for Sessions II and III Deadline for filing Intent to Graduate for August 2003
Last day for filing theses and dissertations in Graduate Office for August graduation Written doctoral qualifying exams begin Final examinations, Session II Independence Day Holiday - no classes Written Master's and Specialist's comprehensive exams begin
Classes begin, Session IV
Last day to remove "I" grades for those who plan to graduate in August
Final examinations, Sessions III and IV; classes meeting $\mathbf{M}-\mathrm{Th}$
Final examinations, Sessions III and IV; classes meeting M-F
Commencement

Fall Semester 2003
August $22 \quad$ Classes begin


Middle Tennessee State University is a member of the Tennessee Board of Regents system, the sixth largest system of higher education in the nation. The Tennessee Board of Regents is the governing board for this system which comprises six universities, thirteen community colleges, and twenty-six area technology centers. The TBR system enrolls more than 80 percent of all Tennessee students attending public institutions of higher education.
Middle Tennessee State University, in its educational programs and activities involving students and employees, does not discriminate on the basis of race, color, national origin, sex, religion, or age. Furthermore, the University does not discriminate against veterans or individuals with disabilities.

## Directory for Correspondence

The course offerings and requirements of Middle Tennessee State University are continually under examination and revision. This catalog presents the offerings and requirements in effect at the time of publication, but there is no guarantee that they will not be changed or revoked. This catalog is not intended to state contractual terms and does not constitute a contract between the student and the institution.
Middle Tennessee State University reserves the right to make changes as required in course offerings, curricula, academic policies, and other rules and regulations affecting students to be effective whenever determined by the institution. These changes will govern current and formerly enrolled students. Enrollment of all students is subject to these conditions.
The institution does not warrant or represent that any student who completes a course or program of study will necessarily acquire any specific skills or knowledge or will be able to successfully pass or complete any specific examination for any course, degree, or license.
Current information may be obtained by calling or writing the following sources:

| General Inquiries $\qquad$ Campus Operator (615) 898-2300 |
| :---: |
| Admissions, Graduate...................................... 898-2840 |
| Admissions, Undergraduate............................. 898-2111 |
| Adult students $\qquad$ Adult Services Center 898-5989 |
| Coop students $\qquad$ Cooperative Education 898-2225 |
| Disabled students $\qquad$ Disabled Student Services 898-2783 |
| Distance learning. $\qquad$ Continuing Studies and Public Service 898-5611/2177 |
| Fees $\qquad$ Business Office 898-2761 |
| Financial assistance $\qquad$ Financial Aid 898-2830 |
| General academic policies $\qquad$ Academic Affairs 898-2880 |
| Graduate College $\qquad$ Graduate Office 898-2840 |
| Dean .......................................................... 898-5897 |
| Associate Dean ............................................ 898-2840 |

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(615) 898-2300
Admissions, Graduate898-2111
Adult students 898-5989
Coop students
898-2225Disabled Student Services 898-2783
Distance learning Continuing Studies and 898-2761
Financial assistance Financial Aid
898-2830
General academic policies Academic Affairs
898-2880
Associate Dean. ..... 898-2840
Middle Tennessee State University Murfreesboro, Tennessee 37132

## Administrative Officers

## University

President
Sidney A. McPhee, Ed.D.
Provost and Vice President for Academic Affairs Barbara S. Haskew, Ph.D.
Vice President for Development and University Relations Linda P. Hare, Ed.D.
Vice President for Finance and Administration Duane Stucky, Ph.D.
Vice President for Student Affairs Robert Kyle Glenn, Ph.D.
Interim Assistant Vice President for Enrollment Management Sherian Huddleston, J.D.
Dean, College of Graduate Studies Donald L. Curry, Ph.D.
Interim Dean, College of Basic and Applied Sciences Thomas J. Cheatham, Ph.D.
Dean, Jennings A. Jones College of Business E. James Burton, Ph.D.

Dean, College of Education and Behavioral Science Gloria L. Bonner, Ed.D.
Dean, College of Liberal Arts John N. McDaniel, Ph.D.
Interim Dean, College of Mass Communication Larry Burriss, Ph.D.
Dean, College of University Honors John Paul Montgomery, Ph.D.
Dean, Division of Continuing Studies and Public Service Rosemary W. Owens, Ed.D.
Dean, University Library Don Craig, M.L.S.

## The Tennessee Higher Education Commission

Steve Adams, State Treasurer, Nashville
Riley C. Darnell, Secretary of State, Nashville
William Ransom Jones, Chair, Murfreesboro
Mayor Dale Kelley, Secretary, Huntingdon
Debby Patterson Koch, Nashville
Joe Lancaster, Columbia
Wanda McMahan, Knoxville
Fred Patrick Gattas III, Memphis
Brad Windley, Tullahoma
June Scobee Rodgers, Vice Chair, Signal Mountain
Douglas E. Wood, Nashville
John Morgan, Comptroller, Nashville
Lisa Verble, Sevierville
A.C. Wharton, Vice Chairman, Memphis

Nathan Tudor, Cookeville

## The Tennessee Board of Regents

Don Sundquist, Governor of Tennessee, Chair, Nashville Edgar R. "Buddy" Bowers, Harriman
Demetra Godsey Boyd, Clarksville
Noble Cody, Cookeville
Vernon Coffey, Commissioner of Education
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Arles Greene, Goodlettsville
Clifford H. "Bo" Henry, Maryville
Julia W. Johnson, Crump
Jane G. Kisber, Jackson
W. Keith McCord, Knoxville

Leslie Pope, Johnson City
Richard G. Rhoda, Executive Director, THEC, Nashville
J. Stanley Rogers, Manchester

Maxine Smith, Memphis
William H. Watkins, Jr., Memphis
Dan Wheeler, Commissioner of Agriculture, Nashville James "Ashley" Woods, Johnson City

## Accrediting Agencies and Memberships

AACSB - The International Association for for Management Education
Accrediting Council of Education in Journalism and Mass Communication
American Association of Colleges for Teacher Education
American Council on Education
Association of State Colleges and Universities
Conference of Southern Graduate Schools
Council of Applied Masters Programs in Psychology
Council of Graduate Schools in the United States

National Association for Sport and Physical Education
National Association of Industrial Technology
National Association of Schools of Music
National Council for Accreditation of Teacher Education
Southern Association of Colleges and Schools
Tennessee College Association
Teachers College Association of Extension and Field Services
Tennessee Conference of Graduate Schools

## The Graduate Council

## Graduate Council Mission Statement

The Graduate Council plays a crucial role in the oversight and planning of all MTSU graduate courses and graduate degree programs, in establishing criteria for the appointment and reappointment of Graduate Faculty, in assessing graduate student issues and concerns, and in recommending to the dean of the College of Graduate Studies university-wide policies and procedures for implementation. The Graduate Council advises in the modification of existing programs and in the approval and implementation of any new programs. All student activities leading to advanced degrees proceed under policies and regulations established and reviewed by academic departments, the Graduate Council, and the College of Graduate Studies.
The Graduate Council provides leadership in the pursuit of excellence in scholarly activity and serves as an advocate in obtaining resources for graduate programs.

Only full-time MTSU faculty who have previously been appointed to the Graduate Faculty may serve on the Graduate Council. Council members are appointed by the president to serve three-year terms with three representatives per college. Two graduate student representatives who meet all graduate academic standards are also appointed. To ensure continuity and institutional memory in the creation and implementation of policies and procedures, one third of the Council members rotate off each year and are replaced by five new faculty members representing each college. Graduate students are appointed to the Council each academic year, and the graduate college dean and the six academic deans serve as ex-officio members. The vice chair, who conducts meetings in the absence of the chair and who serves as chair-elect, and the recording secretary of the Graduate Council are elected annually. The chair, in consultation with the dean of the College of Graduate Studies, is responsible for setting the Council's agenda.


## Academic and Student Services

Middle Tennessee State University has a large and beautifully landscaped campus of approximately 500 acres and 116 permanent buildings totaling almost 4 million square feet. Campus buildings are shown on a map printed in this catalog.

## Adult Services Center

The Adult Services Center serves as an information and referral center for students, especially for those returning to formal studies or beginning college for the first time as adult learners. The center is an advocate for the needs of adult learners. Workshops designed to help the adult learner succeed in re-entering college are offered. Located in Keathley University Center, Room 320, the center helps make available the services of various other university offices to students on campus for classes at hours other than regular business hours. Students may pick up a variety of forms so that their concerns may be forwarded to the appropriate offices.
The center also provides a place to meet and share ideas with other adult learners. A student organization called OWLS (Older Wiser Learners) is coordinated through the center. Additional information is available by calling (615) 898-5989.

## Alumni Association

The MTSU National Alumni Association encourages interaction between Middle Tennessee State University and the extended University family of alumni, students, parents, and friends through a variety of activities and programs. Through the promotion and development of geographical alumni chapters and reunion programs, the Alumni Association stimulates and enhances communication for MTSU. Events and activities in conjunction with University athletic and fine arts programs, especially at Homecoming, are held to offer continuing support and interaction. Establishing and promoting scholarships is an on-going endeavor of the Alumni Association as well as the maintenance of the alumni information database and development of periodic alumni directories. The Alumni Relations Office is located in the Alumni Center, one of the four original buildings on campus.

## Athletics

The MTSU Athletics Program strives for excellence in the development of its student-athletes and the quality of its several sports teams. The program supports the academic, athletic, and social education of its student-athletes by encouraging them to develop the values of respect for themselves and others and to take pride in achievement and making positive contributions to the communities in which they live.
MTSU is committed to quality athletic programs that bring the campus community together and promote a sense of pride
and tradition in academic and athletic excellence. Athletics also brings the University regional and national recognition and provides a link among the university, its alumni, and the community at large. It helps to generate alumni and public support for all aspects of the University. The athletics program provides quality faculty and leadership to campus programs. It gives students, faculty, and alumni opportunities for innovative public service activities, such as the "Reading Raider" program which has worked with area elementary schools to promote students' reading skills. It uses athletic, financial, and physical resources to maintain and develop athletic programs to accomplish the mission of the University.
The University is a member of the Sun Belt Conference and National Collegiate Athletic Association, competing in NCAA Division I in all sports. MTSU is represented annually in baseball, basketball, cross country, football, golf, tennis, indoor track, and outdoor track for men and by basketball, crosscountry, golf, soccer, softball, tennis, indoor track, outdoor track, and volleyball for women.
Both full-time and part-time students are admitted to all home football, basketball, and baseball games by presenting their valid ID cards at the gate. Athletic events in other sports require no admission and are open to the public and campus community. There are two ticket office locations; one is in Murphy Center on the track level and the other is at Floyd Stadium Gate IA. Additional ticket information can be obtained by phoning (615) 898-2103 or 1-888-YES-MTSU.
MTSU's Title IX coordinator is Forrestine Williams, 220 Cope Administration Building, (615) 898-2185.

## Cafeterias

Four University locations offer wholesome food for students at reasonable rates: the Grill in Keathley University Center; McCallie Dining Hall in Corlew; James Union Building Cafeteria; and CyberCafe in Woodmore. They are operated for the benefit and convenience of the students, faculty and their guests, and other guests on the campus who may be attending conferences or other official functions. Several different meal plans are available for those who are interested.

## Career and Employment Center

The University provides a year-round centralized placement service for its students and alumni through the Career and Employment Center located in Keathley University Center, Room 328. The program is designed to assist prospective graduates and alumni in securing career positions. Each year employers from business, industry, government, and education conduct on-campus interviews with students in the Career Center. Other placement services include the development of reference files for credentials, career job listings, parttime and summer employment opportunities, and the career library.

Students seeking part-time jobs in the community may apply through the Student Employment Center, 898-2500. Referrals to prospective employers will be made by the center.

## Center for Historic Preservation

One of two Centers of Excellence at MTSU, the Center for Historic Preservation was established in 1984. It is a research and public service institute committed to the identification, conservation, protection, and enhancement of the historic environment. Through its varied projects, programs, and activities, the center responds directly to the needs and concerns of communities and organizations working to include heritage in their future economic development strategies. Providing leadership and assistance on a local, state, regional, and national basis, the center's work falls within six initiatives.
Town and country preservation recognizes the unique heritage, resources, and problems of rural areas and small towns. National Register nominations for individual buildings and historic districts are an ongoing priority of this initiative. The Tennessee Century Farm Program is a documentary and educational project for farms that have been in the same family for at least 100 years. The African-American Rural Church Project, also a continuing project, documents the state's historic black churches, often identifying schools and cemeteries as well.

Heritage education addresses the use of local historic resources as teaching tools in the K-12 grades. The center cooperates with the MTSU College of Education and Behavioral Science and local schools to develop and test new teaching materials and provide teacher-training workshops. The center also works closely with community heritage organizations to guide and assist them in preservation and education projects. The Heritage Education Network is a national Web site for teachers.

Heritage tourism is specifically directed at research and methods for communities to use to attract and increase visitation to local cultural and historic sites while protecting and interpreting these significant resources. The center's current projects include the development of the National Heritage Area on the Civil War in Tennessee (www.mtsu.edu/~tncivwar).
Building technology and architectural conservation involves research methodology and technology for dating, analyzing, and applying restoration techniques. The center offers assistance with paint and wallpaper analysis and structural investigation and recommendations. The center is the lead agency in a national project on curatorial standards for architectural fragment collections.
Information resources management includes the center's computer resources, such as autocad drawings, access to preservation databases, desktop publishing, and other necessary support programs for the development and completion of projects in each of the center's initiatives.

Museum and historic sites offers assistance to heritage museums in basic planning, adaptive restoration of historic buildings for museum use, collections management, and exhibit development. The center focuses on addressing the needs and problems of small museums.
Graduate-level staff teach two to three historic preservation courses each year for the Department of History and direct selected theses. The center also funds a limited number of graduate research assistantships each year. Graduate and undergraduate students work at the center to assist staff on a variety of applied research and public service projects, gaining valuable interdisciplinary experience to supplement their in-class training. The center's technical library and facilities are visited by and serve students, interested individuals, and preservation professionals.
One recent project, The Tennessee Encyclopedia of History and Culture, is a partnership among the center, the Tennessee Historical Society, and the Tennessee General Assembly, to produce a modern, comprehensive reference book on history and culture. The book was released in 1998.

## Center for Popular Music

One of two Centers of Excellence at MTSU, the Center for Popular Music is an interdisciplinary research center devoted to promoting scholarship in and disseminating information on American popular music. The center recognizes popular music as a unique form of human expression that is shaped by a variety of socio-cultural, artistic, commercial, and technological factors and as one which has always occupied a significant place in American cultural history. In support of its aims, the center maintains an extensive archive and sponsors various research projects, publications, and public programs.
The center's research collection is broadly representative of the diversity of American vernacular music, while being particularly strong in its holdings of music of the southeast. Rock and roll (and its roots) and the many forms of vernacular religious music are major focuses of the collection. Holdings encompass a variety of media, including sheet music, sound recordings, audio and video tapes, books, serials, photographs, posters, manuscripts, clippings, and microforms.
The center is engaged in an extensive program of activities, including sponsoring lectures, conferences, and symposia; producing concerts of historical popular music; and producing extensively-annotated sound recordings.
The center's resources support undergraduate, graduate, and faculty research in a variety of disciplines and departments. Noteworthy among these are the Department of Recording Industry, the Music Industry concentration in the School of Music, the Public History Program in the History Department, and the interdisciplinary Southern Studies and African American Studies minors. The center's resources also serve the music industry, scholars from other institutions in North America and Europe, trade and university presses, and the broadcast media.

## Day Care Laboratory

The MTSU Day Care Laboratory provides a safe, healthy, and stimulating environment where children ages three to five can stay on a half-time basis (either Monday, Wednesday, Friday or Tuesday, Thursday) while their parents are at school. The maximum capacity is 24 children per day with the following enrollment priorities:

1. children of students who need part-time care (first priority in Fall and Spring Semesters);
2. children of students who need full-time time care (first priority in the Summer Semester);
3. children of University employees;
4. children of community residents.

## Disabled Student Services

Disabled Student Services is the coordinating body which distributes information concerning services available to students with disabilities. The office acts as an advocate for disabled students at the University, surveying the needs of these students and developing programs to meet those needs. Information and assistance can be obtained by calling (615) 898-2783 or visiting the office located in Keathley University Center, Room 120.

MTSU's ADA/504 coordinator is Watson Hannah, 119 Cope Administration Building, (615) 898-5366.

## Endowed Chairs

Several academic programs are enriched through the establishment of Chairs dedicated to the support of a particular discipline. The chairholders may be full-time faculty members or may be individuals from the appropriate business or professional field who are on campus for special seminars or lecture series.

Two Chairs, funded by gifts to the University Foundation, are administered through the Economics and Finance Department, of which the chairholders are members. More information is available through that department. The Chairs are

Martin Chair of Insurance
Weatherford Chair of Finance
MTSU houses nine Chairs of Excellence, established with a combination of private, University, and State funds. They are

The Jennings Jones Chair in Free Enterprise Jennings A. Jones College of Business
The Jennings Jones Chair in Urban and Regional Planning

Jennings A. Jones College of Business
The John Seigenthaler Chair in First Amendment Studies

College of Mass Communication
The Dr. Carl Adams Chair in HealthCare Services Several departments
The National HealthCare Chair in Nursing
School of Nursing

## The Robert E. and Georgianna West Russell Chair in Manufacturing Excellence

Engineering Technology and Industrial Studies Department
The Katherine Davis Murfree Chair in Dyslexic Studies

Several departments
John C. Miller Chair in Equine Reproductive Physiology

School of Agribusiness and Agriscience
Mary E. Miller Chair in Equine Health
School of Agribusiness and Agriscience

## Albert Gore Research Center

The Albert Gore Research Center preserves and makes available for research a variety of historical documents and photographs. Its collections focus on the history of politics and public policy and on Middle Tennessee State University and the region it serves. The Gore Center assists a variety of researchers, including undergraduates; graduate students; MTSU administrators, faculty and other scholars; the media; and citizens of the local community. The center is named for Albert Gore, Sr. (B.S., MTSU '32), whose papers from his Congressional career (1938-1971) form the largest and one of the most important collections in the repository.

## Housing and Residential Life

Housing facilities on campus include 24 residence halls and apartment complexes housing 3,800 single students and families. Information may be obtained from Housing and Residential Life, Keathley University Center 300.

## Information Technology

The MTSU Office of Information Technology (OIT) manages and supports information technology resources on campus. OIT manages the campus network and MTSU's primary academic and administrative computing systems, provides telecommunications services, promotes and supports instructional technology, provides academic computing support, provides technical support, supports MTSU's primary administrative applications such as student information, Web and telephone registration, and oversees the campus ID system. For more information, see the OIT Web site at www.mtsu.edu/~oit.

Any MTSU student, faculty, or staff member may have an account on the central server for accessing on-campus resources as well as state, regional, national, and international networks including Internet. Accounts for MTSU students are generated upon completion of registration. To activate that account, access the MTSU home page from any Internet accessible computer, click on the Computing Accounts button, and read through the information about your campus computer account-especially the directions on deciding on an acceptable password. Following the onscreen directions, go to www.mtsu.edu/changepw and enter your student identification information and password. The account will be ready
to use within 10 minutes. Faculty and staff accounts are created on completion of an application. These application forms are available in the Office Information Technology (OIT), in the basement of Cope Administration Building, Room 3, or at the OIT Help Desk (898-5345).

## The Instructional Technology Support Center

The Instructional Technology Support Center (ITSC), in the McWherter Learning Resources Center, provides facilities, training, and support for the use of instructional technology by MTSU faculty, MTSU students, and K-12 teachers. The ITSC consists of several related units and facilities, including Audio/Visual Services, Instructional Media Resources, two computer labs, faculty and graduate student multimedia development centers, a twenty-first century classroom, a video conferencing classroom, and a satellite video conferencing center.

Two Pentium computer labs are available in the ITSC for use by faculty and students. Computers in both labs have access to the campus network. A description of the hardware and software in the computer labs and a monthly listing of open hours are posted on the ITSC Web page (http:// www.mtsu.edu/~itsc). Faculty and graduate students can create multimedia lectures or presentations at four multimedia development stations in the ITSC.

Audio/Visual Services maintains an inventory of audio-visual equipment for faculty check-out, repairs campus audiovisual equipment, provides dubbing services, records off-air programming for classroom use, and supports satellite downlinking. Audio/Visual Services also offers professional video production services for MTSU faculty and administrators, including studio production, remote production, and post production.

Instructional Media Resources (IMR) manages a large collection of videotapes, audio tapes, slides, filmstrips, computer software, CD-ROMs, and laserdiscs available for faculty use in classrooms and for on-site use by students. Instructional Media Resources also has typewriters and both Macintosh and Pentium computers available for walk-in use by faculty and students. Faculty can reserve IMR materials and place their own multimedia resources on reserve in Instructional Media Resources for on-site use by their students.
The Satellite Video Conferencing Center offers quality educational programming to K-12 schools by satellite to six rural Tennessee counties and by cable television to viewers in Murfreesboro and Rutherford County. The satellite facilities can be scheduled by units across campus for local, statewide, or national broadcast of special events and programs. Both digital and analog C-band transmission options are available.

## Keathley University CenterJames Union Building

The Keathley University Center and James Union Building are service-oriented buildings for the use of the campus community. Services and facilities include

- a modern, self-service bookstore;
- a complete-service post office with individual mailboxes available;
- recreational facilities for activities such as billiards, pingpong, cards, chess, checkers, and electronic games;
- a mini-market with a variety of snacks;
- meeting rooms, ballroom, and auditorium for clubs, organizations, and campus-sponsored programs;
- diversified programs which include movies, musical groups, speakers, dances, and cultural events all planned and presented by student committees; and
- food services including the Keathley University Center Grill and James Union Building banquet and luncheon services.


## McWherter Learning Resources Center

The McWherter Learning Resources Center provides the opportunity for a different approach to learning. Completed in 1975, this unique 65,000 square-foot facility received national recognition for the award-winning design and is considered a model by other institutions throughout the region. The McWherter Learning Resources Center is the primary facility for teacher education programs and provides instructional technology support to faculty and programs at MTSU as well as area school districts.

In addition to the Instructional Technology Support Center, the support areas of Photographic Services and Publications and Graphics have the dual responsibility of producing materials for classroom use and for serving the entire University community's photography and publication needs. Also housed in the facility are the WMOT-FM Radio Station and the Albert Gore Research Center.

## Murphy Center

Charles M. Murphy Center is a multi-purpose building for instruction, recreation, athletics, and convocations. This versatile structure provides facilities that enhance total health, physical education, recreation, and safety programs as well as house outstanding athletic and entertainment events. The complex includes the Monte Hale Basketball Arena, two auxiliary gymnasiums, four handball courts, classrooms, two dance studios, an indoor track, indoor tennis courts, men's and women's dressing rooms, and weight training equipment. The ticket office and student ID office are also located in Murphy Center (track level).

## Recreation Center

The Campus Recreation Office, located in the Recreation Center, administers a comprehensive recreation program for MTSU students. Opportunities include participation in team or club sports, outdoor pursuits, fitness activities, aquatic programs, and leisure clinics. A wide variety of outdoor and other recreation equipment is available for checkout by students.

The Recreation Center, which opened in Fall 1995, provides students with a state-of-the-art facility. The center includes
six basketball/volleyball courts, six racquetball courts, an indoor track, an aerobics room, an 8,000-square-foot free weights area, cardiovascular machines, an indoor swimming pool, locker rooms, an indoor gym for soccer and roller hockey, a rock climbing wall, an outdoor pool, an outdoor ropes course, and a sun deck with four sand volleyball courts adjacent. The center is open seven days a week during the Fall and Spring semesters and the Summer term. The Recreation Center closes during fall break, Thanksgiving holidays, Christmas holidays, and spring break. The schedule may be adjusted during other University holidays and for certain special University events. More information on programs or the center may be obtained by contacting the Campus Recreation Office at (615) 898-2104.

## Student Access to Educational Records

This policy may be found on page 40 of this catalog.

## James E. Walker Library

The James E. Walker Library provides access to information from its own collections and from resources around the world. In addition to printed volumes of books, reference sources, and government documents, the library contains periodicals, newspapers, and research titles in microtext. The library receives many subscriptions to periodicals and also serves as a partial depository for United States government publications. A broad variety of electronic databases are purchased by the library and licensed for student use.
A new central facility opened in January 1999, providing expanded resources for student research, inquiry, reading, study, and discussion. The collections of materials and services support course assignments, term papers, projects, and student research. In addition, recreational reading materials and other information are available. The new facility provides many kinds of study areas as well as 350 computers for accessing both local and international information resources. Special features of the new library include an Adaptive Technologies Center to meet needs of students with disabilities and small group study rooms.
Students are encouraged to ask librarians about the kinds of available materials and about the methods for retrieving information. Librarians are available at the main floor Reference/Information Desk. A student ID card is required to check out library materials. Library policies help to make library resources accessible to every student. Various research guides are published by the library to provide further information about collections and services. More information on these and other aspects of library service at MTSU can be found on the library's Web site at http://www.mtsu.edu/~library.

## Women's Center

The June Anderson Women's Center (JAWC) has been serving women at MTSU since 1977. Support groups, workshops, and programs for women are offered during the academic year. A free legal clinic is open the last Thursday of each month
during Fall and Spring semesters. The office, located on the main floor of the James Union Building, Room 206, provides a safe space for women to meet together or use the JAWC library. A resource and referral file includes information on financial aid for women, housing, and community legal, health, and mental health services.

The Women's Leadership Conference for college and university women students is coordinated through the JAWC and the Women's Studies Program in the spring. Students are invited to attend and to volunteer for this and other Women's Center activities.
During Spring semester, the Women's Center, working collaboratively with the National Women's History Month Committee, sponsors events, programs, and films which bring together the campus and community in a celebration of women's contributions to culture and society.
A full-time professional counselor is available at the Women's Center for crisis intervention and personal counseling for students dealing with women-identified issues and concerns. Confidentiality is assured. The counselor may be contacted at (615) 898-5725.

Additional information about the Women's Center's activities or services is available by calling (615) 898-2193 or via the Internet.


# International Programs and Services 

## International Programs and Services Office Cope Administration Building 202

The International Programs and Services Office (IPSO) serves as the admissions office for international students. International students include all non-U.S. citizen applicants (visa holders and permanent residents). All inquiries and correspondence should be addressed to this office. Application packets, including forms and requirement instructions, can be obtained by telephoning or writing IPSO or via http://www.mtsu.edu/~ipso. University catalogs cannot be mailed overseas. Applicants abroad can apply for the Fall and Spring semesters only. Applicants who are already in the U.S. and in F1 or J1 status may apply for Summer.
The University provides immigration advisement through the International Programs and Services Office. IPSO is responsible for issuing I-20 and IAP-66 forms and evaluating college credits obtained from foreign universities. IPSO serves as a liaison between faculty members, administrators, and international students. The office caters to a variety of international student needs including housing, academic matters, community affairs, and programming.

## Residency

IPSO determines residency for international students including permanent residents. All students who are non-U.S. citizens at the time of admission will be considered out-of-state for tuition purposes until they apply for and receive in-state status. Permanent residents and others who believe they meet the in-state criteria may obtain an application and submit it to the IPSO office. The completed form and supporting documentation should be submitted one month prior to the term. Failure to file may result in payment of out-of-state tuition. Students will be informed of the residency decision by mail.

## Immigration

It is the student's responsibility to see that he/she is in legal immigration status. All immigration documents should be kept in a safe place. According to U.S. Immigration and Naturalization Service (INS) regulations, F1 and J1 students must be enrolled fulltime (minimum 9 hours) during Fall and Spring semesters. Summer enrollment is optional. Also, INS requires that F1 and J1 applicants meet all admission requirements prior to enrollment. No conditional admission is possible.

## Proof of English Proficiency

An international student must submit a successful Test of English as a Foreign Language (TOEFL) score or University of Michigan English Language Institute (UMELI) test given by the International English Institute in Nashville, Tennessee, before he/she can register at MTSU. Applicants who cannot obtain locally a TOEFL Bulletin of Information for Candidates should write for it well in advance to
Test of English as a Foreign Language
P.O. Box 899

Princeton, New Jersey, U.S.A., 08540
For information on UMELI testing, contact
International English Institute
1226 16th Avenue, South
Nashville, TN 37212
(615) 327-1715 or 327-1716

## Deadlines for Completed* Files:

Fall Semester: May 1; Spring Semester: September 1; Summer Semester: February 1. (Applies to students already in the United States.)
*NOTE: A completed file contains ALL acceptable materials required for admission.

## Application to MTSU:

International students include visa holders and permanent resident applicants.

1. Complete graduate application for admission.
2. Submit $\mathbf{\$ 3 0 . 0 0}$ non-refundable application fee (money order or check with routing numbers).
3. Submit evidence of freedom from tuberculosis.
4. Submit evidence of two rubeola vaccinations.
5. Submit a financial statement or front and back copy of permanent resident card, whichever is applicable.
6. Submit official TOEFL (computer-based minimum score 195, pa-per-based minimum score 525) or UMELI (minimum score 85); GRE or GMAT scores as required. (We do not accept any other than ETS official test scores for the TOEFL.)
7. Submit completed insurance form for F1 and J1 applicants.
8. Submit a front and back copy of 1-94, if applicable.
9. Submit a front and back copy of 1-20 or IAP-66, if applicable.
10. Student must have official transcripts sent from all institution(s) directly to IPSO. If transcripts are written in a foreign language, an official translation in English and an official non-translated transcript must both be sent. A syllabus of each class may be required in order to receive course substitution credit.
NOTE: Sending all documents except transcript(s) and test scores in one envelope will expedite processing of the application. If the student does not have a Social Security number, the office will assign a student ID number for record-keeping purposes only. The Social Security number or student ID number should be on all correspondence sent to the office. All materials received become the property of MTSU and cannot be returned to the student or forwarded to a third party.

All F1 and J1 students must attend orientation before they can register for classes. Additional information about the services of IPSO may be found at the Web site.

# Continuing Studies and Public Service 

Rosemary Owens, Dean<br>Cope Administration Building 113

The purpose of the Division of Continuing Studies and Public Service at Middle Tennessee State University is to extend services of the University to adults, individuals, and groups beyond the resident students on campus. The division is divided into two main areas-credit and non-credit. The credit area coordinates distance learning, off-campus courses, summer school, evening classes, and the Regents Online Degree Program. The non-credit area caters to professionals interested in updating skills, groups or organizations desiring some type of educational experience, or persons needing any of the non-credit services outlined below. More information on either of these areas can be obtained by contacting the Division of Continuing Studies and Public Service, (615) 898-2462. Additional information may be obtained by visiting www.mtsu.edu/learn.

## Credit Area

## Distance Learning Courses

Distance learning courses, coordinated through the Division of Continuing Studies and Public Service, include courses via video conferencing, telecourses, correspondence courses, and online courses.

- Video Conferencing Courses - Video conferencing courses send the instructor's "live" lectures at MTSU to students at the remote sites. Sites include Spring Hill, Motlow State Community College, and Columbia State Community College. The video conferencing classrooms are equipped with TV monitors and push-to-talk microphones so that the students and instructors can interact. The instructor will visit the remote sites during the semester to assure that each student will have an opportunity to meet him/her in person. The instructor is also available during office hours at MTSU by phone, e-mail, or in person.
- Telecourses - Telecourses are delivered primarily over cable television. Students are required to attend an orientation and two examinations on campus. Instead of attending lectures on campus, telecourse students watch approximately one hour of programs each week. The telecourses are available on several local channels and in the McWherter Learning Resources Center. Telecourse tapes may also be rented. In addition, students read their texts and study guides and submit assignments as scheduled. Teachers are available at set times for consultation. More information may be obtained by calling (615) 898-5374 or visiting the telecourse home page at www.mtsu.edu/~tlcourse.
- Correspondence Courses - Correspondence courses involve individual, independent instruction of a student by an instructor on a one-to-one basis. Typically, this entails home study as well as the exchange of materials and evaluations through the mail. Interaction and feedback between correspondence course faculty and students takes the form of written assignments, testing, evaluations, guidance, and assistance via such media as telephone, FAX, e-mail, and other electronic technologies. More information may be obtained via e-mail at corres@mtsu.edu.
- Online Courses - Online courses are accessed over the Internet through e-mail, newsgroups, distribution lists, and the World Wide Web. Only students with strong experience on the Internet should register for an online course. Students are required to have access to a computer and the Internet. Students must attend at least one proctored examination and must complete assignments. A photo ID must be presented at all exams. All other assignments and quizzes will be available through the Internet. Additional information may be obtained by visiting www.mtsu.edu/~netcours.
More information is available by calling (615) 898-5611. The current schedule book carries course offerings.


## Evening School

The Division of Continuing Studies and Public Service serves students attending MTSU at night by assisting with registration, accepting payment of fees/fines for the Business Office, providing catalogs and schedule books, making IDs and issuing parking permits, as well as offering other services to the student outside regular daytime business hours. More information is available by contacting the Evening School Office, (615) 898-5611.

## Off-campus Program

Credit courses are regularly scheduled at several off-campus locations in middle Tennessee, including Smyrna, Spring Hill, Motlow State Community College, and Columbia State Community College. Efforts are made to service any special requests for off-campus credit courses by business and industry, school systems, and agencies.

## Summer School

The Division of Continuing Studies and Public Service directs the summer school, which includes a substantial number of credit courses. Course offerings are available in the current summer schedule book.

## Regents Online Degree Program

Middle Tennessee State University and each of the colleges and universities in the Tennessee Board of Regents (TBR) system are working cooperatively to allow students to earn college degrees entirely online. The joint program is called the Regents Online Degree Program (RODP).
The online program currently includes a Bachelor of Science degree with a major in Liberal Studies or a Bachelor of Science degree with a major in Professional Studies and concentrations in Information Technology and Organizational Leadership. Students must earn a minimum of 120 hours; meet MTSU upper-division, residency, and senior hour requirements; meet MTSU General Studies requirements; and meet MTSU GPA requirements, as well as complete the courses outlined in the degree program. Admissions, instruction, advising, library services, and other forms of student assistance are available online. The Regents online courses have been designed to be instructed totally online in an interactive, asynchronous format.

Designed especially for adults who already have had some college experience, the online degree program is also appropriate for students who have earned or are working on their associate's degree. For more information regarding degree requirements, please refer to the Regents Web site at www.tn.regentsdegrees.org or call (615) 898-5611.

## Non-credit Area

## Courses, Seminars, and Conferences

The non-credit area assists groups and individuals in the planning, advertising, coordinating, and delivery of courses, seminars, and conferences. Various non-credit courses are offered each semester as well as upon demand. They are intended to serve business, industry, government, education, professional organizations, and civic and service groups. A current course catalog is available by calling (615) 898-2462.

Computer and career programs are offered on campus for individuals trying to upgrade skills to advance themselves in the workplace or for personal development. Career consulting is available on a one-to-one basis using career software. Computer courses provide hands-on learning using current software packages as well as courses relating to the Internet and PC maintenance.

Children, teens, adults, and senior adults can choose from courses ranging from leisure and recreation programs to personal enrichment. Children and teens selections include summer day camps, art and drama programs, and gymnastics. Adults can pick from exam prep courses, foreign languages, recreation activities, and English as a Second Language. Elderhostel and other programs are offered for senior adults.

Continuing Education units (CEUs) are awarded to persons successfully completing most of the special interest activities. The Southern Association of Colleges and Schools defines a CEU as "ten contact hours of participation in an organized continuing education experience under responsible sponsorship, capable direction, and qualified instruction." The CEU provides a standard unit of nationally recognized measurement whereby business, industry, and professions may grant appropriate recognition to persons for completion of continuing education programs. A permanent record of all CEUs earned is maintained by the University. A transcript may be obtained by sending a written request to the Division of Continuing Studies and Public Service.

## Workforce Development and Corporate Training

The non-credit area offers various human resource services for business, industry, and government, including customized on-site training, needs assessments, and specialized workforce analysis. Current programs include team building, customer service, leadership, supervision, written and interpersonal communication, and language training.
Professional development certification programs, seminars, workshops, and short courses that focus on timely and lead-ing-edge topics are presented on and off campus. Current client groups include human resource managers, municipal clerks, engineers, lawyers, accountants, cosmetologists, emergency medical technicians, government officers, payroll administrators, and physician groups. Inquiries should be directed to the director of Lifelong Learning at (615) 898-2462.


# Graduate Student Bill of Rights and Responsibilities 

The Graduate Council and the College of Graduate Studies have approved in principle the document Graduate Student Bill of Rights and Responsibilities.

## Rights

1. Graduate students have a right to be respected as individuals of merit and as junior colleagues of faculty. The student's vulnerability must not be exploited in any way by faculty, administration, or staff. (Reference: Faculty Handbook, Ethics Guidelines, Section IV, I.B., I.C.2, page 2)
2. Graduate students have a right to an accurate and timely description of the availability and the likelihood of financial and resource support within their program and within the University and will be given an equal opportunity to compete for support for which they are eligible.
a. Prospective and currently enrolled graduate students should be provided a thorough description of the requirements and qualifications necessary for holding teaching assistantships, graduate assistantships, and receiving financial support from the University.
b. Prospective and currently enrolled graduate students should be provided a thorough description of the requirements and qualifications for all academic and financial awards in their program and in the Graduate Catalog. They are to be assured that competition for any and all academic awards will be available to eligible graduate students and that evaluation for such awards will be fair and objective. They also should be informed of the procedures for evaluating applicants.
3. Graduate students have a right to be informed of specific requirements for achieving an advanced degree. Each department should communicate clearly these requirements to its students, and it should notify current enrolled students in writing of any changes. Prospective and currently enrolled graduate students have a right to know of the "normal time to complete a degree" within a specific graduate program.
4. Graduate students have a right to a non-biased evaluation of their progress toward achieving an advanced degree (Constitution of the Student Government Association, Art II Sec 3). The criteria should be clearly understood by the graduate advisor and student.
5. If a graduate student requests an explanation, reasons for unsatisfactory performance on qualifying or comprehensive examinations should be given in writing.
6. Graduate students have a right to substantive feedback and regular guidance concerning their academic performance.
a. Graduate students and their thesis/dissertation director should arrive at and maintain a mutually agreeable schedule of evaluative/supervisory conferences.
b. Graduate students must be notified in writing of unsatisfactory performance before any attempt begins to dismiss them from a graduate program. Only the dean of the College of Graduate Studies can dismiss a student from a graduate program for academic reasons and normally only upon the recommendation of the program. Graduate students have the right to appeal for cause any decision affecting their academic standing as a graduate student. Cause excludes grade appeals, which are under the purview of the MTSU Grade Appeals Committee. The burden of responsibility rests with the appellant to provide a timely, cogent, and convincing written documentation of the facts upon which the appeal is based. Further information may be obtained from the appeals document from the Graduate Council, Section III.
7. Graduate students have a right to freedom from unlawful discrimination in any actions, including those based on gender, race, age, sexual orientation, disability, and religious or political beliefs. (Constitution of The Student Government Association, Art II Sec 1.2.6; MTSU Policies and Procedures Manual III:00:09, IV: 07:06, IV:07:16:i). University grievance procedures should be available upon request at the Graduate College. Opportunities for informal resolution should also be explained to the student when appropriate.
8. Graduate students have a right to reasonable confidentiality in their communications with professors. (Constitution of the Student Government Association, Art II Sec 4; MTSU Policies and Procedures Manual II:02:00)
a. In general, a student's performance or behavior should not be discussed by a professor with other students.
b. Discussion among faculty of a student's performance should be of a professional nature and should be limited to the student's academic performance and fitness as a graduate student: the substance of the communication should be based on a need to know relevant information.
9. Graduate students have a right to refuse to perform tasks if those tasks are not closely related to their academic or professional development.
10. Graduate students have a right to receive fair recognition for their efforts and contributions to cooperative research projects, including co-authorship of publications. Efforts and recognition should be determined prior to the project whenever possible.
11. Graduate students should be represented in the deci-sion-making process relative to graduate issues in their department and program; however, the representation is program specific, possibly taking many different forms. Graduate students should have the opportunity annually to evaluate their professors in writing, without fear of retribution.
12. Graduate students have a right to review vitae of faculty members within their degree program/departments who are qualified/eligible to serve on their graduate committee. These vitae should be made available at the time the students are accepted into their program to aid them in selecting their committee members.

## Responsibilities

1. Graduate students have a responsibility to read and become familiar with the Graduate Catalog and the Student's Rights and Responsibilities booklet.
2. Graduate students have a responsibility to complete and submit all documents required for admission to the College of Graduate Studies and to their department.
3. Graduate students have a responsibility to conduct themselves in all academic activities in a manner befitting the professorate. Graduate students' behavior should be a credit to themselves, the degree program/department, and the University. (Student Rights and Responsibilities booklet)
4. Graduate students have a responsibility to devote appropriate time and energy toward achieving the advanced degree within a reasonable time frame as specified by their graduate program.
5. Graduate students have a responsibility to uphold ethical norms and honesty in research methodology and scholarship. (Student's Rights and Responsibilities booklet; MTSU Policies and Procedures Manual I:01:24; "A Statement of Graduate Students' Research Rights and Responsibilities at MTSU's College of Business")
6. Graduate students have a responsibility to communicate regularly with faculty members and advisors, especially in matters related to research and progress within the graduate program.
7. Graduate students are encouraged to participate in the campus community to the extent that they are able and to enrich the campus in whatever ways possible, including contributing to:
a. the academic development and the social environment of the department in which they are pursuing the advanced degree and
b. decision making relative to graduate student issues in the department, student government, and university.

## Graduate Minors

Minors are offered in<br>Accounting<br>Aerospace<br>Agriculture<br>Art<br>Biology<br>Business Education<br>Chemistry<br>Computer Science<br>Criminal Justice Administration<br>Curriculum and Instruction<br>Earth Science/Geology<br>Economics<br>Education<br>English<br>Foreign Languages<br>Geography<br>Gerontology<br>Health<br>History<br>Human Sciences<br>Industrial Studies<br>Information Systems<br>Library Service<br>Mass Communication<br>Mathematics<br>Music<br>Physical Education<br>Physics<br>Political Science<br>Psychology<br>Reading<br>Recreation<br>Safety<br>Sociology<br>Special Education<br>Speech and Theatre<br>Vocational-Technical Education

There are three patterns of minors from which a candidate must choose:

1. a single minor consisting of at least 12 semester hours; 12 undergraduate hours in an area are prerequisite to a single minor in that area at the master's level;
2. a minor consisting of a minimum of 6 semester hours in each of two subjects;
3. the distributive minor consisting of a minimum of $12 \mathrm{se}-$ mester hours in at least three subjects.
The candidate is expected to complete the total program in the major, minor, and/or cognate fields. A cognate is defined as 6 semester hours.

## Graduate Program Information



Art Department, (615) 898-2455, p. 58
Art Education Grad. Certificate

Biology Department, (615) 898-2847, p. 60

| Biology | M.S. | GRE or MAT |
| :--- | :---: | :---: |
| Biology | M.S.T. | GRE or MAT |

BMOM Department, (615) 898-2902, p. 64

| Business Education | M.B.E. | 3 |
| :--- | :--- | :--- | GRE or MAT $\quad 3$.

Jennings A. Jones College of Business, (615) 898-2964, p. 63
Business Administration M.B.A. GPA x $200+$ GMAT $=950$

Chemistry Department, (615) 898-2956, p. 67

| Chemistry | M.S. | GRE |
| :--- | :--- | :--- |
| Chemistry | D.A. | GRE |

Computer Information Systems Department, (615) 898-2964, p. 69

| Accounting/Information Systems | M.S. | Information Systems (as primary field) |
| :--- | :--- | :--- | | GPA $\times 200+$ GMAT $=950$ |
| :--- |
| UDGPA $\times 200+$ GMAT $=1000$ |

Computer Science Department, (615) 898-2397, p. 71
Computer Science M.S. GRE

Criminal Justice Administration Department, (615) 898-2630, p. 73
Criminal Justice Administration M.C.
GRE or MAT

Economics and Finance Department, (615) 898-2520, p. 75

| Economics | M.A. | GRE or MAT |
| :--- | :--- | :--- |
| Economics | M.A. | Industrial Relations |
| Economics | M.A. | Financial Economics |
| Economics | D.A. $\ddagger$ |  |

\#Approval for conversion to Ph.D. pending
*See page 25 of the Graduate Catalog for University admissions requirements and the section under the relevant program.

- Requires completion of Application for Admission to Graduate Program in Criminal Justice

| Major/Program | Degree Offered | Concentration | Required Letters of Reference | Required Test* |
| :---: | :---: | :---: | :---: | :---: |
| Educational Leadership Department, (615) 898-2855, p. 81 |  |  |  |  |
| Administration and Supervision | M.Ed. |  | 3 | GRE or MAT |
| Administration and Supervision | Ed.S. |  | 3 | GRE or MAT |
| Administration and Supervision | M.Ed. | Library Science | 3 | GRE or MAT |
| Curriculum and Instruction | M.Ed. | English as a Second Language | 3 | GRE or MAT or NTE |
| Curriculum and Instruction | Ed.S. |  | 3 | GRE or MAT |
| Elementary and Special Education Department, (615) 898-2680, p. 87 |  |  |  |  |
| Reading | M.Ed. |  |  | GRE or MAT or NTE |
| Curriculum and Instruction | M.Ed. | Early Childhood |  | GRE or MAT or NTE |
| Curriculum and Instruction | M.Ed. | Elementary School Education |  | GRE or MAT or NTE |
| Curriculum and Instruction | Ed.S. | Elementary School Education |  | GRE or MAT |
| Curriculum and Instruction | M.Ed. | Middle School Education |  | GRE or MAT or NTE |
| Special Education | M.Ed. | Mildly/Moderately Disabled |  | GRE or MAT or NTE |
| Special Education | M.Ed. | Preschool Disabled |  | GRE or MAT or NTE |
| Special Education | M.Ed. | Severely/Profoundly Disabled |  | GRE or MAT or NTE |
| Special Education | M.Ed. | Vision Disabilities |  | GRE or MAT or NTE |
| Engineering Technology and Industrial Studies Department, (615) 898-2776, p. 94 |  |  |  |  |
| Engineering Technology and Industrial Studies | M.S | Engineering Technology |  | GRE |
| Engineering Technology and Industrial Studies | M.S. | Industrial Relations |  | GRE |
| Engineering Technology and Industrial Studies | M.S. | Occupational Health and Safety |  | GRE |
| English Department, (615) 898-2573, p. 98 |  |  |  |  |
| English | M.A. |  | 3 | GRE*** |
| English | D.A. $\ddagger$ |  | 3 | GRE*** |
| \#Approval for conversion to Ph.D. pending |  |  |  |  |

Foreign Languages and Literatures Department, (615) 898-2981, p. 101

| Foreign Languages | M.A.T. | French | GRE |
| :--- | :--- | :--- | :--- |
| Foreign Languages | M.A.T. | Spanish | GRE |
| Foreign Languages | M.A.T. | German | GRE |

Geography and Geology, (615) 898-2726, p. 104
Geoscience Grad. Certificate

HPERS Department, (615) 898-2811, p. 107

| Health, Physical Education, Recreation | M.S. | GRE or MAT |  |
| :--- | :--- | :--- | :--- |
| Health, Physical Education, Recreation | M.S. | Health | GRE or MAT |
| Health, Physical Education, Recreation | M.S. | Physical Education | GRE or MAT |
| Health, Physical Education, Recreation | M.S. | Recreation | GRE or MAT |
| Health, Physical Education, Recreation | M.S. | Sport Management | GRE or MAT |
| Exercise Science and Health Promotion | M.S. |  | GRE or MAT |
| Physical Education | D.A. $\ddagger$ | GRE or MAT |  |
| $\neq A p p r o v a l ~ f o r ~ c o n v e r s i o n ~ t o ~ P h . D . ~ i n ~ H u m a n ~ P e r f o r m a n c e ~ p e n d i n g ~$ |  | 3 |  |

History Department, (615) 898-2536, p. 115

| History | M.A. | 3 | GRE |
| :--- | :--- | :--- | :--- |
| History | D.A. | 3 | GRE |
| History | M.A. | Public History | 3 |
| History | D.A. | Historic Preservation | GRE |

Human Sciences Department, (615) 898-2884, p. 121

| Human Sciences | M.S. | Nutrition and Food Science | GRE or MAT |
| :--- | :--- | :--- | :--- |
| Human Sciences | M.S. | Child Development and Family Studies | 3 |

College of Mass Communication, (615) 898-2813, p. 126
Mass Communication M.S. 3 GRE
*See page 25 of the Graduate Catalog for University admissions requirements and the section under the relevant program.
***GRE scores $=$ two of the following: verbal, analytical, subject

| Major | Degree <br> Offered | Required <br> Letters of <br> Reference | Concentration <br> Required <br> Test |
| :--- | :---: | :--- | :---: |
| Mathematical Sciences Department, (615) | $\mathbf{8 9 8 - 2 6 6 9 , ~ p . ~ 1 2 8 ~}$ |  |  |
| Mathematics | M.S. | General Mathematics | Industrial Mathematics |
| Mathematics | M.S. | Research Preparation | GRE or MAT |
| Mathematics | M.S. | Middle Grade Mathematics | GRE or MAT |
| Mathematics | M.S.T. | Secondary Mathematics | 3 |
| Mathematics | M.S.T. |  | GRE or MAT |

School of Music, (615) 898-2469, p. 133
Music
M.A.
3 GRE

School of Nursing, (615) 898-2437, p. 139
Critical Care Nursing
Grad. Certificate

Psychology Department**, (615) 898-2706, p. 142

| Psychology | M.A. | Clinical**** | GRE and psy. subject exam |  |
| :--- | :--- | :--- | :--- | :--- |
| Psychology | M.A. | Experimental | GRE |  |
| Psychology | M.A. | Industrial/Organizational | 3 | GRE quantitative/analytical |
| Psychology | M.A. | Pre-Spec.-Ed.: Sch. Psy. | 3 | GRE |
| Psychology | M.A. | Quantitative | 3 | GRE |
| School Counseling | M.Ed. |  | 3 | GRE |
| Curriculum and Instruction | Ed.S. | School Psychology | 3 | GRE |

Sociology and Anthropology Department, (615) 898-2508, p. 152

| Sociology M.A. | 3 | GRE |
| :--- | :--- | :--- |

Vocational-Technical Education, (615) 898-2098, p. 158
Vocational-Technical Education M.V.T.E.
GRE or MAT

* See page 25 for University admissions requirements and the section under the relevant program.
**See Department of Psychology section regarding grade point average requirements
***GRE scores = two of the following: verbal, analytical, subject
****The Clinical Psychology Program requires a supplementary application. Please contact the Psychology Department.



## Glossary of Terms

Admission to degree status-Admission to the College of Graduate Studies as a graduate student for the purpose of seeking a graduate degree. This status requires completing a graduate admission application; meeting all entrance and test requirements; transmittal of relevant official transcripts; approval by the graduate program/department; and approval by the College of Graduate Studies.
NOTE: Some graduate programs allow applicants to begin taking classes prior to an admission decision, whereas others prohibit such enrollment. An applicant should seek information from the relevant graduate program about its policy.

Admission to non-degree status-Admission to the College of Graduate Studies as a post-baccalaureate student for the purpose of officially taking graduate courses. This status requires completing a graduate admission application; transmitting relevant official transcripts; and approval by the College of Graduate Studies. Not all graduate courses are open to non-degree students; thus the student should consult with the departmental graduate advisor(s).

Advancement to Candidacy-Status of the student who has successfully completed a substantial portion of the curriculum (and relevant examinations) and, in consultation with the graduate advisor, has established a curricular plan to be followed for the purpose of graduation. An Advancement to Candidacy Form must be approved by the pertinent graduate program personnel (e.g. major professor, graduate advisor, etc.), and the dean of the College of Graduate Studies (or designee). The form specifies the courses which the student is required to take to complete the curricular requirements. This form must be filed and approved prior to completion of 24 credit hours (or earlier if required by the graduate program).

Cognate—Six semester hours of related coursework
Comprehensive examination-An examination given to master's and specialist's students, generally during the last semester of coursework. The examination may be oral, written, or a combination of both modes. It may be taken no more than twice. The purpose of this examination is to assess the candidate's knowledge of a broad academic field and to evaluate whether the candidate has attained certain standards and/or requirements necessary to successfully complete the program. If the examinations are written, they are to be kept on file in the department. The student has the right of access to his or her graded exam for a period of five (5) years. (D.A. students, please see qualifying examination.)

Concentration-A curricular component of a graduate program representing a well-recognized subset or branch of the discipline. A concentration appears on the student's graduate transcript.

Conditional admission-The granting of temporary admission into a graduate program with certain stipulations being placed upon the student. Continuation in the program as a degree-seeking student is contingent upon fulfilling specific requirements described in the conditional admission letter.

Encumbrance-A hold placed on registration (or transcripts). For example, a registration encumbrance will be placed on all non-admitted degree-seeking applicants having graduate status and who reach a maximum of 12 credit hours or two (2) semesters, or earlier if required by the graduate program.

Full-time/part-time graduate status-See student load, page 38.

Graduate advisor-A faculty member appointed by the department and approved by the College of Graduate Studies to advise graduate students and provide curricular planning counseling. Graduate students should consult with their graduate advisors prior to, or immediately upon, being admitted to a graduate program. A list of graduate advisors may be obtained at the College of Graduate Studies or the relevant department.

Graduate coordinator or graduate director-A faculty member appointed to serve as the principal officer of the graduate program with respect to curricular and other relevant matters. The department chair often, but not always, serves as the graduate director.

Graduate status-Status whereby a post-baccalaureate student is declared eligible to enroll in graduate courses at MTSU. The granting of graduate status does not necessarily mean that one has been admitted to a graduate program. (Also see encumbrance and admission.)

Graduation requirements-Those academic and other requirements necessary for successful completion in order to be eligible for receipt of the degree. In general, the requirements in existence at the time of matriculation are those which must be fulfilled. These requirements are listed in the graduate catalog of that year. Changes in a graduate curriculum may occur while a student is enrolled. If so, the student will have the option of fulfilling the new requirements or following the original plan in existence at the time of matriculation. This is subject to "stop-out" limitations and course availability. (See stop-out.)

Intent to graduate-Indication that the candidate is planning to complete all degree requirements during the current term. An Intent to Graduate Form must be filed by the candidate during the first week of the semester of planned graduation or by the end of the first week of summer Session II (for August graduation). This authorizes release of the student's file for final evaluation and authorizes information to be collected for issuance of the diploma.

Major-A field of study representing a well recognized discipline in which there is offered a graduate program. A major appears on the student's graduate transcript.

Major professor-The faculty member providing the primary scholarly research mentorship to the graduate student. The major professor serves as the director or chair of the thesis or dissertation committee.

Matriculation-The first semester of enrollment after admission to a graduate program.

Minor-A free-standing curricular component of a graduate program representing an academic discipline. This designation verifies that scholarly expertise in the minor field has been achieved in addition to that attained in the major discipline.

Plagiarism-The use or reproduction of material from another person's work (e.g., publications, productions, or intellectual property) without revealing the source and/or clearly acknowledging the degree of dependency. If materials are reproduced verbatim from another source, or even reproduced in large part with only minor modification, proper citation must occur. To avoid allegations of plagiarism, clearly cite the source and use quotations marks to identify the excerpts, or clearly acknowledge the source by indenting and single-spacing the reproduced selections.

Qualifying examination-An examination given to doctoral students to assess the level of mastery of knowledge in the discipline and in pedagogy. This examination determines if the doctoral student is qualified to continue as a candidate for the doctoral degree. Written portions of the examination are to be kept on file in the department for a period of five (5) years and the student has the right of access. The examination is a milestone in academic achievement by a doctoral student. (Master's and specialist's students, please see comprehensive examination.)

Readmission and reenrollment-Applications which must be filed if a graduate student breaks continuous graduate enrollment. If granted, the student may reenroll for the identified term. Readmission for non-degree seeking students is fairly routine. However, readmission for degree-seeking students is not guaranteed. The department should be consulted for its readmission policy.

Repeat policy-The number of graduate courses possible for repetition for the purpose of grade replacement is limited to two. These two courses may not exceed 8 credit hours.

Satisfactory progress-Successful advancement of a student toward his/her degree objective in the judgment of the faculty and dean of the College of Graduate Studies. To be deemed as making satisfactory progress, a graduate student must maintain a cumulative GPA of 3.00 or greater and must successfully complete sufficient and appropriate graduate courses. These graduate courses must apply toward the graduate curriculum in a manner consistent with completion of the degree objective within the established time limit.

70/30 Rule—A curricular stipulation for master's degree candidates specifying that no more than 30 percent of the total degree hours may be dually listed as undergraduate/graduate hours. Candidates with more than 30 percent of the degree program dually listed as undergraduate/graduate hours cannot graduate until the balance is attained. Normally, no more than 3 credits of thesis research (course 6640) will be applied toward the minimum degree hour requirement. Careful curricular planning, in consultation with the graduate advisor, is essential.

Specialization-A curricular component of a graduate program representing a well-recognized subset or branch of the discipline. A specialization does not appear on the student's graduate transcript.

Stop-out-The period of time during which a student fails to register for successive academic sessions. If the stop-out period exceeds one academic year, the readmitted student may be required to fulfill degree requirements in existence at the time of readmission, rather than those at the original matriculation.

Time limits-The time elapsed from matriculation during which a student is required to complete the degree objective. Master's and specialist's students have six years from matriculation. Doctoral students have ten years from matriculation. These time limits are subject to extension, but only for compelling reason. If an extension is to be granted, it must be supported by the graduate program and approved by the dean of the College of Graduate Studies.

Transfer credit-Coursework taken at other colleges and universities which is formally transferred to the MTSU graduate record. In general, only course work taken while in graduate status prior to attending MTSU will be transferred and only if those courses were not used in partial satisfaction of degree requirements at the previous university. Transfer credit requires the approval of the graduate advisor and the dean of the College of Graduate Studies.


# Admission to the College of Graduate Studies 

The University welcomes applications from individuals qualified for graduate study. Applications for admission may be obtained from the Graduate Office, Cope Administration Building 114, or from this catalog. You may also apply online on our Web site (http://www.mtsu.edu/ ~graduate). Applications for persons who are not U.S. citizens will be processed by the International Programs and Services Office, Cope Administration Building 202. In accepting admission to the College of Graduate Studies, a graduate student assumes responsibility for knowing and complying with the regulations and procedures set forth in this catalog, as well as any amendments or revisions which may ensue.
Graduate applicants must have earned a bachelor's degree. Exceptions are those seeking the D.A. or Ed.S., which require a prior master's degree. However, under certain conditions undergraduate seniors with 98 semester hours of credit may be eligible to take graduate coursework. (See the section on Graduate Courses below.)

Applicants admitted to graduate programs as degreeseeking students are those working toward a graduate degree. Degree-seeking students must be recommended for admission by the graduate program/department and approved by the dean of the College of Graduate Studies.

Students not seeking a degree are classified as non-degree students. Non-degree-seeking students must be admitted to the College of Graduate Studies. Nondegree students may take courses for a reasonable period of time, as determined by the dean of the College of Graduate Studies.
NOTE: Non-degree seeking students are not permitted to enroll in graduate courses in the Jennings A. Jones College of Business.
All applicants to the College of Graduate Studies must have an overall undergraduate grade point average (GPA) of 2.75 (on a 4.00 scale) to be considered for unconditional admission. (Also see conditional admission.) Applicants who attended graduate school at another institution must have a minimum cumulative GPA of 3.00 on all graduate work and a minimum of 2.75 on all undergraduate work to be considered for unconditional admission. International students on an $\mathrm{F}-1$ visa must meet requirements for unconditional admission.

## Admission as a Degree-Seeking Student

All applicants wishing to pursue a graduate degree objective at MTSU must formally apply for admission to the College of Graduate Studies as degree-seeking students. At least four weeks prior to the anticipated date of registration, all degreeseeking applicants must submit the following materials to the Graduate Office:

1. an application for admission;
2. an application fee;
3. official transcripts certifying coursework from each college or university attended. Official transcripts must be mailed directly from the institution to MTSU and must be received prior to completion of the first semester of enrollment except for the M.B.A. and the M.S. in Accounting/Information Systems for which all transcripts must be received prior to enrollment.
a. If the applicant obtained the bachelor's degree at MTSU, only transcripts of work not posted on the MTSU transcript will be required.
b. If the applicant obtained the bachelor's degree at another institution, that latter transcript is required. Transcripts of work not posted on the baccalaureate transcript are also required. All post-baccalaureate transcripts are also required.
c. If the applicant earned a graduate degree at another institution, that latter transcript is also required. Transcripts of all post-baccalaureate work not appearing on the graduate transcript are also required;
4. letters of reference, if required by the graduate program. Please refer to the relevant graduate program information found on page 20 of this catalog;
5. satisfactory scores on the Graduate Record Examination (GRE), Miller Analogies Test (MAT), or Graduate Management Admissions Test (GMAT) tests. The GRE, MAT, or GMAT result is used in the evaluation of the academic qualifications of all graduate applicants. Each graduate program has identified a minimum combined GRE or MAT score (GMAT excepted) that it considers indicative of potential for a high level of academic performance. However admission decisions will be based on the overall academic record of the applicant (particularly in comparison with other applicants being accepted into the program), as well as other relevant materials such as letters of recommendation.
NOTE: Both ETS and the GRE Board have advised that a combined GRE score should not be used as an absolute cutoff for admissions decisions, but rather should be used as part of an overall evaluation of applicants. The GRE Board statement reads: "A cutoff score based only on GRE scores should never be used as a sole criterion for denial of admission." The College of Graduate Studies subscribes to this principle.
6. all international applicants must have a 173 computerbased minimum score or 525 paper-based minimum score on the Test of English as a Foreign Language (TOEFL) or 85 on the University of Michigan English Proficiency Exam (UMELI);
7. international applicants on F and J visas must provide verification of financial support prior to admission, as required by the United States Immigration and Naturalization Service. Further information may be obtained from the International Programs and Services Office.

Each graduate program may have additional requirements including application deadlines. Applicants should refer to page 20 of this catalog, peruse the graduate program description in this catalog, and/or contact the graduate advisor in the relevant department for specific requirements.
An applicant not meeting University or program requirements for admission as a degree-seeking student may appeal to the individual department for special consideration. If recommended for admission by the department, the dean of the College of Graduate Studies has final approval or denial authority.

## Admission as a Non-Degree Student

Admission to some graduate courses is made available to qualified applicants who wish to enhance their post-baccalaureate education, yet who do not seek a graduate degree. Applicants wishing to be admitted as non-degree graduate students must:

1. complete an application for graduate admission;
2. pay an application fee;
3. submit an official transcript certifying receipt of the bachelor's or post-baccalaureate degree.

International students on an F-1 visa may not be admitted to graduate study as non-degree students.
Not all courses offered at the University are available for nondegree students. Information concerning eligibility for specific graduate courses may be obtained from individual departments.
NOTE: Non-degree seeking students are not permitted to enroll in graduate courses in the Jennings A. Jones College of Business.
Non-degree-seeking students who wish to change to degreeseeking status must meet Graduate Studies' admission requirements and specific graduate program admission requirements to be eligible for consideration.
If transfer to degree-seeking status is approved, appropriate semester hours earned while a non-degree student may be applied toward a degree program if approved by the graduate advisor and the dean of the College of Graduate Studies.

## Conditional Admission

Occasionally degree-seeking applicants may not meet all the requirements necessary to be recommended for unconditional admission. For example, they may have low undergraduate GPAs, lack some prerequisite courses, have low test
scores, etc. However, the overall application materials may suggest there is substantial potential for academic success, thus making outright denial counterproductive. In these cases, temporary conditional admission into a graduate program may be granted by the dean of the College of Graduate Studies, upon the recommendation of the graduate advisor. Continuation in the program as a degree-seeking student is contingent upon fulfilling specific requirements stipulated in the conditional admission letter. In order to continue in the program, the written conditions must be completed within one year after matriculation. A registration hold will be placed on the student for the applicable term to ensure that the stated conditions are fully met.

## Admission of MTSU Faculty Members and/or Administrators

Members of the faculty and/or administration of MTSU are eligible for admission to the College of Graduate Studies, just as any other applicant. They may not take over 6 semester hours of coursework during any semester. Faculty at the rank of assistant professor or higher or administrators of equivalent ranks may not be admitted to the doctoral program. If instructors who are in the D.A. program are appointed to assistant professor rank, they must discontinue the doctoral program.

## Graduate Courses

Ordinarily only graduate students should register for courses numbered 5000 or above. However, any MTSU undergraduate student having completed 98 semester hours of undergraduate credit is eligible to take graduate courses. Students in Business Administration, Accounting, and Information Systems are not eligible.
Undergraduate students wishing to take graduate courses must obtain permission from the graduate program and the Office of Graduate Studies, CAB 114. Permission is not guaranteed. Not all graduate courses are offered to undergraduate students.
Students may not enroll in 7000-level courses in the Departments of Elementary and Special Education and Educational Leadership unless they are seeking an Education Specialist or Doctor of Arts degree. Non-degree seeking students are not permitted to enroll in 7000-level courses.

## Readmission (Re-enrollment)

The Graduate Office should be contacted for all matters concerning readmission, and applications may be obtained there. You may also reapply online on our Web site (http:// www.mtsu.edu/~graduate). A readmission application is required from any student who missed one or more semesters, regardless of the reason for the "stop-out." (See glossary.)
For non-degree-seeking post-baccalaureate students, readmission is generally routine and is granted by the dean of the College of Graduate Studies, but it is not guaranteed.

For degree-seeking students, readmission is not guaranteed. Each graduate program may have a specific readmission policy and should be contacted for information. Readmission requires the recommendation of the graduate program and approval by the dean of the College of Graduate Studies. Some graduate programs regularly allow readmission if the "stop-out" period is no more than one year; others are more restrictive.

## Re-enrollment Following Suspension

Readmission of a suspended graduate student is not guaranteed. If readmission is granted to a suspended student, reenrollment cannot occur until at least one term (exclusive of summer) has gone by.

## Auditing Courses

An auditor is one who enrolls and participates in a course without expecting to receive academic credit. The same registration procedure is followed and the same fees charged as for courses taken for credit. An audited course is not applicable to any degree or certificate.

Regular class attendance is expected of an auditor. Students interested in auditing a course should discuss course requirements with the instructor, prior to enrolling. Failure to meet course requirements may result in an auditor being removed from the course at the request of the instructor. A successful audit will be recorded on the transcript with the designation NC. Any petition to change from audit to credit or credit to audit must be processed by the last day to add a class. Requests to change from credit to audit after the deadlines must be approved by the dean, College of Graduate Studies.

## Hours After the Master's Degree

The Tennessee Board of Education has ruled that teachers may count any graduate work received after the master's degree toward the next pay raise, per current guidelines. No credit will be given for repeated work. The student must request the Office of Teacher Licensure to send proper credentials to the State Department of Education and/or to the applicable local officials.

## Registration

The schedule book contains information concerning registration procedures.

## Student Identification Cards

All students should have a permanent ID card with a magnetic strip on the back. The card is required to receive a variety of services on campus including cashing checks, admission to athletic and special events, admittance to the Recreation Center, checking out library materials, obtaining meal
tickets, and using RAIDER FUND\$. The ID card will be validated automatically when all fees are paid. All students must have an ID card.

The first card is issued at no charge; however, there is a \$10 charge for replacing lost or stolen IDs. If the card breaks or is damaged, it should be returned to the ID office and a new card will be issued at no charge.

## Measles Immunization

The State of Tennessee requires students entering colleges, universities, and technical institutes with enrollment of greater than 200 students to provide proof of two (2) doses of measles, mumps, and rubella (MMR) vaccine on or after the first birthday, or proof of immunity to measles if date of birth is 1957 or after.

Students will not be allowed to register for classes until an acceptable form is on file in the Student Health Services Office. More information may be obtained by calling 8982988.

## Catalog

This catalog is produced for the convenience and benefit of graduate applicants and enrollees and is revised every two years. In the interim period, changes in university and/or graduate program requirements may be approved which apply to new applicants or admittees (see page 6 for additional information). Thus the information contained herein should not be construed as binding or inferred as an academic contract. New graduate students should request a copy of graduate program requirements in existence at the time of matriculation. These will be the requirements which must be fulfilled to result in conferral of the degree objective. Notwithstanding, should graduate requirements change while a student is still enrolled, he/she will have the choice of opting for the new requirements or following the original plan in existence at matriculation, subject to any necessary substitutions.


## Expenses

The question of costs while attending the University is important to every student. It is difficult, however, to accurately estimate yearly expenditures; expenses vary according to the nature of the curriculum, the place of residence (whether in-state or out-of-state), and the student's own habits and needs. It is possible to live simply and to participate in the life of the student community on a modest budget. The best help the University can offer the student in budget planning is to provide available figures for expenses.
Health service and admission to athletic events are available to any currently enrolled student. The payment of the appropriate fees will permit any combination of graduate and undergraduate courses to be taken that may be required or approved. Charges for all coursework will be assessed by course level.
All fees are for the academic year 2001-2002 and are subject to change by action of the Tennessee Board of Regents. The new fee amounts will be published each year when approved by the Tennessee Board of Regents (usually around July 1). The updated rates will be available in July on the MTSU Web site at http://www.mtsu.edu/~bursarmt.

## Registration Fees

| Maintenance Fees |  |
| :---: | :---: |
| In-State Students |  |
| Full-time (per semester) |  |
| Undergraduate (12 hours and over) | \$ 1,278.00 |
| Graduate (10 hours or more) | 1,716.00 |
| Part-time (per credit hour) |  |
| Undergraduate | 112.00 |
| Graduate | 181.00 |
| Out-of-State Students* |  |
| Full-time Students (per semester, 12 hours and over) |  |
| Undergraduate | 4,514.00 |
| Graduate | 4,952.00 |
| Part-time Students (per credit hour) |  |
| Undergraduate | 392.00 |
| Graduate | 461.00 |
| Debt Service Fee |  |
| Full-time (per semester) | 83.00 |
| Part-time (per credit hour) | 7.00 |
| General Access Fee |  |
| Full-time (per semester) | 193.00 |
| Part-time (per credit hour) $23.00+14$ | $23.00+14.00$ per hour |
| Recreation Activity Fee |  |
| (Required of all students) | 15.00 |
| Postal Services Fee |  |
| (Required of all students registering for 12 or more hours) | or more hours) 8.00 |

SGA Student Activity Fee (required of all students registering for 7 hours or more)
*Included in these rates are charges for out-of-state tuition as follows:

1. \$3,236.00 for full-time students
2. $\$ 280.00$ per credit hour for part-time students

NOTE: The rates quoted above are those in effect for the 2001-2002 academic year. A portion of the General Access Fee is allocated to the Parking and Transportation Services department; upon payment of all registration fees, students are eligible to receive a student parking permit.

## Summer Registration Fees

NOTE: Fees are charged per hour for all classes. NO maximum applies for summer.

## In-State Students

Undergraduate
Graduate
\$ 112.00 per hour 181.00 per hour

Out-of-State Residents
Undergraduate 392.00 per hour
Graduate 461.00 per hour
Debt Services Fee
7.00 per hour

General Access Fee 14.00 per hour 15.00

## Campus Housing Expenses

## Reservations

Fall and Spring Semesters, required prepayment \$200.00
Spring Semester only, required prepayment \$100.00
Summer Session, required prepayment \$125.00

## 2001-2002 Room/Apartment Rates <br> Single Students/Residence Halls (shared bedroom, quad bath; shared bedroom, community bath)

Cost per semester $\quad \$ 1070.00$
Summer Session I \$189.00
Summer Session II \$315.00
Summer Session III \$630.00
Session IV \$315.00
All Summer School \$819.00
(private bedroom)
All residence halls, per semester \$1,873.00
Limited availability; summer not available
Womack Lane Apartments - one bedroom
(shared apartment, shared bedroom)

| Cost per semester | $\$ 1,200.00$ |
| :--- | ---: |
| Summer Session I | $\$ 212.00$ |
| Summer II | $\$ 354.00$ |
| Summer III | $\$ 708.00$ |
| Summer IV | $\$ 354.00$ |
| All Summer School | $\$ 920.00$ |

Womack Lane and Scarlett Commons
(shared apartment, private bedroom)
Womack Lane Apartments - two bedrooms
Cost per semester
\$1,340.00
Summer I \$237.00
Summer II
\$395.00
Summer III
$\$ 790.00$
Summer IV
$\$ 395.00$
All Summer School \$1,027.00

| Scarlett Commons |  |
| :--- | ---: |
| Cost per semester | $\$ 2,200.00$ |
| Summer I | $\$ 73.00$ |
| Summer II | $\$ 121.00$ |
| Summer III | $\$ 242.00$ |
| Summer IV | $\$ 121.00$ |
| All Summer School | $\$ 315.00$ |
| Womack Lane Apartments - Families |  |
| (one bedroom, unfurnished) |  |
| Cost per semester | $\$ 2,080.00$ |
| Summer I | $\$ 367.00$ |
| Summer II | $\$ 612.00$ |
| Summer III | $\$ 1,224.00$ |
| Summer IV | $\$ 612.00$ |
| All Summer School | $\$ 1,591.00$ |
| (one bedroom, semi-furnished) | $\$ 2,400.00$ |
| Cost per semester | $\$ 424.00$ |
| Summer I | $\$ 708.00$ |
| Summer II | $\$ 1416.00$ |
| Summer III | $\$ 708.00$ |
| Summer IV | $\$ 1,840.00$ |
| All Summer School | $\$ 2,370.00$ |
| (two bedroom, unfurnished) | $\$ 419.00$ |
| Cost per semester | $\$ 697.00$ |
| Summer I | $\$ 1,394.00$ |
| Summer II | $\$ 697.00$ |
| Summer III | $\$ 1,813.00$ |
| Summer IV | $\$ 2,680.00$ |
| All Summer School |  |
| (two bedroom, semi-furnished) | $\$ 474.00$ |
| Cost per semester | $\$ 790.00$ |
| Summer I | $\$ 1,580.00$ |
| Summer II | $\$ 790.00$ |
| Summer III | $\$ 2,054.00$ |
| Summer IV |  |
| All Summer School |  |

NOTE: Room rents are subject to change by action of the Tennessee Board of Regents. Each student will pay the amount in effect at the time of registration. Apartment summer sessions noted with an asterisk are available only to those residents who have signed a license agreement and made prepayments for the subsequent academic year beginning in August. Residence hall summer sessions are restricted to specific locations. The University reserves the right to correct errors in student fee assessments and charges which are discovered subsequent to initial billings and fee statements.

## Other Applicable Charges

| Admission application fee |  |
| :--- | ---: |
| $\quad$ Undergraduate | 15.00 |
| $\quad$ Graduate | 25.00 |
| $\quad$ International | 30.00 |
| Automobile registration—academic year: | 65.00 |
| $\quad$ Faculty/administration/staff | 10.00 |
| Employees with disabilities | $\mathrm{n} / \mathrm{c}$ |
| Student permits* | 33.00 |
| Automobile registration—summer only: | 23.00 |
| $\quad$ Faculty/administration/staff | 5.00 |
| $\quad$ Student permits | 10.00 |
| $\quad$ Employees with disabilities |  |
| Diploma insert (after the first) | 91.00 |
| Dissertation binding (1 original and 4 copies) | 37.00 |
| and microfilming (doctor's degree) |  |
| Thesis binding (master's degree) (1 original and 3 copies) | 9.20 |


| Graduate entrance tests: |  |
| :--- | ---: |
| $\quad$ Miller Analogies | 42.00 |
| Graduate Record Exam-subject | 130.00 |
| ID card replacement | 10.00 |
| Music, individual instruction, 2 lessons each week | 10.00 |
| 1 lesson each week | 55.00 |
| Post Office box rent each semester (required of |  |
| all students registering for 12 hours or more) | 8.00 |
| Nursery school, semester |  |
| $\quad$ Infants and toddlers, 2 days/week | 150.00 |
| Pre-school (4 days per week ) | 240.00 |
| Day Care Fees (per week) | $\$ 60.00$ |
| Full-time (M-F) | $\$ 36.00$ |
| Part-time (MWF) | $\$ 24.00$ |

*A portion of the general access fee is allocated to the Parking and Transportation and Services Department; upon payment of all registration fees, students are eligible to receive a student parking permit.
No student will be allowed to pre-register, register, or receive a grade report or transcript of credits until all accounts are settled. A student will not be officially enrolled until all fees are cleared through the Business Office.

## Late Registration

Students who complete registration (including the payment of fees) during the late registration period will be charged a $\$ 50.00$ late fee.

## Matriculation Fee for Incompletes

If a student receives an " I " for a course, he or she need not re-register or pay fees for the course every semester until the course is completed. Such students should work only with the course instructor to complete grade requirements.

## Returned Checks

Acknowledged bank errors excepted, a $\$ 20.00$ service charge will be assessed for each bad check, whether given in payment of fees, for purchase of books, cashed by the University for the personal convenience of the student, or for any other reason. The University will decline to accept checks from any student who has checks returned by the bank more than once. A $\$ 50.00$ late registration fee may be assessed for any bad check given in payment of registration fees.

## Automobiles

All privately-owned or operated vehicles for use on the campus must be registered annually with Parking and Transportation Services and must display an official registration permit. (See above for charges.) For more information or clarification, please refer to Traffic and Parking Regulations, available in the Parking and Transportation Services Office.

## Auditing Charges

An auditor is one who enrolls and participates in a course without expectation of receiving academic credit. The same registration procedure is followed and the same fees charged as for courses taken for credit. An audited course is not applicable to any degree or certification program.
Regular class attendance is expected. Other course requirements, which may be obtained in writing from the instructor, will vary depending upon the nature of the course. Students interested in auditing a course should discuss course requirements prior to enrolling. Failure to meet course requirements may result in the auditor's being withdrawn from the course at the request of the instructor. A successful audit will be recorded on the transcript with the designation NC.

A change from audit to credit or credit to audit must be processed by the last day to add a class.
Persons 60 years of age or older or disabled persons suffering from a permanent total disability which totally incapacitates such persons from working at an occupation which results in an income (T.C.A., Section 49-7-113) who are domiciled in Tennessee may audit courses at any state-supported college or university without paying tuition charges. Registration under this program is on a space-available basis; therefore, students cannot priority register. Class selection should be processed on the first day of classes for the term or session. Proof of age or disability must be provided.

## 65-Year-Old/Disabled Credit Student

Persons 65 years of age or older or disabled persons suffering from a permanent total disability which totally incapacitates such persons from working at an occupation which results in an income (T.C.A., Section 49-7-113) who are domiciled in Tennessee may register for classes for credit by paying a service fee not to exceed $\$ 75$ per semester. Registration under this program is on a space-available basis; therefore students cannot priority register. Class selection should be processed on the first day of classes for the term or session. No late fee is charged. An application fee is required. In addition, the applicant must be eligible for admission and submit proof of age or disability.

## Additional Charges

The University reserves the right to increase the charges listed herein or to add new ones whenever such increases or additions are found to be necessary.

## Board

All freshman men and women living in the residence halls during fall and spring semesters will be required to participate in a freshman meal plan. All other students may secure meals in the University cafeterias or grill either through optional meal plans available from the food service or a meal-to-meal cash basis.

## Deferred Payment Plan

Although all charges are due and payable in full at the beginning of each term, students in good financial standing at MTSU may defer payment of up to 50 percent of their registration, housing, and freshmen meal plan fees for the fall and spring semesters. To be eligible for the Deferred Payment Plan, each participant must make a minimum down payment of 50 percent of the registration fees, residence hall rent, and freshmen meal plan costs. The balance due must be $\$ 400$ or more after all discounts, waivers, financial aid, and other credits are applied. A student who fails to make timely payments in a previous term may be denied the right to participate in the deferred payment plan in future enrollment periods. A student who is denied participation may be allowed to participate again only after completion of payment in full for two consecutive terms which allow deferments (fall or spring terms). Any student who makes payment with a check which is subsequently returned will be denied participation in the Deferred Payment Plan in all future terms.
The amount deferred will be payable in two monthly installments. For the fall term, installment payments are due by October 1 and November 1. Payments for the spring term are due March 1 and April 1. The University is not obligated to send reminder notices before the payment is due. Participants in this plan must apply all discounts, waivers, credits, and financial aid, including student loans, toward payment of registration fees before a deferment will be considered. Financial aid and other credits received after the initial payment will be applied to the remaining balance, and future amounts due will be recomputed. No refunds can be made until all fees are paid in full. Students who participate in the Deferred Payment Plan may not pay housing charges in installments in the same term. Students must select either the Deferred Payment Plan or the Housing Deferment Plan. Students will not be withdrawn for failure to pay the second or third payments. However, the balance must be paid in full before the student can pre-register for future terms even if preregistration is prior to the due date.
Each participant will be charged a $\mathbf{\$ 2 5 . 0 0}$ service fee each term to defray administrative costs. This fee is payable along with the 50 percent down payment on or before the registration fee payment deadline. An additional late payment charge of $\$ \mathbf{2 5}$ will be assessed for each installment not paid on or before the tenth day of the month that a payment is due. Students who make payments with checks that are returned will be charged a $\$ 20$ return check service fee as well as any applicable late fees.
If a payment is not received in the Business Office by the scheduled payment due date, the University will withhold all services from the student, including grades, transcripts, and future registration until the fees have been paid in full including any assessed late fees.
All existing rules and policies pertaining to returned checks, refunds, withdrawals, dropped classes, and collection costs are applicable to the Deferred Payment Plan.

Payment of the minimum amount due on the Deferred Payment Plan finalizes registration. The class schedule will not be dropped. It is not necessary to also confirm on TRAM or WebMT. The Deferred Payment Plan service fee, late fee, and minimum amount are effective for 2000-2001 and are subject to change in future terms.
Additional fees for classes added after fee payment are due before the late registration fee payment deadline. Any unpaid fees after this date will be processed as a deferred payment. The $\$ 25$ Deferred Payment Plan service fee and any applicable $\$ 25$ late payment fees will be charged.
Questions regarding the Deferred Payment Plan should be directed to the Bursar's Office at (615) 898-2761.

## Refund of Fees

NOTE: No refund of housing fees, registration, or other fees will be made to students who are dismissed or suspended.

## Fall and Spring Semesters*

Those students who withdraw from the University within 14 calendar days after the beginning of classes for the fall and spring terms will be refunded $75 \%$ of their maintenance fees, debt service fee, general access fee, or music fees (if any). Those withdrawing after the 14th day but before $25 \%$ of the time period covered by the term has passed will be refunded $25 \%$ of their fees. No refunds will be made beyond the $25 \%$ period. Specific dates for each term are given in the class schedule book for that term. The same refund schedule applies to students who drop to an hourly load below full-time. The percentage then applies to the difference between the new fees calculated on an hourly basis and actual fees paid. All other fees are non-refundable.

Drop date for courses which meet for a shorter time period than normal will be prorated based upon the course drop dates for the full term.

## Summer*

For summer sessions and other short terms, the $75 \%$ refund period and the $25 \%$ refund period will extend a length of time which is the same proportion of the term as the $75 \%$ and $25 \%$ are of the regular terms.
Students who pre-register for a summer session course and find it necessary to drop or withdraw before the first day of class for that session will be refunded $100 \%$ for that course. Otherwise the regular refund schedule will apply.
Specific dates applying to each session are listed in the current summer schedule book.
*Students who register after the official registration period and withdraw from the University will have their refunds calculated as if registration had taken place on the official day of registration.

## Refunds of Housing Expenses

## Residence Halls

Applications for residence halls and on-campus apartments must be accompanied by the required pre-payment as outlined in the license agreement. Pre-payment is a security of good faith that denotes the applicant's serious intent to reside in on-campus housing. Prepayment fees for 2001-2002 are $\$ 200.00, \$ 100.00$ of which is applied toward fall semester charges, and $\$ 100.00$ of which is applied toward spring semester charges. This prepayment is refundable prior to check-in according to the following schedule. All cancellations must be submitted in writing to the Housing and Residential Life Office. Prepayment amounts represent approximately 25 percent of the total semester fee and may vary from year to year. Students should contact Housing and Residential Life to verify specific changes.

## Academic Year (Fall and Spring) Applications

| Date of Cancellation | Refund Amount |
| :--- | :---: |
| By May 1 | $\$ 150.00$ |
| By June 1 | $\$ 100.00$ |
| By July 1 | $\$ 50.00$ |
| After July 1, but prior to the first check-in day | $\$ 00.00$ |
| $\quad$ in August | $\$ 1$ |

## Spring Semester Only Applications

| Date of Cancellation | Refund Amount |
| :--- | :---: |
| By October 15 |  |
| After October 15, but prior to the first check-in <br> day in January | $\$ 0.00$ |

## Summer Housing

Details regarding application, fees, and refunds for summer assignment to residence halls and on-campus apartments may be obtained by contacting the Housing and Residential Life Office at (615) 898-2971.

## Housing Fees

The refunds of residence hall fees after registration will be prorated on a weekly calendar basis when the student is forced to withdraw from the residence hall because of approved medical reasons confirmed in writing by a licensed physician.
Full refund will be made in the case of death. No refund will be made other than under the above conditions, except as specified in the Student Housing Agreement.

## Direct Deposit of Financial Aid Credit Balance Refunds

Students who have a credit balance due to financial aid have the option of having the excess aid balance direct deposited into their checking or savings account. If financial aid has been credited to the student's account, the refund will be deposited into the student's bank account and available for use on the first day of refund disbursement if the student has met all financial aid eligibility requirements and/or completed all required paperwork.
Students must complete an authorization form at least 14 days prior to the first day of classes. Financial aid proceeds will not be transferred to the student's banking account without authorization. An authorization form can be obtained from the Business Office, Cope Administration Building, Cashier Window 9, or Room 103 or by calling (615) 898-5716. Direct Deposit Authorization Forms are available also via the Web at http://www.mtsu.edu/~bursarmt/direct.html.
This authorization will remain in effect until terminated by the student.


## Financial Aid

The Office of Student Financial Aid, located in Cope Administration Building 218, provides assistance for qualified students. Office personnel will provide forms and help to seek available aid for graduate students.
Following is a summary of financial aid administered through MTSU. Unless otherwise indicated, application is made to the Office of Student Financial Aid. Results from the Free Application for Federal Student Aid (FAFSA) are required before eligibility can be determined for federal financial aid programs.

## Sources of Aid and Eligibility

## Federal Programs

Subsidized Federal Stafford Loan Program
Graduate students enrolled at least half-time (five graduate hours) and in good standing or accepted for enrollment at MTSU; based on need which is determined from the results received from the FAFSA and cost of attendance; maximum loan limit for two (2) semesters is $\$ 8,500$ not to exceed a lifetime limit of $\$ 65,500$ (including the undergraduate loans); must be making Satisfactory Academic Progress (see Satisfactory Academic Progress Policy on page 33). Applications are available in the Financial Aid Office or on MTSU's Web site at www.mtsu.edu/ ~fin_aid/forms.htm.

## Unsubsidized Federal Stafford Loan Program

Graduate students enrolled at least half-time (five graduate hours) and in good standing or accepted for enrollment at MTSU; based on eligibility and cost of attendance; maximum loan limit for two (2) semesters is \$10,000 not to exceed a lifetime limit of \$73,000 (including the undergraduate loans); must be making Satisfactory Academic Progress (see Satisfactory Academic Progress Policy on page 33). Applications are available in the Financial Aid Office or on MTSU's Web site at www.mtsu.edu/~fin_aid/forms.htm.

## Federal Perkins Loan

Graduate students enrolled for at least half-time (five graduate hours) and in good standing or accepted for enrollment at MTSU; based on need which is determined from the results received from the FAFSA and cost of attendance; lifetime maximum of $\$ 40,000$; must be making Satisfactory Academic Progress (see Satisfactory Academic Progress Policy on page 33). Applications are available in the Financial Aid Office.

## Federal Work-Study Program

Graduate students enrolled at least half-time (five graduate hours) and in good standing or accepted for enrollment at MTSU; based on eligibility and cost of attendance; maximum of 20 hours per week; must be making Satisfactory Academic Progress (see Satisfactory Academic Progress Policy on page 33).

## Assistantships and Fellowships

A limited number of graduate teaching assistantships, graduate research assistantships, minority scholarships, and doctoral fellowships are available. Applications may be obtained from the College of Graduate Studies or from the appropriate academic department. Information on stipends is also available from these sources. An individual is expected to be in good standing, i.e., having met the requirements for admission to graduate school (including satisfactory test scores) and having a cumulative GPA of 3.00 or more.

## How to Apply

Step 1. Prospective students should very carefully complete the Free Application for Federal Student Aid (FAFSA). Forms are available beginning in January for the next Fall, Spring, and Summer terms. Forms are available from the MTSU Financial Aid Office.
Step 2. The completed FAFSA can be mailed to the processing center using the envelope provided with the application or by completing the FAFSA online on the Internet at http:// www.fafsa.ed.gov. The instructions must be followed very carefully. The federal processor will not process the application until the "signature page" is received. It generally takes four to six weeks for the federal processor to manually process the application. It takes about two to four weeks for the application process via the Internet. The Federal Processing Center will send a Student Aid Report (SAR) to the student and MTSU (if the student enters the MTSU School Code of 003510 in the school section of the FAFSA).
Step 3. When the MTSU Financial Aid Office receives a complete and valid SAR, students will receive a Fall/Spring award letter stating the estimated financial aid they will be awarded. The award letter is based on full-time attendance and will indicate loans for which the student is eligible. After the award letter is printed, the estimated aid amounts may change due to changes in enrollment, EFC amounts, and other aid. Please remember to write accept or reject beside each award, sign the form, and return it to the Financial Aid Office, Cope Administration Building, Room 218.
Step 4. Students applying for one of the Federal Stafford Loan Programs must complete and submit a Loan Request Sheet (LRS) to the Financial Aid Office. Copies of the LRS are included with the award letter, available in the MTSU Financial Aid Office, or available on the Web at www.mtsu.edu/ $\sim$ fin_aid/. To request a loan, a valid SAR must be on file. To ensure the funds will be ready, the request should be submitted a few months before the loan is needed .

## General Financial Aid Information

1. Graduate students who are required to enroll in undergraduate courses to be accepted into a Graduate program may qualify for Stafford loans at the undergraduate level provided they have not reached their aggregate loan limits. Students may receive Stafford loans for 12 consecutive months. Students should obtain a letter from the department or graduate analyst indicating which courses are required as prerequisites. This form must be submitted to the Financial Aid Office before a loan can be processed.
2. For the Fall and Spring semesters, students who withdraw within the first four (4) days of classes may have all of their financial aid canceled. Students who drop course(s) within the snapshot date (generally the first fourteen (14) days of classes) may have their aid adjusted according to the number of hours enrolled as of that date (see the current semester's schedule book for exact dates). Also, see the Financial Aid Return Policy in the current
schedule book which details information regarding withdrawing before 60 percent of the semester.
3. For each session of the Summer term, students who withdraw before the last day to drop without receiving a grade may have all of their aid canceled. Students who drop course(s) before the last day to drop without a grade may have their financial aid adjusted (see the Summer semester's schedule book for exact dates). Also, see the Financial Aid Return Policy of the current Summer Schedule Book about information regarding withdrawing before 60 percent of the term.
4. For Stafford and Perkins loans, class attendance will be verified for disbursements that occur during the semester on at least a half-time ( 5 graduate hours) basis, funds may not be disbursed or awarded aid may be adjusted.
5. Attendance must be verified for students who are enrolled in correspondence courses, online courses, telecourses, the Regents degree, or courses via the Internet. Because attendance is not required for these courses, instructors document attendance according to completed homework assignments. In order that their attendance can be documented, students should complete their homework assignments in a timely manner. If students wish to withdraw or drop from these courses, it is recommended they contact their instructor(s). Students' financial aid may be adjusted or canceled if instructors are unable to verify attendance.
6. Any scholarships received in excess of tuition, fees, and books are considered taxable income. See your tax preparer for tax filing information.


## Satisfactory Academic Progress Policy

Federal regulations require that all federal financial aid recipients be enrolled in a degree-seeking program and maintain satisfactory academic progress toward a degree to maintain eligibility. MTSU complies with this requirement by monitoring each aid recipient's cumulative grade point average (GPA), completion rate, and maximum timeframe for completion of a degree. The following describes MTSU's method for monitoring each of these measures.

## Cumulative Grade Point Average

Graduate students. To be eligible for financial aid, a student's GPA must meet at least the minimum requirements found in the graduate catalog or be approved by the College of Graduate Studies for enrollment.

## Completion Rate

Students must earn 66 percent of their cumulative credits attempted to remain eligible for financial aid. Grades of A, B, C, D, P, or S, including any " + " or " - " options, count as credits earned. All courses for credit will be counted as hours attempted including withdrawals, incompletes, courses repeated, and courses receiving a grade of $\mathrm{N}, \mathrm{U}, \mathrm{WF}, \mathrm{WP}$, and F.

1. Probation. Students whose completion rate is greater than 50 percent but less than the required 66 percent will be placed on probation.
2. Suspension. Students whose completion rate is less than 50 percent of the credit hours attempted or those previously placed on probation who did not pass 75 percent of attempted credit hours will be suspended from eligibility for federal grants, loans, and federal work-study employment. Students may still be eligible for emergency short-term loans and other university funds.

## Time Limitations

Graduates. The maximum time limitation for graduate students will be 150 percent of the standards established by the College of Graduate Studies and published in the graduate catalog.

## Review of Progress Standards

1. GPA. The Records Office reviews the GPA at the end of each semester. Students may appeal academic suspension to the undergraduate or graduate academic appeals committee. The decision of the committee is final.
2. Completion rate. The completion rate is reviewed annually at the end of the Spring semester by the Financial Aid Office.
3. Time limitation. The maximum time limit is reviewed at the end of each semester by the Financial Aid Office.

## Notification/Appeals

1. Probation. The Financial Aid Office will send a letter to students placed on financial aid probation notifying them of their financial aid status and the expected requirements. Each student will be allowed at least one probationary period during the course of enrollment.
2. Suspension. Students suspended from financial aid will receive a letter from the Financial Aid Office along with a Satisfactory Progress Appeal form. Students are allowed to appeal their suspension if they can document extenuating circumstances beyond their control which have since been resolved. Examples include death of immediate family member and extended medical illness and/or disability. Provisions also may be made for students who have been approved to participate in the Academic Fresh Start program or have military credits that cannot be counted toward
a degree. Any other circumstances not listed above must be well documented and have the approval of a financial aid administrator and the director of Financial Aid.
a. Financial Aid Suspension Appeals. Student appeals are reviewed by an internal committee composed of financial aid staff. Each student will be notified of the appeal decision and if denied what action must be taken to regain financial aid eligibility.
b. Loan and Scholarship Committee. Students who are suspended a second time or who have been denied by the internal financial aid committee may appeal to the Loan and Scholarship Committee or its designee. The Loan and Scholarship Committee comprises faculty members, students, and administrators. Since faculty and students do not report until the start of school, students appealing to this committee may be personally responsible for paying registration expenses or signing a deferment to confirm they will attend and hold their selected classes.

## Reinstatement of Financial Aid if Appeal Denied

Students can attend MTSU and make up deficiencies in credit hours at their personal expense. If a student chooses to do this, a written appeal to the Financial Aid Office must be made when the deficiencies have been completed. This option is not available to students who have reached the maximum time limitation.

## No Credit Hours Earned

A student who earns no credit hours for one semester will be placed on probation. A student who earns no credit hours for the last two consecutive semesters enrolled will be suspended from federal financial aid. However, the student may appeal the suspension. Please see the suspension guidelines in Notification/Appeals above.

## Teacher Licensure

Students who have completed an undergraduate degree and are enrolled for the sole purpose of attaining teacher licensure are eligible for loans at the undergraduate level. To receive aid, students must be accepted into the teacher education program. Students are eligible for aid one semester prior to being accepted provided they have documentation of their application for admission to the program.

## Exceptions

The University may suspend a student's financial assistance in the event of extraordinary circumstances that are not accounted for in this policy. In all instances, the student will be notified of the appeal process.

## Federal Financial Aid Return Policy

For the Fall and Spring semesters, a federal financial aid return will be calculated on all students who withdraw after the fourth day of class but prior to completing 60 percent of the term. For the Summer term, a federal financial aid return will be calculated for all students who withdraw after the last day to drop without receiving a grade, but prior to completing 60 percent of the session. The amount of the return will be prorated based on federal guidelines. Students may owe a refund to the U.S. Department of Education and/or MTSU. Consult the current semester's schedule book for important dates with regard to withdrawing. Please review the General Financial Aid Information section or contact the Financial Aid Office with questions regarding this policy.

# Academic Regulations 

## Academic StandardsRetention, Probation, and Suspension

A master's or specialist in education student must maintain a cumulative GPA of at least $\mathbf{3 . 0 0}$ for all graduate work completed at MTSU, as well as in the major, and a doctoral student must maintain a minimum GPA of 3.25. Six semester hours of C grade (C-, C, or C+) coursework may be applied toward a master's or specialist's, but no courses with a C grade are acceptable toward the D.A. Courses with a grade lower than C- may not be applied toward any graduate degree requirements. A graduate student failing to meet the applicable minimum cumulative graduate GPA retention standard listed below or whose cumulative graduate GPA is less than 3.00 for three consecutive semesters will be placed on academic probation for the subsequent term. Probation in itself has no serious consequences other than to alert the student of potential academic problems and the requirement to (re)establish satisfactory academic status. Conversely, however, suspension is quite serious. Should a suspended student not be readmitted, it would result in termination of the student's graduate status.
In addition to minimum GPA standards, degree-seeking students are expected to take appropriate graduate courses towards their degree objective, as determined by the graduate program. Non-degree seeking graduate students are expected to take graduate courses. The number of "credit hours" listed below in bold applies only to those courses graded A through $F$, and not to $S / \cup$ graded courses.
NOTE: In addition to the guidelines below, the two-course repeat policy may result in a dramatically-increased GPA.
The guidelines below represent the absolute minimum GPA to avert graduate academic probation status. However, a cumulative GPA greater than or equal to 3.00 is required for satisfactory academic progress at the graduate level.

[^0]Greater than $\mathbf{1 5 - 1 8}$ credit (quality) hours completed ...... 2.83 GPA (If 18 graduate hours have been completed, a GPA of 2.83 reflects a grade point deficit of 3 . Next term, unless a course is repeated, 3 or more hours of $B$ grade, with no $B$ - or lower grades, will generate a GPA greater than or equal to 2.85 .)
Greater than 18-21 credits (quality) hours completed .... 2.85 GPA (If 21 graduate hours have been completed, a GPA of 2.85 still reflects a grade point deficit of 3 . Next term, unless a course is repeated, 3 or more hours of A grade (or 3 hours of A- and 3 hours of $B+$ grades), with no $B$ - or lower grades, will generate a GPA greater than or equal to 3.00 and the grade point deficit will disappear.)
Greater than 21 credits (quality) hours completed $\qquad$ 3.00 GPA (Master's and Educational Specialist students must maintain a cumulative GPA greater than or equal to 3.00 and Doctoral students must maintain a cumulative GPA greater than or equal to 3.25 in all remaining terms.)

A student on academic probation who fails to meet the above applicable standard during the next term in which enrolled will be suspended.
NOTE: Individual graduate programs may propose higher minimum grade standards than the above.

## Access to Records

The MTSU policy concerning student access to educational records is printed on page 40.

## Advancement to Candidacy-Filing a Form

In consultation with the graduate advisor, each degree seeking student must file a formal outline of the degree program on a Candidacy Form available at the Graduate Office or on our Web site (http://www.mtsu.edu~graduate). The Candidacy Form requires the approval of the major professor, the reader(s), and the graduate analyst. A master's or specialist's student may not register for more than 24 semester hours unless an approved Candidacy Form is on file. In general, a doctoral student will not be permitted to register for more than 36 semester hours unless an approved Candidacy Form is on file.
NOTE: Some departments require advancement to candidacy prior to the completion of 24 semester hours (Criminal Justice 16 hours; Elementary and Special Education 21 hours).

## Appeal of Academic Suspension

A student may seek reversal of academic suspension, for cause, by petitioning the Graduate Council Appeals Committee. Appeal forms are available in the College of Graduate Studies, Cope Administration Building, Room 114, or our Web site (http://www.mtsu.edu~graduate). Appellants should contact the Graduate Office for the applicable deadline dates.

## Appeals, Other

Graduate students have the right to appeal for cause any decision affecting their academic standing as a graduate student. Cause excludes grade appeals, which are under the purview of the MTSU Grade Appeal Committee. The Appeal Advisory Committee of the Graduate Council is an ad hoc committee reporting to the dean of the College of Graduate Studies. The committee is convened at the discretion of the dean of the College of Graduate Studies.

The Graduate Council and the College of Graduate Studies have approved in principle the document Appeal Advisory Committee of the Graduate Council. Copies of this document are made available to all graduate students at the Graduate Student Orientation and are also available in the College of Graduate Studies, Cope Administration Building, Room 114.

## Candidacy-Changing a Form

Changes in degree programs are permitted upon proper filing and approval of a Change in Candidacy Form, which is available at the Graduate Office.

## Classes-Adding, Dropping, or Changing Sections

The procedures and deadlines to drop, add, or change a class are listed in the appropriate class schedule book.

## Classes-Cancellation of Scheduled Classes

The minimum enrollment requirement is ten students for upper-division and 5000-level graduate classes; eight students for 6000 -level classes, and four enrollees for 7000 -level classes (exclusive of graduate research courses). Any class may be canceled if the number of enrollees is deemed insufficient; however no scheduled class may be discontinued without the approval of the dean of the undergraduate college in which the course is offered.

## Examinations-Comprehensive (for Specialist's and Master's students; also see glossary)

This examination is scheduled by each department during the time period designated by the Graduate Office. Normally, the comprehensive examination may be taken no more than twice and failure to pass the comprehensive on the second attempt terminates one's degree program. Any exception to this "twice-only" rule must be recommended by the graduate program and approved by the dean of the College of Graduate Studies.

## Examinations—Qualifying

Please see the section under Doctor of Arts Degree and/or the Glossary.

## Examinations-Other

Any graduate student may be required to take one or more additional tests designed to measure general educational achievement and/or achievement in selected major areas.
Graduate credit may not be earned by CLEP or Special Examination.

## Grades-Grading System

The following notations are used by faculty of the University to indicate the quality of the work performed by students taking graduate courses:

```
A, A-
B+,B,B-
C+, C, C-
D+,D,D-
F
```


## Grades That Do Not Influence Grade Point Average

W - Withdrawal
NC - No credit (audit)
I - Incomplete
S - Satisfactory
U - Unsatisfactory
P-Pass
The $\mathrm{P} / \mathrm{F}$ grade is given only in those courses with prior approval to use pass/fail grading. Courses may be taught on a pass/fail basis only after approval of the Graduate Council. Course descriptions state if pass/fail grading applies.

Pass or Satisfactory/Unsatisfactory grades are not used in determining the grade point average. However, they do count toward graduation credit requirements and are treated in every other respect as being equivalent to traditionally graded courses.
The grade I indicates that the student has not completed all course requirements due to illness or other uncontrollable circumstances, especially those which may occur toward the close of the term. Mere failure to make up work or turn in required work on time does not provide a basis for the grade of I unless the extenuating circumstances noted above are acceptable to the instructor. When a student fails to appear for a final examination without known cause, the grade to be reported should be determined as follows: If the student has done satisfactory work to that point, the grade I may be reported on the assumption that the student was ill or will otherwise present sufficient reason for official excuse; if the student has attended irregularly and has not done satisfactory work to that point, the grade $F$ should be reported.
The "incomplete" must be removed during the succeeding semester, excluding summer. Otherwise, it converts to a grade of F. A student should not make up the "incomplete" by registering and paying again for the same course. The I grade carries no value until converted to a final grade.

## Grades—Appeal of Course Grades

## Level One

1. Student appeals concerning a course grade should be resolved by conference between the student and the faculty member who assigned the grade. The appeal must occur within forty (40) days of the graduation date for each term.
2. In the event of an impasse between the student and the faculty member, a student with an appeal of a grade shall discuss it with the department chair within ten (10) days of the conference with the involved faculty member. The department chair shall investigate the circumstances, record his/her findings, and send a copy to the student and the faculty member within ten (10) days of the notification of impasse. Although the department chair does not have the power to change the grade, he/she will make a recommendation concerning the appeal. These findings will become a part of the appeals record.

## Level Two

1. If the student is not satisfied, he/she may, within fifteen (15) days following receipt of the department chair's recommendation, refer the appeal plus all relevant data including stated reasons why he/she believes the appeal has thus far not been satisfied. The associate provost shall select a college committee to hear the appeal and transmit the appeal documents to the committee chair or to the office of the dean of the college which houses the selected appeals committee.
2. The committee hearing the appeal will receive documents and testimony regarding the circumstances, will record its findings, and shall render a decision. Notification of the committee's decision will be made to the student, faculty member, department chair, college dean, associate provost for Academic Affairs, and the director of Records.
3. The decision of the committee hearing the appeal will be final concerning the grade in question.
NOTE: In cases where the department chair is the person against whom the complaint is lodged, then the dean in whose college the department is located shall assume the duties of the chair in the investigation and decision making.

## Miscellaneous

1. The number of days indicated at each level above shall be considered the maximum, but every effort should be made to expedite the process.
2. The failure of the student to proceed from one level of the appeal procedure to the next level within the prescribed time limits shall be deemed to be an acceptance of the recommendations and/or decision previously rendered. All further considerations and proceedings regarding that particular appeal shall cease at that point.
3. A grade appeal may be withdrawn at any level without prejudice.
4. All appeal proceedings shall be kept as confidential as may be appropriate at each level.
5. A grade appeals committee shall have reasonable access to all official records for information necessary to the determination of a recommendation.

## Grades-Grade Point Average (Quality Credits)

Grade points are numerical values assigned to letter grades in order to provide a basis for quantitative determination of grade (quality) point averages. The four-point system with pluses and minuses is used.
The following system is used in determining grade point average:

| Grade |  | Grade Points |
| :--- | :--- | :---: |
| A | $=$ | 4.00 |
| A- | $=$ | 3.67 |
| B + | $=$ | 3.33 |
| B | $=$ | 3.00 |
| B- | $=$ | 2.67 |
| C+ | $=$ | 2.33 |
| C | $=$ | 2.00 |
| C- | $=$ | 1.67 |
| D+ | $=$ | 1.33 |
| D | $=$ | 1.00 |
| D- | $=$ | 0.67 |
| F | $=$ | 0.00 |

The scholastic standing of a student is expressed in terms of grade point average (GPA). A GPA is the total number of grade points divided by the total number of credit hours (exclusive of P, S, and U credit hours) at Middle Tennessee State University, plus any transferred course work. For a grade of F, the credit hours count, but zero grade points are earned.

## Grades by Phone or WebMT

You do not have to wait for the mail to know your grades at MTSU. Call 898-2000 (9-898-2000 on campus) (TRAM) and select the grade inquiry option to hear your grades for the current term and previous two terms provided money is not owed to the University. If you owe an account balance which prevents release of your grades, TRAM will provide an option to allow you to pay your account balance by credit card or check card (VISA or MasterCard) so that you can hear your grades.
Access WebMT at www.mtsu.edu and select Grade Inquiry from the main menu.
Grade reports are mailed only upon request. A printed copy of the current term grade report may be requested by selecting the appropriate option on TRAM. This option is available for approximately ten days after final exams each term. Once the option to request a grade report is no longer available, instructions will be given for requesting a complete transcript. If a printed grade report is requested, it will be mailed to the permanent address unless a different address has been designated for mailing grade reports. Instructions for requesting a transcript are available on WebMT. Also, you may view your unofficial transcript on WebMT.

## Intent to Graduate

An Intent to Graduate Form, available at the Graduate Office, must be filed by the student no later than the first week
of the semester in which the student plans to graduate or no later than the end of the first week of summer Session II (for August graduation).

## Prerequisites

The prerequisite for the graduate major is an undergraduate minor or its equivalent and/or the recommendation of the department chair. The prerequisite for the graduate minor is 12 semester hours of undergraduate coursework in that area or its equivalent and/or the recommendation of the department chair or delegate. If prerequisite coursework is marginally deficient, the student may be admitted to the College of Graduate Studies to make up the deficiencies concomitantly while taking graduate courses. Prerequisite courses do not apply toward meeting graduate program requirements.

## Repeated Courses

A graduate student may repeat graduate courses in which a grade lower than B-was earned. However, there are certain restrictions and limitations. A maximum of two courses, not to exceed eight credits combined, may be repeated for a grade change, i.e., the grade in the second attempt replaces the grade in the first attempt. If a third or subsequent course is repeated by the student, there will be no grade replacement; i.e., all attempts will be used in the grade point average calculation. All attempts are recorded on the transcript.

Graduate students may not repeat a course in which they have previously earned the grade of A or B without written approval from the graduate advisor and dean of the College of Graduate Studies. If granted, both the original and repeated grades will count in the GPA calculation.

## Student Load

A student's enrollment status is determined by the number of credit hours taken per term according to the following: Full-time - 9 graduate hours Three-quarter time - 7 graduate hours One-half time - 5 graduate hours
Graduate students are limited to a maximum of 12 graduate hours per semester. If an exception is requested, overload forms must be signed by the graduate advisor and the dean of the College of Graduate Studies. Full-time status for students holding graduate assistantships is six (6) graduate semester hours. (This is not applicable to students receiving veterans benefits.)

## Teacher Licensure

All applications for professional teaching licenses in Tennessee must be filed with the dean of the College of Education and Behavioral Science who is responsible for recommending each applicant from this University. All applicants for

teacher licensing should furnish the Tennessee State Department of Education a report of scores attained on the Core Battery Tests of the National Teacher Examinations. A copy of the scores should be sent to the Office of the Dean, College of Education and Behavioral Science. MTSU verification of the scores will be forwarded with the Application for Licensure.

## Post-Baccalaureate Teacher Education Program

The post-baccalaureate teacher education program is designed for individuals who have completed baccalaureate degrees but who did not complete teacher preparation. The College of Education and Behavioral Science requires candidates to address any course and program deficiencies in their undergraduate education to ensure the attainment of the knowledge and skills required in general education, professional education, and the major for the teaching field. Additional coursework and program requirements will be determined by the teacher licensure analyst. Transcript analysis forms for the post-baccalaureate program are available in the McWherter Learning Resources Center 173.
Post-baccalaureate students must also make formal application for admission to the teacher education program. Admission to teacher education is a prerequisite to enrollment in upper-division courses in Elementary Education (ELED), Reading (READ), Special Education (SPED) (except SPED 3010), Foundations of Education (FOED), or Youth Education (YOED).

## Time Limits

Students have six years after the date they matriculate to complete the requirements for a master's or specialist's degree. There is a ten-year time limit, after matriculation, to complete all requirements for the doctoral degree. Exceptions to these time limitations, for good cause, will be considered by the dean of the College of Graduate Studies when recommended by the graduate advisor and department chair.

## Transcripts

Student and official copies of student's record are furnished free of charge upon written request by the student. No transcript will be provided for a student who has any financial indebtedness to the University or who has not completed admission procedures. Official transcripts from other institutions must be obtained directly from those institutions.

## Transfer Credit

In general, only coursework taken while in graduate status, prior to attending MTSU, will be transferred and only if those courses were not used in partial satisfaction of degree requirements at the previous university. Coursework transferred or accepted for credit toward a graduate degree must represent graduate coursework relevant to the degree, with course content and level of instruction resulting in student competencies at least equivalent to those of students enrolled in the institution's own graduate degree programs. Transfer credit requires the recommendation of the graduate advisor and
approval of the dean of the College of Graduate Studies. Transfer courses with grades below B- will not be accepted for credit in the M.B.A. and M.S. in Accounting and Information Systems degree programs.
No graduate credit may be obtained by correspondence or work experience. A maximum of 12 semester hours of residence credit (6 in the major area) may be transferred and applied on a master's or specialist's degree.

In the D.A. program, no more than 12 semester hours (only 6 semester hours in the major) beyond the master's degree may be transferred from other doctoral institutions.

## Withdrawing from the University

Students finding it necessary to withdraw (completely separate) from the University after having selected classes for a future term should use the Telephone Response at Middle (TRAM), (615) 898-2000, or WebMT, http://www.mtsu.edu, to drop all classes. A student may also initiate the official withdrawal process in Keathley University Center 130. Consult the class schedule book for each term to determine whether withdrawal should be accomplished by TRAM or WebMT or through the Withdrawal Office in Guidance Services. Once classes have begun for the summer term, withdrawal for that summer term cannot be accomplished via TRAM or WebMT.
The Records Office will be notified of the withdrawal and will notify each of the student's professors regarding the withdrawal and its effective date as determined by the Withdrawal Office in Guidance Services.
The grade for a student who officially withdraws from the University will be determined by the student's academic performance prior to withdrawal. Withdrawal early in a term may result in no grades being assigned to the student. (The current schedule of classes carries dates governing withdrawal and appropriate grades.)

A student may not officially withdraw from the University after a date in the semester or term which is one week or less prior to the beginning of final examinations, except for reasons of mitigation or extenuation as shall be determined by the associate dean of students.
Any student who leaves the University without officially withdrawing will receive a grade of F for all work attempted.
A student under certain conditions may receive an administrative withdrawal from a single course or courses. Similar procedures are provided for a total severance from the University if conditions warrant. The following policy will determine the eligibility for an administrative withdrawal: The entry of W indicates that the student has been withdrawn from a course without reflection of grades. The entry of W results from a situation involving extreme extenuating circumstances as identified and originated with the University physician or counselors at Guidance Services and/or the associate dean of Student Life. The entry of W will be accomplished only with the full knowledge and written concurrence of the faculty member concerned.

# Student Access to Educational Records 

## Definitions

Educational Records are those records, files, documents, and other materials which (1) contain information directly related to a student; and (2) are maintained by Middle Tennessee State University or by a person acting for the University. "Records" means information recorded in any medium, including, but not limited to, the following: handwriting, print, tapes, film, microfilm, and microfiche. Educational records do not include (1) personal notes, (2) records available only to law enforcement personnel, (3) employment records, (4) medical and psychiatric records (these are accessible by the student's physician).

A student is any person who is or has been enrolled at Middle Tennessee State University. An applicant who does not enroll or who is declared ineligible has no inherent right to inspect his or her file. Wherever "student" is used in reference to personal rights, an eligible parent of a dependent student has similar rights. This "eligible" parent is one who has satisfied Section 152 of the Internal Revenue Code of 1954 and who presents such proof to the custodian of the educational records. Normally this proof will be a certified copy of the parent's most recent Federal Income Tax Form.

Directory information includes the student's name, address (including e-mail), telephone listing, date and place of birth, major field of study, enrolled hours, student level (freshman, sophomore, etc.) participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, and the most recent previous educational agency or institution attended by the student. A student may request that such directory information not be released to anyone other than those persons defined as school officials. To do so, a Request for Non-Release of Directory Information must be signed in the Records Office, Cope Administration 106.
The request is valid until the student completes a Cancellation of Request for Nonrelease of Directory Information form at the Records Office or until enrollment ceases at MTSU. If the student re-enrolls and does not want directory information released, another Request for Nonrelease of Directory Information form must be completed.

A school official is a person employed by the university as an administrator, instructor, supervisor, or support staff member.

A legitimate educational interest exists if the official needs to review an educational record in order to fulfill his or her professional responsibility.
Having access to an educational record means being allowed to see the original record.

## Release of Personally Identifiable Student Educational Records

Middle Tennessee State University shall not permit access to, or the release of, any information in the educational records of any student that is personally identifiable, other than directory information, without the written consent of the student, to any party other than the following:

1. MTSU officials and staff who have legitimate educational interests;
2. officials of other schools in which the student seeks admission;
3. appropriate persons in connection with a student's application for, or receipt of, financial aid;
4. federal or state officials as defined in paragraph 99.37 of the Family Educational Rights and Privacy Act of 1974;
5. state and local officials authorized by state statute;
6. organizations conducting studies for, or on the behalf of, MTSU for the purpose of assisting in accomplishing the University's stated goals, when such information will be used only by such organizations and subsequently destroyed when no longer needed for the intended purpose;
7. accrediting organizations, to carry out their functions;
8. parents of a dependent student as defined in section 152 of the Internal Revenue Code of 1954 (Written consent may be allowed from either of these separated or divorced parents subject to any agreement between
the parents or court order. In the case of a student whose legal guardian is an institution, a party independent of the institution, appointed under state and local law to give parental consent, may be allowed to do so.);
9. in compliance with judicial order or subpoena, provided that the student is notified in advance of the compliance unless the issuing court or agency has ordered that the existence or the contents of the subpoena or the information furnished not be disclosed; or
10. appropriate persons in connection with an emergency if such knowledge is necessary to protect the health or safety of a student or other persons.

NOTE: With the exception of MTSU officials and staff who have been determined by the University to have legitimate educational interests, all individuals and agencies who have requested or obtained access to a student's record (other than directory information) will be noted in a record which is kept with each student's Educational Record. A request must be in writing stating the purpose of the request. This record will also indicate specifically the legitimate interest that the persons or agency had in obtaining the information.

## Procedures for Accessing Educational Records

Eligible students have a right to inspect and review their educational records. To do so the student must request the custodian make the records available. The student may ask for an explanation and/or a copy of the record. (The price of the copies shall not exceed the cost of duplicating the record.) The records shall be made available within 45 days from the request. After consultation with the custodian the student may seek amendment of the records the student believes to be inaccurate, misleading, or otherwise in violation of the student's privacy rights. If there is a disagreement between the student and the custodian as to the correctness of the data contained in the record, the student may submit a request for a formal hearing. The request and the formal challenge to the content of the records must be presented in writing to the chair of the Student Appeals Committee. The chair shall call a meeting no later than 45 days after receipt of the written appeal and challenge. The committee will allow the student to present evidence to substantiate appeal and shall render a written decision to the student within 45 days after the meeting.
Complaints of alleged failure of the institution to comply with the Family Educational Rights and Privacy Act may be filed with the Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-4605.
NOTE: This procedure does not provide for a hearing to contest an academic grade.

## Exclusions

Right of access does not include

1. financial records of parents or any information therein;
2. confidential letters and statements of recommendation which were placed in the educational record of a student prior to January 1, 1975;
3. records to which access has been waived by a student. (This applies only if a student, upon request, is notified of the names of all persons making confidential recommendations and if such recommendations are used solely for the purpose they were intended.)

## Destruction of Educational Records

Educational records may be destroyed except that a student shall be granted access prior to destruction if such is requested.

## Informing Students

MTSU informs its students of the policy governing privacy rights of students' educational records by publishing the policy in the university catalogs. A listing of the types of records and related information may be found in the undergraduate catalog.

## Doctor of Arts Degree

At the time this Graduate Catalog was printed, the University was awaiting final approval for conversion of several Doctor of Arts (D.A.) degrees to Doctor of Philosophy (Ph.D.). The following programs have been recommended for conversion:

- Doctor of Arts in Economics to Doctor of Philosophy in Economics
- Doctor of Arts in English to Doctor of Philosophy in English
- Doctor of Arts in Physical Education to Doctor of Philosophy in Human Performance
Individuals considering graduate study in these areas should consult with the individual departments for the most current program information.
Middle Tennessee State University offers the Doctor of Arts (D.A.) degree in Chemistry, Economics, English, History, and Physical Education. An applicant for admission to this degree program must hold a master's degree from an accredited institution. The D.A. degree is offered for the purpose of developing doctoral-level expertise combining pedagogy with scholarly achievement (applied or theoretical) and research excellence in the fields of chemistry, economics, English, history, and physical education. The D.A. recipient is well prepared to teach at the collegiate level, including fulfilling professorial and similar advanced teaching positions. Above all, the D.A. recipient is a learned person who has demonstrated advanced educational leadership skills combined with the capacity to conduct independent scholarly investigation.


## Programs Leading to the D.A. Degree

There are two alternatives, as described below.

## Alternative I: Single Teaching Field

48 semester hours above the master's level with at least twothirds of the program on the 7000 level. No more than 6 semester hours of dissertation research (course 7640) may apply to this 48 -hour requirement. 5000-level courses may not be applied.
a. The major (teaching field) includes at least 24 semester hours of coursework, plus 6 semester hours of internship/externship, plus at least 6 semester hours for the dissertation research (course 7640).
NOTE: Once a doctoral student has begun taking dissertation research, he/she is expected to enroll in at least 1 semester hour of dissertation research until the dissertation is completed. Thus, doctoral students normally enroll for more than 6 semester hours of dissertation research.
b. The professional education core consists of at least 12 semester hours in higher education and must include courses FOED 7520 and 7560 and SPSE 7540 and 7550.

## Alternative II: Two Teaching Fields

60 semester hours above the master's level with at least twothirds of the program on the 7000 level. No more than 6 semester hours of dissertation research (course 7640) may apply to this 60-hour requirement. 5000-level courses may not be applied.
a. The major (first teaching field) includes at least 18 semester hours of coursework in the field (i.e., chemistry, economics, English, history, or physical education); plus 6 semester hours of internship/externship, plus at least 6 semester hours for the dissertation research (course 7640).
NOTE: Once a doctoral student has begun taking dissertation research, she/he is expected to enroll in at least 1 semester hour of dissertation research until the dissertation is completed. Therefore doctoral students normally register for more than 6 semester hours of dissertation research.
b. The second teaching field consists of at least 18 semester hours of coursework in any discipline which has a master's program (except Administration and Supervision, Curriculum and Instruction, or Aerospace Education).
The fields of study from which the second teaching field may be selected are:
Accounting/Information

Systems
Aerospace Administration Biology
Business Administration
Business Education
Chemistry
Computer Information Systems
Computer Science
Criminal Justice
Economics
English
Exercise Science and Health Promotion Foreign Languages

Health, Physical Education, Recreation
History
Human Sciences
Industrial Studies
Mass Communication
Mathematics
Music
Psychology
Reading
School Counseling
Sociology
Special Education
Vocational-Technical
Education
c. The professional education core consists of at least 12 semester hours in higher education and must include courses FOED 7520 and 7560 and SPSE 7540 and 7550.

## Advisory Committee

Each D.A. student has a three-person advisory committee constituted by the dean of the College of Graduate Studies; two are from the major field and one from higher education. The committee is recommended by the student, in consultation with the graduate advisor. If a curriculum comprising a major teaching field and a secondary teaching field is chosen, a fourth member representing the secondary field is appointed. If warranted, the committee membership may be reconstituted upon the approval of the dean of the College of Graduate Studies.
Beginning with acceptance into the doctoral program, the student should meet frequently with the advisory committee. The committee provides academic guidance to formulate a curricular plan best suited for the needs and interests of the student. The pre-candidacy stage permits optimal flexibility in the event of modified academic interests. Once the student has a well-formulated plan, he/she should petition for advancement to candidacy. Advancement to candidacy
must occur by the completion of 36 semester hours of coursework. (See advancement to candidacy, below.)

## Advancement to Candidacy

After having successfully completed a significant component of the curriculum (not to exceed 36 semester hours and including at least one course in the major and one in higher education), the student must file a Candidacy Form with the dean of the College of Graduate Studies. This degree plan, approved by the student's advisory committee, is listed on the Candidacy Form. The Graduate Office will notify the applicant after the degree plan has been approved. A student may not take the qualifying examination unless he/she has been advanced to candidacy.

## Qualifying Examinations

The qualifying examinations are intended to assess whether a candidate is qualified to continue in a doctoral program. At the appropriate point in the doctoral program, following advancement to candidacy, the candidate must pass written and oral qualifying examinations. D.A. programs generally require that the qualifying examinations be taken during the last semester of prescribed coursework exclusive of dissertation research.

These examinations are given at least one month before the close of the fall and spring semesters and summer session.
A satisfactory or passing performance on both the written and oral examinations means that the candidate is qualified to continue the program as planned. A less than satisfactory outcome on any phase(s) of the qualifying examination may result in additional academic requirements and/or a re-examination. A re-examination may be given only once. A second failing performance results in a recommendation to the dean of the College of Graduate Studies for academic dismissal. The student may appeal the dismissal recommendation, for cause, to the dean of the College of Graduate Studies.

## Written Qualifying Examination

1. For Alternative \#1, the written examination encompasses the candidate's major teaching field and higher education. The purpose of the written examination is to evaluate the candidate's overall knowledge of the field, integrative skills, ability to organize material, and competency in written expression. The maximum time limit for the written examinations is 12 hours: 8 hours in the major field and 4 hours in the higher education component.
2. For Alternative \#2, an additional maximum 4-hour examination in the second teaching field is required.
3. The examinations are administered by the major department and by higher education.
4. The graded examinations are filed in the department office for a period of five (5) years, and the student has the right of access to his/her graded examination.

## Oral Qualifying Examination

The oral examination is given by the candidate's advisory committee and covers the candidate's field of specialization and general knowledge. The committee evaluates the candidate's breadth of knowledge of the field(s), integration and problem-solving skills, competency in oral expression, and potential for conducting independent scholarly investigation.

## Dissertation Information

## Prospectus

1. The presentation of the dissertation prospectus is scheduled by the student, in consultation with the dissertation committee, as soon as practicable so as to enable the candidate to get a timely start on the research phase of the dissertation. In no event shall the prospectus presentation precede advancement to candidacy.
2. The prospectus must be distributed to all members of the dissertation (advisory) committee at least one week prior to the scheduled presentation.
3. The presentation of the dissertation prospectus is open to faculty.
4. The dissertation committee may impose additional conditions, such as requiring extra statistical analyses, revision of protocols, or knowledge of a foreign language appropriate for the dissertation research.
5. If relevant, the committee provides the candidate with procedures for requesting consent and clearance by the MTSU Institutional Review Board.
6. Immediately upon completion, the committee orally informs the candidate of its decision on the prospectus. The committee then provides the candidate with a written synopsis of the decision, including any applicable additional requirements, so as to minimize potential misunderstandings.

## Preparation of the Prospectus

The prospectus need not conform to a set series of conditions since each research investigation is unique. The dissertation committee should be consulted when the candidate is preparing the prospectus. However, the following may prove useful as guidelines:
Research Statement. This is a brief statement about the purpose of the research and the rationale for the study. It may also include reference to projected social, literary, or scientific impact, etc., to be realized by the study. Also included might be a brief description of the major subdivisions or aspects of the proposed study, stated in general terms.
Hypothesis. A hypothesis is a tentative assumption of an anticipated outcome from among projections of (all) possible outcomes of a research investigation. The hypothesis is based on presumably valid conclusions and backed by previous scholarly evidence; i.e., there is a rationale for the hypothesis. The scholar's goal is to prove, or disprove, the hypothesis.
Research Protocol or Experimental Design. This is the methodology devised by the researcher to examine whether or not the hypothesis is correct. The methodology or testing is performed so as to generate data (facts) which are used either to prove or disprove the hypothesis. A note of caution-when data are generated which disagree with an
investigator's hypothesis, a tendency of many young scholars is to attempt to explain why the data are incorrect, since they don't fit the hypothesis. It is very important to accept the validity of one's data and, if necessary, generate a new hypothesis which then may be further examined.
Background and Significance of the Study. The theoretical and empirical framework of prior scholarly work related to the research proposal and to which the proposal is indebted should be determined. A short statement of the value of the study and of the possible applications of the results is advisable. Citation of a limited number of authorities may support the significance of the proposed study.
Definition of Terms. Technical terms or words and phrases having special meanings should be defined.
Basic Assumptions. Certain defensible assumptions may be necessary to reach a scholarly conclusion. A justification should be provided explaining the basis for any assumption made.
Data Collection (Materials and Methods). A complete, precise description should be given for all instruments, materials, devices, or sources of information used in the collection of data or generation of information. There should be a detailed step-by-step description of the ways in which data are to be collected (i.e., methodology). This description should include detailed information of the data to be collected, the sources to be used, sampling procedures, if any, and any other information necessary to further clarify the procedure.
Data Analysis. It is necessary to describe precisely and specifically the way in which data are to be organized and analyzed. The steps and techniques used to analyze and interpret the data should be clearly described.

## The Dissertation

Each dissertation is unique and reflects the academic accomplishments of the author, in consultation with the dissertation committee. Although the candidate should confer frequently with the dissertation committee for mentoring and advice, the dissertation is the primary means by which the candidate demonstrates proficiency as an independent scholar. Following are some guidelines that may prove useful:

1. The dissertation (research project) should be strongly based upon the discipline, but it should also have relevance to pedagogy.
2. The research may be a restudy of problems with variations in new and different settings, a reevaluation of prior research, or the generation of new and original scholarly information.
3. The research should combine creativity with originality.
4. For additional information, the student may wish to consult the Guide to the Preparation of Theses and Dissertations, produced by the Tennessee Conference of Graduate Schools. It is available for perusal in the Office of Graduate Studies.

## Defense of Dissertation-Final Examination

1. Upon completion of the dissertation, the dissertation committee will hold an oral examination (often called the dissertation defense), which deals with the dissertation. However, the committee may designate any other aspect of the candidate's program for examination.
2. Arrangements for this examination are made by the student, in consultation with the major professor.
3. This oral examination may be open to the public.
4. The defense of dissertation is normally held during the same semester as the anticipated conferral of the degree.
5. The dean of the College of Graduate Studies must be notified by the major professor, in writing, of the outcome of the final examination/dissertation defense.

## Filing the Dissertation

1. The completed dissertation should follow a general format as outlined by the College of Graduate Studies; however there is considerable flexibility so that the author may use a format consistent with that of leading journals representative of the discipline.
2. Before submission to the dean of the College of Graduate Studies, the completed dissertation must be approved by the entire advisory committee and the department chair in the following order: major advisor, second member from the major field, professor of higher education, and chair of the major department. When a second teaching field is involved (alternative \#2), that advisor's name should be inserted prior to that of the professor of higher education.
3. The completed dissertation must be filed in the office of the dean of the College of Graduate Studies by the deadline set for accepting theses, dissertations, and research projects. The deadline(s) are found in the calendar section of this catalog and in the current class schedule book.
4. Upon receipt of the original and four copies of the dissertation by the Office of Graduate Studies, they are sent to the bindery. Each of the five approval pages must bear original signatures. Two copies are filed in the MTSU Library. One copy will be filed in the major department, one with the major professor, and one with the candidate. Laser print may be used if it is of professional quality. Letter grade copy paper will suffice; the copies need not be on bond paper.

## Dissertation Abstract

The dissertation must include an abstract of the treatise which should not exceed 350 words.

## Other Information

In addition to the materials found below, the reader should refer to the Glossary section in this catalog for additional important information relative to graduate education at MTSU.

## Checklist for the Semester of Intended Graduation

1. By the end of the first full week of the term or by the end of the first week of Session II (for August graduation), the candidate files an Intent to Graduate Form with the College of Graduate Studies and relevant fees are paid. There is an additional charge if more than five copies of the dissertation are to be bound.
2. The final examination (oral defense of dissertation) is administered.
3. If the defense is satisfactory, the dissertation is filed with the Graduate Office no later than 30 days prior to the intended graduation date. Final authority for approval of the dissertation rests with the dean of the College of Graduate Studies.

## Time Limit

After matriculation, there is a ten-year time limit for completing all D.A. degree requirements.

## Transfer Credits

Only coursework completed at a doctoral institution that would count toward the doctorate there will be considered for approval as transfer credit toward the Doctor of Arts coursework requirement at MTSU. Additional information on transfer credit is given in the section on academic regulations.


## General Information for Specialist's and Master's Students

In addition to the materials found below, the reader should refer to the Glossary section in this catalog for additional important information relative to graduate education at MTSU.

## Admission Requirements

Applicants must meet the admission requirements for de-gree-seeking students and submit any additional materials required by the major program of study. (See relevant department for specific requirements.)
Admission is granted to a specific program of study and a student may not change the major, the concentration, or the minor without a recommendation by the relevant graduate advisor(s) and the written approval of the dean of the College of Graduate Studies.
All applicants must hold a bachelor's degree from an accredited university. In addition, applicants for the Ed.S. degree must also hold a master's degree from an accredited university.

## Advancement to Candidacy

Advancement to candidacy signifies that a student has successfully completed a substantial portion of the graduate program and, in consultation with the graduate advisor, has established a curricular plan to follow for the purpose of graduation. The Candidacy Form must be filed and approved prior to the completion of 24 credit hours (or earlier if required by the graduate program). The form is approved by the pertinent graduate program personnel (e.g., major professor, graduate advisor, etc.) and the dean of the College of Graduate Studies (or designee).
M.A.T. and M.S.T. Candidacy Forms must also be signed by the dean of the College of Education and Behavioral Science or an appropriate representative if licensure is being sought. The Candidacy Form for the M.Ed. requires that the student have a professional license to teach and thus must also be signed by the dean of the College of Education and Behavioral Science or an appropriate representative.
For students pursuing either a second master's or specialist's degree at MTSU, the Candidacy Form should be filed prior to the completion of 18 credit hours of course work.

## Candidacy Change

If for any reason the courses listed on the Candidacy Form cannot be followed, a Change of Candidacy Form must be
filed with the dean of the College of Graduate Studies. This must be approved by the major professor, reader(s), and/or faculty advisors.

## Comprehensive Examinations

The comprehensive examinations are scheduled by each department during the last part of the semester in which the student expects to graduate. These may be oral, written, or both. This test is not merely a re-examination of coursework, but it is an assessment of the candidate's ability to integrate scholarly information linking the major and related fields. The comprehensive examinations may be taken no more than twice.

## Faculty Advisors

After admission, a degree-seeking student is assigned faculty advisors in the major and minor areas. The student should consult these advisors for program planning and optimal course scheduling.

## Intent to Graduate

By the end of the first full week of the term in which the student intends to graduate, or by the end of the first week of Summer Session II (for August graduation), the candidate must file an Intent to Graduate Form with the College of Graduate Studies, pay relevant fees at the Business Office, and complete the College of Graduate Studies exit survey.

## Thesis

The thesis in final form must be submitted to the dean of the College of Graduate Studies no later than 30 days before graduation. It must be approved by the major professor, the reader(s), and the department chair. Guidelines for the thesis vary from department to department. The primary responsibility for form, content, and style rests with the student and major professor. Nonetheless, a thesis not meeting standards may be rejected by the dean of the College of Graduate Studies and graduation delayed. The original and three copies of the thesis must be submitted for binding. One copy is forwarded to the library, one to the major professor, one to the department, and one is returned to the student. Additional fees must be paid if extra copies are bound.
NOTE: Once the student has begun taking thesis research, he/she is expected to enroll in at least 1 semester hour of thesis research (course 6640) until the thesis is completed.

## Specialist in Education Degree

Middle Tennessee State University offers the Specialist in Education (Ed.S.) degree in Administration and Supervision and in Curriculum and Instruction. The Ed.S. is provided specifically for teachers, counselors, and administrators wishing to pursue graduate study beyond the master's level. The Ed.S. in Administration and Supervision is available through the Department of Educational Leadership. The Ed.S. in Curriculum and Instruction is offered by both the Department of Educational Leadership and the Department of Elementary and Special Education. The Ed.S. in Curriculum and Instruction with a concentration in School Psychology is offered by the Department of Psychology.

## Common Requirements for All Specialist's Degree Programs

All specialist's candidates must

1. complete all applicable coursework after receipt of the master's degree.
2. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours. No courses at the 5000 -level or lower may apply toward the specialist's degree.
3. successfully complete a written (and/or oral) comprehensive examination. The examination may be taken no more than twice.
4. complete all specific graduate program requirements. These additional specific degree requirements are found under the applicable department.

## Second Specialist's Degree from MTSU

An individual who has received one specialist's degree from MTSU may obtain a second specialist's degree with a minimum of 24 additional semester hours of graduate coursework earned at MTSU if approved in advance by the graduate program and the graduate dean. No transfer coursework is accepted towards the second specialist's degree. All specific course requirements must be met for the second degree (except FOED 7060, Seminar in Educational Foundations, and SPSE 7130, The Curriculum: Structures and Functions), including the written comprehensive examinations and thesis (if relevant). All semester hours must be earned after the first specialist's degree has been conferred.

# The Master's Program 

Middle Tennessee State University offers nine different master's degrees, thirty master's programs, and thirtyseven master's programs with specific concentrations. These include the Master of Arts (M.A.), the Master of Arts in Teaching (M.A.T.), the Master of Business Administration (M.B.A.), the Master of Business Education (M.B.E.), the Master of Criminal Justice (M.C.J.), the Master of Education (M.Ed.), the Master of Science (M.S.), the Master of Science in Teaching (M.S.T.), and the Master of Vocational-Technical Education (M.V.T.E.).

## Common Requirements for all Master's Degree Programs

All master's candidates must

1. satisfactorily complete the undergraduate prerequisites.
2. complete a minimum of 30 (or more) semester hours of graduate coursework. No more than 30 percent of the total degree hours may be dually listed as undergraduate/graduate hours. No undergraduate courses may apply toward the graduate program requirements. If a thesis is required, normally no more than three hours will apply toward the 30 (or more) semester hour program requirement. However, additional semester hours of thesis research (6640) may be taken and will appear on the student's transcript.
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours.
4. successfully complete a written (and/or oral) comprehensive examination; the examination may be taken no more than twice.
5. complete all specific graduate program requirements.

## Programs Leading to the M.A. Degree

There are six departments offering programs leading to the Master of Arts degree. They are Economics and Finance, English, History, Music, Psychology, and Sociology and Anthropology.

Normally, the Master of Arts degree requires a thesis; however, graduate programs in English, Economics and Finance, and Music include a non-thesis option requiring more than 30 semester hours. (Specific program requirements may be found under the appropriate department.)

## Program Leading to the M.A.T. Degree

The Master of Arts in Teaching degree is offered in Foreign Languages. The degree should be pursued by those individuals interested in teaching. Admission is open to licensed teachers as well as those seeking initial licensure. Specific degree requirements are found under the Department of Foreign Languages and Literatures.

## Program Leading to the M.B.A. Degree

The Master of Business Administration program includes courses in the following six areas of business: accounting, economics, finance, management, marketing, and information systems. Specific degree requirements are found under Business Administration.

## Program Leading to the M.B.E. Degree

A Master of Business Education (M.B.E.) degree program is offered by the Department of Business Education, Marketing Education, and Office Management (BMOM) in the Jennings A. Jones College of Business. Specific degree requirements are found under the Department of BMOM.

## Program Leading to the M.C.J. Degree

The Master of Criminal Justice degree program is a joint program with Tennessee State University. Students may seek professional employment in the operational agencies in the field of criminal justice or pursue relevant research or teaching positions. Eighteen semester hours credit from each university is required. Applicants must complete a special application specifically for this degree program. Specific degree requirements are found under the Department of Criminal Justice Administration.

## Programs Leading to the M.Ed. Degree

There are four departments offering programs leading to the Master of Education degree. The M.Ed. degree provides programs of study in Administration and Supervision, Aerospace Education, Curriculum and Instruction, School Counseling, Reading, and Special Education. Specific degree requirements are found under the Department of Aerospace, Department of Educational Leadership, Department of Elementary and Special Education, and Department of Psychology.

## Programs Leading to the M.S. Degree

There are eleven departments and/or colleges offering programs leading to the Master of Science degree. The University offers the Master of Science degree in Accounting/Information Systems; Aviation Administration; Biology; Chemistry; Computer Science; Exercise Science and Health Promotion; Health, Physical Education, Recreation; Human Sciences; Industrial Studies; Mass Communication; and Mathematics. Specific degree requirements are found under the applicable department.
Normally, the Master of Science degree requires a thesis; however, graduate programs in Computer Science, Exercise Science and Health Promotion; Health, Physical Education, Recreation; Industrial Studies; Mass Communication; and Mathematics include a non-thesis option requiring more than 30 semester hours. (Specific program requirements may be found under the appropriate department.)

## Programs Leading to the M.S.T. Degree

The Master of Science in Teaching degree is offered by the Department of Biology and Department of Mathematical Sciences. The degree should be pursued by those individuals interested in teaching. Admission is open to licensed teachers as well as those seeking initial licensure. Specific degree requirements are found under the applicable department.

## Programs Leading to the M.V.T.E. Degree

Schools and departments participating in this degree are Agribusiness and Agriscience; Business Education, Marketing Education, and Office Management; Human Sciences; and Engineering Technology and Industrial Studies. The curriculum offers preparation for students to develop, administer, and supervise vocational-technical programs in area vocational schools, public schools, and community colleges. Specific degree requirements are found under the section on Vocational-Technical Education.

## Second Master's Degree from MTSU

An individual who has received one master's degree from MTSU may obtain a second master's degree with a minimum of 24 semester hours of coursework earned at MTSU if approved in advance by the graduate program and the graduate dean. No transfer coursework is accepted towards the second master's degree. All specific course requirements must be met for the second degree, including the written comprehensive examinations and thesis (if relevant). All semester hours must be earned after the first master's degree has been conferred.


## Graduate Certificate Programs

Graduate certificate programs provide advanced study beyond the baccalaureate degree and are intended as both profession development and as an intermediate step towards a desired graduate degree. Middle Tennessee State University offers five graduate certificates: Art Education, Critical Care Nursing, Geoscience, Gerontology, and Health Care Management. The Gerontology and Health Care Management certificates are interdisciplinary programs involving courses and faculty in multiple MTSU departments.

## Requirements

Prospective students should apply to the Graduate School. Once a student is admitted to the graduate school, his or her application is transmitted to the director of the individual certificate program for admission consideration. For admission to the interdisciplinary graduate certificate programs in Gerontology and Health Care Management, students must possess a bachelor's degree with an undergraduate grade point average of 2.75 ( 4.0 scale) and are required to submit a letter demonstrating their interest, detailing prior field experience, and outlining career goals and aspirations.
Students enrolled in the certificate program must comply with existing policies applicable to all graduate programs at MTSU. The time limit for use of credit toward the certificate is six years from the date of enrollment in the earliest course applied toward the certificate, including transferred courses. Students must maintain a cumulative graduate grade point average of 3.00 in courses leading to the certificate. Students may transfer up to six (6) credit hours of approved coursework into the certificate program.

## Art Education

The graduate certificate in Art Education provides advanced study for professionals in public and private education, museums, and other visual art arenas who wish to gain a contemporary understanding of the field of art education while earning credits for career advancement. Specific requirements for the certificate in Art Education are found on page 58.

## Critical Care Nursing

The goal of the graduate certificate program in Critical Care Nursing is to provide advanced knowledge and critical thinking skills to prepare the professional nurse to manage patients with complex health problems in the critical care environment. Students are required to complete 18 hours of graduate nursing courses. Specific course and program requirements are found on page 139.

## Geoscience

The Department of Geography and Geology offers a graduate certificate in Geoscience that consists of 12-16 hours taken from a variety of geography and geology courses. The certificate in Geoscience should be of particular interest to those in the private sector, K-12 and community college education, and government agencies. The department also offers a minor at the graduate level and hours taken in the certificate program normally can be applied toward the minor requirements. Specific requirements for the certificate in Geoscience are found on page 104.

## Interdisciplinary Certificate Programs

## Gerontology

The certificate program in Gerontology provides supplementary education in gerontology for students preparing for careers in a broad range of positions. This program is also designed to give those already working in the field an opportunity to enrich existing skills and knowledge and to provide further opportunities for career advancement.
Total required minimum hours: 18
Core Requirements: 6 hours

| SOC | 6550 | Seminar on Aging |
| :--- | :--- | :--- |
| SOC | 6900 | Practicum: Applied Analysis* |
| *NOTE: All students are required to complete this capstone experience |  |  |
| during their last semester of coursework. |  |  |
| Remaining hours are to be selected from the following courses |  |  |
| in conjunction with career goals and aspirations. |  |  |
| CDFS | 5390 | Families in Later Life |
| CDIS | 5800 | Speech, Language, and Auditory Problems <br> of the Aged |
| REC | 5380 | Introduction to Recreation for Persons <br> with Disability |
| REC | 5470 | Leisure and Aging |
| N FS | 5210 | Nutrition in Aging |
| PSY | 5610 | Adult Psychology and Aging |
| PSY | 5630 | Death and Dying <br> SOC |
| Sociology of Aging |  |  |
| SOC | 5020 | Topics in Gerontology |
| SOC | 5030 | Health Care Delivery Issues |
| SOC | 5080 | Group Work with the Elderly |
| SOC | 6660 | Program Evaluation |
| SOC | 6670 | Mental Health and Aging |
| SOC | 6680 | Counseling Elders |

For more information, contact Ron Aday in the Aging Studies Program at (615) 898-2693.

## Health Care Management

The curriculum is designed to

1. offer support for individuals interested in the healthcare field who may or may not want to pursue a graduate degree to obtain recognition for a coherent body of graduate level study in the field of health care management;
2. provide for interdisciplinary collaboration in teaching, learning, and practice;
3. encourage qualified students to pursue graduate degrees related to their specific field of interest or practice.

Total required minimum hours: 18
Core Requirements: 9 hours

| ECON | 6400 | Economics of Health Care |
| :--- | :--- | :--- |
| MGMT | 6000 | Management and Operational Concepts |
| MGMT | 6780 | Health Care Management |

Remaining hours are to be selected from the following courses in conjunction with career goals and aspirations.

| BLAW | 6430 | Legal Environment of Management |
| :--- | :--- | :--- |
| HLTH | 6510 | The Nation's Health |
| HLTH | 6850 | Methods in Epidemiology |
| HLTH | 6860 | Program Planning for Health Promotion |
| MGMT | 6750 | Business Ethics |
| MKT | 6900 | Health Care Marketing |
| NURS | 5035 | Special Topics |
| NURS | 5055 | Informatics for Health Care Professionals |
| SOC | 5020 | Sociology of Aging |
| SOC | 5030 | Topics in Gerontology |
| SOC | 5040 | Health Care Delivery Issues |
| SOC | 5080 | Group Work with the Elderly |

For more information, contact the Center for Health and Human Services at (615) 898-5950.


## Academic Abbreviations

| AAS | African American Studies | ITAL | Italian |
| :---: | :---: | :---: | :---: |
| ACA | Academic Success Program | JAPN | Japanese |
| ACSI | Actuarial Sciences | JOUR | Journalism |
| ACTG | Accounting | LATN | Latin |
| ADV | Advertising | LIBS | Library Science |
| AERO | Aerospace | MATH | Mathematics |
| ABAS | Agribusiness and Agriscience | M C | Mass Communication |
| ANTH | Anthropology | MGMT | Management |
| ART | Art | MKT | Marketing |
| A S | Aging Studies | M S | Military Science |
| ASTR | Astronomy | MUAP | Applied Music |
| ATHC | Athletic Coaching | MUED | Music Education |
| ATHT | Athletic Training | MUEN | Music Ensembles |
| B AD | Business Administration | MUHL | Music History and Literature |
| BIOL | Biology | MUPD | Music Pedagogy |
| BLAW | Business Law | MUS | Music |
| BMOM | Business Education, Marketing Education, | MUTH | Music Theory |
|  | and Office Management | N FS | Nutrition and Food Science |
| CDFS | Child Development and Family Studies | NURS | Nursing |
| CDIS | Communication Disorders | ORCO | Organizational Communication |
| CHEM | Chemistry | P R | Public Relations |
| CJA | Criminal Justice Administration | P S | Political Science |
| CM | Construction Management | PHED | Physical Education |
| COED | Cooperative Education | PHIL | Philosophy |
| COMM | Communication (Speech) | PHOT | Photography |
| CSCI | Computer Science | PHYS | Physics |
| DANC | Dance | PLEG | Paralegal Studies |
| DSPM | Developmental Studies Math | PORT | Portuguese |
| DSPR | Developmental Studies Reading | PRSE | Professional Seminar |
| DSPS | Developmental Studies Learning Strategies | PSCI | Physical Science |
| DSPW | Developmental Studies English | PSY | Psychology |
| ECON | Economics | Q M | Quantitative Methods |
| ELED | Elementary Education | RATV | Radio-Television |
| ENGL | English | READ | Reading |
| EST | Environmental Science and Technology | REC | Recreation |
| ET | Engineering Technology | RIM | Recording Industry |
| ETIS | Engineering Technology and Industrial Studies | R S | Religious Studies |
| FCSE | Family and Consumer Sciences Education | RUSS | Russian |
| FIN | Finance | SAFE | Safety |
| F L | Foreign Languages | SPED | Special Education |
| FOED | Foundations of Education | SOC | Sociology |
| FREN | French | SPAN | Spanish |
| GEOG | Geography | SPSE | School Personnel Service Education |
| GEOL | Geology | STAT | Statistics |
| GERM | German | S W | Social Work |
| GRAF | Graphic Communications | THEA | Theatre |
| G S | Global Studies | TRNS | Transportation |
| H SC | Human Sciences | TXMD | Textiles, Merchandising, and Design |
| HIST | History | U H | University Honors |
| HLTH | Health | UNIV | University 1010 |
| HUM | Humanities | VTE | Vocational-Technical Education |
| IDES | Interior Design | WMST | Women's Studies |
| IED | Industrial Education | YOED | Youth Education |
| INFS | Computer Information Systems |  |  |

# Department of Accounting 

Ken Harmon, Chair<br>Business and Aerospace Building N425C

The mission of the Department of Accounting is to provide a broad-based accounting education that prepares students for lifelong learning and professional growth throughout their careers. Fulfilling this mission requires that our faculty maintain continuous intellectual growth, keep abreast of current developments in accounting education, and provide service to the profession.

The Department of Accounting offers the Master of Science in Accounting and Information Systems with accounting as the primary field and courses for the Master of Business Administration degree. A minor in Accounting is offered for students seeking a master's degree other than the M.B.A. The director of graduate business studies serves as advisor for the M.S. in Accounting and Information Systems.
Students are encouraged to take advantage of the opportunity to take a balance of accounting and information systems courses; however, there is significant flexibility in the requirements to allow a student's program to be specialized to the extent desired for particular career goals.

The prerequisites for a student seeking an M.S. degree in the department are the same as those required for the M.B.A. degree (see page 63), plus instruction in international business. A recent graduate of an AACSBaccredited program would normally possess an adequate background in these prerequisites. A student electing accounting as a primary field must complete an additional 21 hours of prerequisites including Financial Accounting and Reporting I and II, ACTG 3110 and 3120; Cost Accounting, ACTG 3310; Accounting Systems, ACTG 4510; Federal Taxes I, ACTG 4530; External Auditing I or Internal Auditing, 4620 or 4640; and Business Policy, B AD 4980.
To be admitted to the M.S. program (see page 25), a student must meet one of the following:
a. GPA $\times 200+$ GMAT $=950$

$$
\text { or Upper Division GPA } \times 200+\text { GMAT }=1,000
$$

b. International students must comply with the following provision: For undergraduate degrees from foreign institutions where a grade point average cannot be clearly established but where that work is thought to be equivalent to domestic grades of $\mathbf{B}$ or higher, admission eligibility may be determined by the GMAT score. A score of at least 450 is required for unconditional admission under such circumstances. Preparatory work taken in institutions
with grading systems paralleling that of most United States institutions must conform to a $\mathbf{B}$ average.

The M.S. with Accounting concentration fulfills the new CPA requirements.

## Requirements for the Master of Science Degree

## Accounting as Primary Field; Information Systems as Secondary Field

## Required

ACTG 6650 Advanced Accounting Theory
ACTG 6510 Federal Income Tax Research and Planning
ACTG 6310 Advanced Cost Accounting, Budgeting, and Controllership
ACTG 6720 Advanced Auditing and Public Accounting Practices
INFS 6710 Systems Analysis

## Electives

Three hours from INFS 6720, 6790, or Q M 6770
Three hours in ACTG or INFS at the 5000 or 6000 level
Three hours in ACTG at the 6000 level
Three hours in international/global course at the 6000 level Three hours of approved electives at the 6000 level

## Additional Requirements

Candidates must pass a comprehensive written examination upon the completion of course requirements.
The degree is to be completed within six years from the time of admission to the degree program.
No foreign language or thesis is required in the program.
NOTE: Students who have credit for the undergraduate equivalent of the 5000-level course are not permitted to enroll in the 5000-level course for credit.

## Courses in Accounting [ACTG]

5310 (531) Advanced Cost Accounting. Three credits. Prerequisites: ACTG 3310 with a minimum grade of C and Q M 3620. Indepth analysis of costs, quantitative concepts relating to management objectives, control, and planning. Application of statistical techniques to solve managerial accounting problems. Heavy use of technology and communications for solving various accounting situations.

5510 (551) Accounting Systems. Three credits. Prerequisites: ACTG 3020 or 3310 and INFS 2200 or consent of department chair. Current developments in establishment of complete accounting systems and the application of principles to typical business organizations. Special emphasis on accounting cycles, controls, and database design.

5530 (553) Federal Taxes I. Three credits. Prerequisites: Graduate standing and permission of department chair. Addresses determination of taxable income for individuals; Federal income tax returns and research methods.

5540 (554) Federal Taxes II. Three credits. Prerequisite: ACTG 4530 (5530) with minimum grade of $C$ or consent of instructor. Struc-
ture of taxation for corporations, partnerships, estates, trusts, gifts; returns and research.

5570 (557) International Accounting. Three credits. Prerequisite: ACTG 2120 or equivalent with C or better. Development of accounting systems and entrepreneurial practices in various countries, specific international financial reporting issues, international financial statement analysis, managerial accounting issues for global businesses including budgeting and control, and international taxation issues.

5610 (561) Governmental Accounting and Reporting. Three credits. Prerequisite: ACTG 3120 with a minimum grade of C. State and local government accounting principles and procedures; classifications of accounts for budgetary and financial reporting; accounting for revenues and expenditures or expenses; reporting for funds and the governmental entity; and auditing the governmental entity.

5630 (563) External Auditing II. Three credits. Prerequisite: ACTG 4620 or equivalent with a minimum grade of C. Audit procedures used in tests of controls and in substantive tests for the major transaction cycles by using both microcomputer and statistical sampling.

5640 (564) Internal Auditing. Three credits. Prerequisite: ACTG 3120 with a minimum grade of C . Introduction to the field of internal auditing. Primary focus is on data gathering and report writing unique to internal auditing.

5650 (565) Accounting Theory. Three credits. Prerequisite: ACTG 3120 with minimum grade of C (or taken concurrently). Analysis of propositions, axioms, theorems, controversial accounting concepts, authoritative statements, and research on accounting principles.

5660 (566) Experiences in Financial Reporting. Three credits. Prerequisite: ACTG 3120 with a minimum grade of C. Focus on applying accounting and reporting requirements to selected financial reporting issues and cases. Credit not allowed in ACTG 5660 if student has credit in ACTG 4650 or 5650.

6000 (600) Survey of Accounting Principles. Three credits. The accounting cycle, financial statements, accounting systems, use of accounting information for managerial decision-making purposes and problem solving. Not open to students with undergraduate accounting backgrounds. May not be used for elective credit in graduate business degree programs.

6310 (631) Advanced Cost Accounting, Budgeting, and Controllership. Three credits. Prerequisite: ACTG 3020 or 3310 or 6910. Recent conceptual and analytic development in cost accounting, budgeting, and controllership. Includes principles and procedures in preparation of business budgets and methods of accounting for managerial control of cost of production, distribution, and administration through the use of standards.

6510 (651) Federal Income Tax Research and Planning. Three credits. Prerequisites: ACTG 4530/5530 and 4540/5540 or consent of instructor. Skillful application of tax research methodology in the use of primary tax authority, secondary tax reference materials, and research aids. Research through practice in the use of materials available in the tax library.

6550 (655) U.S. International Taxation. Three credits. Prerequisites: ACTG 4530/5530 and 4540/5540. Basic concepts of U.S. taxation of international transactions. Topics include sourcing of income from foreign activities, Subpart F income, selecting the proper vehicle for foreign investments, and computing foreign tax credits.

6650 (665) Advanced Accounting Theory. Three credits. Prerequisite: Consent of department chair. History and development of accountancy, tax structures, and industrial development of past, present, and projected societies including relevant research into current controversial issues. Extensive research required. Required for M.S. in Accounting/Information Systems with accounting as the primary field.

6660 (666) Advanced Financial Accounting and Reporting Problems. Three credits. Prerequisite: Accounting major or consent of instructor. Application of theoretical concepts and promulgations of authoritative bodies to financial accounting and financial reporting situations encountered in practice.

6720 (672) Advanced Auditing and Public Accounting Practices. Three credits. Prerequisite: ACTG 4620 or consent of department chair. Critical analysis of techniques used in auditing, method of data collection, and nature of audit evidence. Includes modern and relevant statistical and social research techniques and computer use as applied to the various steps in audit practices and procedures.

6810 (681) Empirical Methods in Accounting. Three credits. Prerequisites: Foundation requirements and consent of instructor. Independent study and research on topics in or related to accounting under supervision of graduate faculty.

6910 (691) Accounting and Business Decisions. Three credits. Prerequisite: ACTG 2120 or equivalent. Accounting concepts and their application to the decision-making process. Research reports on a variety of financial and managerial accounting topics prepared and presented orally by the student. Not open to students with undergraduate major in accounting.

## Course in Business Law [BLAW]

6430 (643) Legal Environment of Management. Three credits. Legal rights and potential liabilities of business managers. Presentation of the legal, ethical, and political environment of business. Includes basic principles of the legal system, torts and product liability, antitrust, labor and employment laws, securities, contracts, sales, secured transactions, bankruptcy, agency, partnerships, corporations, and commercial paper. May not be used for elective credit in graduate business degree programs.


# Department of Aerospace 

Paul Craig, Chair<br>Business and Aerospace Building S211C

The Department of Aerospace offers the Master of Science (M.S.) in Aviation Administration, with a concentration in Airline/Airport Management or Aviation Asset Management, and a Master of Education (M.Ed.) in Aerospace Education.

## Requirements for the Master of ScienceAviation Administration Major

Normally the required minimum test score for admission to this program is 800 on the Graduate Record Examination or 38 on the Miller Analogies Test.
Candidate must

1. have graduated from an accredited four-year college or university to be considered for unconditional admission. Transcripts must reflect 6 hours of research tool-related coursework (e.g., statistics, computer science, etc.) and 18 semester hours of one of the following disciplines: accounting, aviation, business, or information systems. Demonstrated knowledge equivalent to that obtainable through the undergraduate core curriculum in Aerospace may be substituted for up to 15 of the 18 required semester hours. The aviation coursework must include 6 semester hours in at least two of the following areas: airline or airport management, aviation asset management, fixed-base operations or theory of flight. Applicants with undergraduate majors in fields other than aviation who have not completed a college-level flight theory course, or who do not possess Federal Aviation Administration or military-issued pilot credentials, will be required to enroll in AERO 1020 (Theory of Flight) during their first semester after admission to the M.S. degree program.
2. complete 36 semester hours consisting of a 15-hour core, 12 hours in the chosen concentration, 6 hours of electives, and a 3-hour thesis with a cumulative GPA of 3.0 or greater. If necessary, an additional 3 hours may be taken to complete the thesis; however, these hours may not be applied toward elective requirements;
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
4. successfully complete a written comprehensive examination (may be taken no more than twice);
5. successfully complete a thesis defense.

NOTE: Applicants meeting the above criteria whose cumulative GPA is less than 3.00, but at least 2.75 and who present other qualities deemed valuable by the aviation industry, as determined by the Graduate Program Committee, may be conditionally accepted in an academic probationary status.

Students in a probationary status who fail to achieve and maintain a 3.0 GPA will be suspended from the M.S. degree program.

## Airline/Airport Management Concentration

## Required Courses

AERO 6120 Aviation History
AERO 6150 Aviation Industries
STAT 6160 Statistics OR
Q M 6000 Quantitative Methods Survey
AERO 6300 Air Transportation Systems
AERO 6610 Introduction to Aerospace Research
AERO 6640 Thesis Research
Electives $\mathbf{- 1 2}$ hours from the following:
AERO 6130 Safety Administration and Security
AERO 6170 Scheduled Air Carrier Operations
AERO 6190 Airport Organizational Structures and Operational Activities
AERO 6220 Environmental Policy
AERO 6250 Aviation Policy and Planning
AERO 6270 Airport Design
AERO 6330 International Aviation Systems
AERO 6350 General Aviation
AERO 6370 Aviation Contracts and Leases
AERO 6450 Airport Funding Policy
INFS 6610 Information Systems Management and Application OR
INFS 5200 Microcomputer Database Applications

## Guided Electives

Students will select 6 hours of approved electives suited to their career goals from another department within the university. Selection will be made with appropriate guidance from faculty of both departments.

## Aviation Asset Management Concentration

## Required Courses

AERO 6120 Aviation History
AERO 6150 Aviation Industries
STAT 6160 Statistics OR
Q M 6000 Quantitative Methods Survey
AERO 6300 Air Transportation Systems
AERO 6610 Introduction to Aerospace Research
AERO 6640 Thesis Research
Electives $\mathbf{- 1 2}$ hours from the following:
AERO 6170 Scheduled Air Carrier Operations
AERO 6250 Aviation Policy and Planning
AERO 6350 General Aviation
AERO 6370 Aviation Contracts and Leases
AERO 6450 Airport Funding Policy
INFS 6610 Information Systems Management and Application OR
INFS 5200 Microcomputer Database Applications
ACTG 6000 Survey of Accounting Principles
ECON 6030 Survey of Economic Theory

## Guided Electives

Students will select 6 hours of approved electives suited to their career goals from another department within the university. Selection will be made with appropriate guidance from faculty of both departments.

## Requirements for the Master of EducationAerospace Education Major

Advisement for the degree is provided by graduate faculty members in the Aerospace Department and one graduate faculty member from the College of Education and Behav-
ioral Science. Students in the M.Ed. degree program may elect either an aerospace or an education option. Both options consist of a 13-hour core and are designed to serve applicants interested in education or professional development programs and administration.

Normally, the required test score for admission to the M.Ed. program is 30 on the Miller Analogies Test or a satisfactory score on the Graduate Record Examination.

## Candidate must

1. hold a bachelor's degree from an accredited institution;
2. complete 34 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours (Students should refer to the appropriate option for specific requirements.);
3. be admitted by Aerospace Department's Graduate Program Committee;
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete a written comprehensive examination (may be taken no more than twice).

## Option 1 (Aerospace)

## Required - 13 hours

| AERO | 6100 | Aviation Workshop (same as YOED 6100) |
| :--- | :--- | :--- |
| SPSE | 6430 Introduction to Curriculum Development |  |
| AERO | 6610 Introduction to Aerospace Research OR |  |
| FOED | 6610 Analysis and Application of Educational Research |  |
| AERO | 6120 | Aviation History |

## Aerospace Electives - 12 hours

Any 5000-level aerospace course not previously taken at the 4000level or any 6000 -level aerospace course with the approval of the student's Aerospace Department advisor.

Education Electives - the following three (3) courses or courses approved by the College of Education and Behavioral Science advisor:
FOED 6020 Educational Foundations
SPSE 6040 Supervision of Instruction
SPSE 6050 Instructional Leadership

## Option 2 (Education)

Students choosing this option must have a designated College of Education and Behavioral Science advisor and should have the appropriate teaching license. The licensure requirement may be waived under special circumstances. A student seeking a licensure waiver must initiate a written request with the advisor, seek approval from the chair and dean of the College of Education and Behavioral Science, and forward the request to the Office of Teacher Licensure, McWherter Learning Resources Center 170.

## Required - 13 hours

YOED 6100 Aviation Workshop
SPSE 6430 Introduction to Curriculum Development
FOED 6610 Analysis and Application of Educational Research OR
AERO 6610 Introduction to Aerospace Research
AERO 6120 Aviation History

## Electives - 12 hours

FOED 6020 Educational Foundations
SPSE 6040 Supervision of Instruction
SPSE 6050 Instructional Leadership
SPSE 6080 Studies in Leadership
SPSE 6250 Seminar in Curriculum Improvement
SPSE 6340 School Finance
SPSE 6500 Studies in Education: Administration
SPSE 6600 Microcomputers in Educational Administration

## Aerospace Electives - 9 hours

Any 5000-level aerospace course not previously taken at the 4000level or any 6000-level aerospace course except for AERO 6100 and 6610.

## Courses in Aerospace [AERO]

5050 (505) Aerospace Internship I. Three credits. Prerequisite: Consent of department chair. Student employed by an acceptable airline, airport director, or aerospace industry for field work. Minimum 300 hours work required. Pass/Fail grading.

5071- (507) Problems in Aerospace. One to three credits. Individual 5073 directed study in the field of aerospace.

5075 Selected Readings in Aerospace. Three credits. Prerequisite: Graduate standing. Guided readings in aviation or space. Topics alternate each semester and range from historical events to possible future developments. Discussion, presentations, and critical analysis of material.

5100 (523) Airline Management. Three credits. Airline operation and implementation of sound management practices.

5110 (511) Airport Management. Three credits. Airport operations. Development of an airport master plan.

5130 (513) Aerospace Physiology. Three credits. Instruction, readings, and structured experiences to ensure familiarity with the various physiological and health-related factors affecting a flyer's safety and performance.

5150 (515) Fixed Base Operations Management. Three credits. The FBO operator and the essential role played in general aviation.

5160 (565) Aviation Law. Three credits. Legal responsibility in the aviation industry.

5170 (537) Airport Planning and Design. Three credits. Methods utilized in airport planning and design; relationship of the airport and the community.

5200 (510) Flight Instruction for Teachers. Three credits. Flight instruction and discussion provide an opportunity to understand the airplane and its operation. Fee required.

5230 (533) Advanced Air Navigation. Three credits. Advanced navigation equipment and operation procedures, GPS, and LORAN.

5240 (522) Aircraft Systems Management. Three credits. Instruction and the requirements pertaining to activities of a flight engineer.

5310 (501) Aerospace Vehicle Systems. Three credits. Design, use, and function of typical hydraulic, mechanical, and electrical systems used on aircraft. For potential pilots, flight engineers, and mechanics.

5400 (550) Space. Three credits. Extensive study of the history of space exploration, the successes and failures of manned and unmanned efforts, and what the future may be for human beings in space.

5490 (509) Aerospace Science for Teachers. Three credits. For teachers who desire an introduction to the total aviation and space effort.

5530 (503) Air Traffic Control. Three credits. The FAA Air Traffic Control system used to regulate air vehicle traffic during enroute and terminal phases of flight, with emphasis on communication, navigation, and control equipment and procedures.

5580 (508) Flight Instruction IV. Three credits. Academics for the ATP and dispatchers written. If flight is desired, student will meet FAR 61 and fee required.

6100 (610) Aviation Workshop. Four credits. (Same as YOED 6100.) A first course in aerospace education; provides an overview of aerospace historically and in the future.

6120 (612) Aviation History. Three credits. Detailed examination of the development and role of aviation and its economic, social, and political impact on the modern world. Particular emphasis on the global aspects of civilian aviation and the consequences of the transportation revolution it engendered. Specific topics analyzed in detail each semester.

6130 (613) Safety Administration and Security. Three credits. An examination of the various programs which airport operators employ in operating and maintaining airport safety and security services. Special emphasis on federal guidelines and their applications at commercial service airports.

6150 (615) Aviation Industries. Three credits. An overview of domestic and international air transportation businesses. Includes an analysis of extant and forecast labor requirements.

6170 (617) Scheduled Air Carrier Operations. Three credits. An examination of contemporary problems and issues confronting airline industry policy makers, government regulators, managers, and the traveling public.

6190 (619) Airport Organizational Structures and Operational Activities. Three credits. Prerequisite: AERO 5110 or 5170 or consent of instructor. A critical analysis of airport organizational structures, functions, and constraints affecting the airport. A detailed view of operational activities and methods to improve airport efficiency.

6220 (622) Environmental Policy. Three credits. Airport planning and land use programs and procedures as they are currently used within the industry.

6250 (625) Aviation Policy and Planning. Three credits. The regulatory agencies of the aviation industry and their functions. Special emphasis on current problems and issues affecting the industry.

6270 (627) Airport Design. Three credits. Introduces the concepts of airport planning, design, and layout with particular emphasis on community characteristics and resource allocation. Students will become familiar with the Federal Aviation Administration's role in the airport design process.

6300 (630) Air Transportation Systems. Three credits. Explores the evolution of the National Airspace and Airway System from its chaotic start to a reasonably sophisticated system. Covers importance of technological developments to improve the system.

6330 (633) International Aviation Systems. Three credits. An indepth analysis of international aviation with particular attention to U.S. aviation interface. Areas covered include the air traffic control systems, bilateral agreements, nationalized vs. privately owned carriers, ETOPS restrictions, marketing and operational difficulties, etc.

6350 (635) General Aviation. Three credits. Operations, supervision, and the role of administration.

6370 (637) Aviation Contracts and Leases. Three credits. An examination of the various agreements utilized by airports to define the terms and conditions for airlines, FBOs, concessionaires, air cargo operators, and other airport tenants. Analysis of the general provisions and requirements contained within airport leases and those specific to each tenant. A review of airport lease administration and compliance procedures.

6380 (638) Aerostructures. Three credits. Prerequisites: MATH 1730 or 1720 and PHYS 2010. Concepts of mechanics applied to analysis of structural elements used in aerospace vehicles. Loading, deflection safety factors, and modes of possible failure.

6390 (639) Advanced Aerodynamics. Three credits. Prerequisite: AERO 3440 or equivalent. Examines the aerodynamics of aircraft flight from subsonic to hypersonic speeds, with flight through the four sonic regions discussed and solutions to problems presented.

6400 (640) Aerospace Seminar. One credit. Prerequisite: Last semester of resident enrollment. A capstone course involving the analysis, synthesis, and integration of relevant academic experiences.

6450 (645) Airport Funding Policy. Three credits. Airport subsidy funding by the local, state, and federal governments and their essential components as applied to local airports. Procedures necessary to obtain government funding and grants available for building new facilities and repairing existing buildings.

6540 (654) Problems in Aerospace Education. One, two, or three credits. (Same as YOED 6540.) Content varies with needs of individual students who are interested in making a specialized study of current problems in the field of aerospace education.

6610 (661) Introduction to Aerospace Research. Three credits. Emphasis on research as a significant component of graduate study to include methods, procedures, style, and form.

6640 (664) Thesis Research. One to six credits. Prerequisite: AERO 6610. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6700 (670) Advanced Aviation Workshop. Four credits. (Same as YOED 6700.) Builds on prior experiences in aviation/aerospace. Essential for the prospective teacher or aerospace education courses at any level.

# School of Agribusiness and Agriscience 

Harley W. Foutch, Director<br>Stark Agribusiness and Agriscience Center 100

The School of Agribusiness and Agriscience cooperates with the Departments of Business Education, Marketing Education, and Office Management; Human Sciences; and Engineering Technology and Industrial Studies to offer the Master of Vocational-Technical Education (M.V.T.E.) degree. The school also offers a minor at the graduate level.

## Courses in Agribusiness and Agriscience [ABAS]

5100 (510) Microcomputer Applications in Agriculture. Three credits. Prerequisite: CSCI 1150 or INFS 2200. Includes use of agricultural software, agricultural communications network, computer daily feeding machines, and farm records.

5130 (513) Agricultural Marketing and Price Analysis. Three credits. Prerequisite: ABAS 3130 or approval of instructor. Agricultural prices and their relationship to production and marketing. Agricultural marketing systems, functions, institutions, and structural changes.

5140 (514) Economics of Agribusiness Management. Three credits. Prerequisite: ABAS 3130 or approval of instructor. The application of economic concepts to agribusiness firms.

5150 (515) Agricultural Policy. Three credits. Prerequisite: ABAS 3130 or approval of instructor. Agricultural policy in a democratic society; relationship of farm groups to public policy; types of agricultural programs and appraisal of their results.

5200 (520) Fruit and Vegetable Marketing. Three credits. Prerequisites: PSCI 1030 and BIOL 1030 or approval of instructor. Basic biochemistry of respiration, handling techniques and practices, quality assessment and marketing of fruit and vegetable crops. Both domestic and international marketing of fruit and vegetable products discussed. Examines economic impact of improper handling on both the local producer and the end user.

5210 (521) Farm Power and Equipment. Three credits. Gasoline engines with actual work experience in overhaul. Work also with transmissions, hydraulics, braking systems, and other farm equipment including use of shop manuals, operation manuals, and parts books.

5220 (522) Methods of Teaching Agricultural Mechanics. Three credits. Emphasis on performing shop skills such as welding, brazing, electrical wiring, etc.

5230 (523) Adult Education in Vocational-Education and Program Development. Three credits. How to teach adults and administer adult programs. Emphasis on planning, organizing, and arranging courses for adults in agriculture.

5260 (526) Behavior of Domestic Animals. Three credits. Behavior aspects of raising and managing domestic animals to include equine, swine, goats, cattle, sheep, dogs, and cats. Communicative, ingestive, sexual, social, aggressive, and abnormal behaviors emphasized.

5310 (531) Forage Crops. Three credits. Adaptation, distribution, establishment, management, cultivation, and utilization of forage legumes and grasses.

5330 (533) Turf Management. Three credits. Prerequisite: ABAS 1610 or BIOL 1120. Establishment and management of turf grasses for lawns, golf courses, and parks.

5340 (534) Soil Formation. Three credits. Prerequisite: ABAS 3340. Environmental factors affecting soil formation and utilization.

5350 (535) Soil Survey and Land Use. Three credits. Prerequisite: ABAS 3340 or approval of instructor. Soil properties used to determine suitability for land use. Lecture/lab.

5400 (540) Horsemanship-Equitation. Three credits. Prerequisite: ABAS 2400 or approval of instructor. Proper horseback riding, handling, mounting, and dismounting. Various gaits and proper equitation stressed. One lecture and two two-hour laboratory periods.

5410 (541) Animal Nutrition and Feeding. Three credits. Gastrointestinal tract, process of digestion, and nutrient utilization. Application of principles of animal nutrition to formulation of supplements and complete rations for livestock.

5420 (542) Genetics of Domestic Livestock. Three credits. Basic principles of genetics, inbreeding, quantitative traits in livestock, prediction of breeding value and genetic progress, method of selection, mating systems, methods of genetic evaluation, computer software for animal breeding and genetics, and genetic engineering.

5430 (543) Light Horse Production. Three credits. Prerequisite: ABAS 2400 or approval of instructor. Breeding, feeding, management, and disease control practices essential for economical light horse production.

5460 (546) Care and Training of Horses. Three credits. Prerequisites: ABAS 2400, 3400, and 4400 or approval of instructor. Theory, fundamentals, and practices of breaking, training, fitting, showing, and the use of light horses for riding and driving, with special emphasis on the Tennessee Walking Horse and the needs of the local area.

5470 (547) Advanced Beef Production. Three credits. Prerequisite: ABAS 3470 or approval of instructor. In-depth look at various systems of beef production from standpoint of function, economics, and suitability to locale. Extensive field trips to commercial cow-calf, feedlot, performance testing, stocker, and purebred operations.

5510 (551) Domestic Animal Reproductive Physiology. Three credits. Advanced topics in the anatomy, physiology, and endocrinology of reproduction in domestic livestock species. Topics include male and female physiology and an overview of comparative anatomy and physiology between species. Current technologies and methods in controlling reproduction in livestock species also discussed.

5620 (562) Greenhouse Management. Three credits. Prerequisite: ABAS 1610 or BIOL 1120. Analysis of soils, fertilizers, irrigation techniques, container preparation, ventilation, growth regulation, and carbon dioxide enrichment for greenhouse operation. Two hours lecture and one two-hour lab.

5630 (563) Floriculture. Three credits. Prerequisite: ABAS 1610 or BIOL 1120. Propagation and other cultural practices for the production and maintenance of plants and flowers in the home. Two hours lecture and one two-hour lab.

5640 (564) Landscaping. Three credits. Application of the principles of design, the use of proportionate-sized woody landscape plants, and other practices to produce low-maintenance-cost landscapes. One hour lecture and one four-hour lab.

5650 (565) Plant Breeding. Three credits. Prerequisite: ABAS 1610 or BIOL 1120. Application of genetics to theory and breeding practices for improvement of agronomic and ornamental plants.

5670 (567) Plant Propagation. Three credits. Prerequisite: ABAS 1610 or BIOL 1120. Anatomical features and physiological principles involved in propagating plants from seed and by division, cutting, budding, and grafting. Use of growth regulators and environmental factors. Two hours lecture and one two-hour lab.

5700 (570) Agriculture in Our Lives. Three credits. The national and international importance of U.S. agriculture. Emphasis on food production and marketing, land conservation, and agriculture related recreation. Accepted as a natural science elective for education majors. NO CREDIT GIVEN TOWARD A MAJOR IN THE SCHOOL OF AGRIBUSINESS AND AGRISCIENCE.

5830 (583) Food Quality Control. Three credits. Prerequisites: PSCI 1030 and BIOL 1030 or approval of instructor. Quality control and sensory evaluation techniques utilized in food processing. Instrumental and physical methods of quality determination of raw and processed food products, hazard analysis and critical control point (HACCP), and quality philosophies employed in the industry. Sensory evaluation techniques and statistical analysis of evaluation results covered.

5910 (591) Problems in Agriculture. One to six credits. Problem or problems selected from one of the major disciplines. May involve conferences with instructor, library work, field study and/ or laboratory activity. Students can take from one to three credits with a maximum of three per semester.

5980 (598) Seminar in Horse Science. One credit. Familiarizes horse science majors with important current scientific investigation in horse science.

5990 (599) Seminar. One credit. Students required to research and make an oral report on a current agricultural topic.

6450- ( 645 A, B, C, D, E) Problems in Agriscience Technologies.
6455 Three credits each. Prerequisite: Teaching experience or approval of instructor. Provides agricultural education teachers with intensive training in advanced technologies. A MAXIMUM OF SIX CREDIT HOURS IN EACH DIVISION.
6451 (645A) Animal Science
6452 (645B) Plant Science
6453 (645C) Agricultural Mechanics
6454 (645D) Agribusiness
6455 (645E) Forestry and Agricultural Products

# Department of Art 

Mark Price, Chair<br>Art Barn 115

The Art Department offers a graduate-level Art minor and a graduate certificate in Art Education.
The graduate certificate in the Art Education Program provides advanced study in public and private schooling, museum education, and other visual art education arenas for professionals who wish to gain a contemporary understanding of the field while earning credits for career advancement.

For admission to the program, applicants must have an undergraduate degree from an accredited university either in art education or a related visual art field (B.A., B.F.A., etc.) and meet all other MTSU requirements for graduate admission. Applicants with degrees in other academic areas must be reviewed and approved by the Art Education Graduate Committee.

The graduate certificate in Art Education is awarded to those candidates who successfully complete 15 hours of approved coursework and maintain a cumulative graduate grade point average of 3.00 or higher in courses leading to the certificate. Up to 6 credit hours of graduate coursework completed elsewhere may be transferred to the certificate program if recommended by the graduate certificate advisor and approved by the dean of Graduate Studies.

The required courses for the graduate certificate in Art Education are
ART 6200 Foundations of Art Education
ART 6210 Theories in Art and Art Education
ART 6220 Problems, Issues, and Trends in Art Education
ART 6230 Research Methods in Art Education (Prerequisites: ART 6200, 6210, 6220)
ART 6240 Independent Project in Art Education
(Must be taken simultaneously with 6230)
Candidates for the graduate certificate in Art Education may also choose to work simultaneously toward Tennessee licensure in Art Education.

## Courses in Art [ART]

5000 (500) Workshop. One to three credits. Prerequisite: Permission of instructor. Subject matter as well as credit to be determined by the instructor. May be conducted in the area of art, art education, or any art discipline. (A maximum of nine credits may be applied toward a degree.)

5010 (501) Lapidary. Three credits. Prerequisites: ART 2010 and 3020 or permission of instructor. Introduces cutting, polishing, and setting of semi-precious minerals with a basic course in stone identification.

5020 (502) Enameling. Three credits. Prerequisites: ART 2010 and 3020 or permission of instructor. Basic techniques of enameling on metal with strong emphasis on development of student's aesthetic and design awareness.

5030 (503) Jewelry. Three credits. Prerequisite: ART 3020 or permission of instructor. Studio practice in constructing, forging, casting, and enameling metals in creating forms for jewelry.

5310 (531) Portfolio II. Three credits. Prerequisite: Permission of instructor. Production of portfolio-based problems with emphasis on advanced design skills related to the specific needs of the workplace. Includes basic collateral problems, ad campaigns, corporate identity, signage, plus a self-promotional package.

5320 (532) Senior Project. Three credits. Prerequisite: Permission of instructor. Following a portfolio review, each member of the class will devise a project that conceptually and visually addresses his or her design/illustration goals.

5330 (533) Internship. Three credits. Prerequisite: Permission of internship coordinator. Advanced students gain practical experience in a professional setting. Approximately 150 work hours required for the semester.

5510 (551) Sculpture IV. Three credits. Prerequisite: ART 3530 or permission of instructor. Development of concepts and techniques with primary emphasis on metal sculpture. Experiences include gas and electric welding, fabricating, grinding, finishing, and subordinate use of other sculpture materials.

5520 (552) Sculpture V. Three credits. Prerequisite: ART 5510 or permission of instructor. Development of concepts and techniques with primary emphasis on casting activities in the foundry covering various metal casting techniques and subordinate use of other sculpture materials.

5530 (553) Sculpture VI. Three credits. Prerequisite: ART 5520 or permission of instructor. Problems in sculpture acceptable to both student and instructor, selected by the student after consultation with instructor.

5640 (564) Advanced Art Problems. One to three credits. Prerequisite: Permission of instructor. Structure and content determined by the Art faculty on the basis of individual need. Student should be prepared to do independent research and experimentation in the area selected. Arrangements must be made prior to registration for acceptance to proper assignment of course credit. (A maximum of nine credits may be applied toward a degree.)

5680 (568) Individual Problems in Drawing. Three credits. Prerequisite: 12 semester hours of previous drawing credit or permission of instructor. Advanced-level course with the content determined in advance through consultation with the instructor.

5710 (571) Painting IV. Three credits. Prerequisite: Permission of instructor. Projects in painting; content of the course planned by student under supervision of instructor. Final paper required.

5720 (572) Painting V. Three credits. Prerequisite: ART 5710 or permission of instructor. Independent studies course in painting which continues concerns of Painting IV.

5730 (573) Painting VI. Three credits. Prerequisite: ART 5720 or permission of instructor. Independent studies course in painting which continues concerns of Painting IV. Final paper required.

5810 (581) Intermediate Clay II. Three credits. Prerequisite: ART 3820 or permission of instructor. Laboratory research and test-
ing of ceramic materials, formulation of glazes and clay bodies, development of a glaze and a clay body.

5820 (582) Advanced Clay. Three credits. Prerequisite: ART 3830 or permission of instructor. Studio experiences in design and construction of sculptural clay forms. Forming methods and decorative techniques explored.

5830 (583) Advanced Study in Clay. Three credits. Prerequisite: ART 4820/5820 or permission of instructor. Directed individual study of a problem mutually agreed upon by the student and course instructor. Written paper and exhibit required.

5900 (590) Nineteenth- and Twentieth-Century Art. Three credits. Western visual art movements and trends ca. 1750-ca. 1950, focusing on European painting and sculpture with periodic explorations of non-European and non-Western traditions for perspective.

5920 (592) Contemporary Art. Three credits. Contemporary Western visual art movements and issues ca. 1945 to present, focusing on American painting and sculpture with periodic explorations of other traditions for perspective.

5940 (594 A-Z) Studies in Art History. Three credits. Content varies. When offered, particular topics addressed are indicated by the course title in the class schedule book. Depending on the nature of the material to be covered, prerequisites may be imposed by the instructor. Can be repeated for up to 9 hours.

5960 (596) Independent Studies in Art History. Three credits. Investigations into art history under the direction of a member of the art history faculty. Topic(s) of investigation must be agreed upon by both student and instructor based on discussions prior to registering for this course. Can be repeated for up to 9 hours.

6200 Foundations of Art Education. Three credits. Prerequisites: Permission of department. Historical development, philosophy, purposes, and value of art eduction that shaped the structures of public and private schooling in art.

6210 Theories in Art and Art Education. Three credits. Prerequisite: Permission of department. Contemporary theories in art and art education with emphasis on implications for visual art curriculum and instruction.

6220 Problems, Issues, and Trends in Art Education. Three credits. Prerequisite: Permission of department. Problems, trends, and issues, including diversity, within contemporary art education. Overview of instructional technologies. Examines the teacher/ educator as a professional.

6230 Research Methods in Art Education. Three credits. Prerequisites: Permission of department and completion of ART 6200, 6210, and 6220. Contemporary research methods in art education with emphasis on teacher as researcher. Successful completion of this course is dependent on successful completion of ART 6240.

6240 Independent Project in Art Education. Three credits. Prerequisites: Permission of department and completion of ART 6200, 6210, and 6220. Should be taken simultaneously with ART 6230. Independent research-based course in which the student, with professorial approval, will complete a research project exploring a specific area of interest within art education.

# Department of Biology 

## George Murphy, Chair Davis Science Building 127

The Department of Biology offers the Master of Science and the Master of Science in Teaching as well as a minor at the graduate level. Normally, the required test score for admission to either program is 30 on the Miller Analogies Test or a satisfactory Graduate Record Examination score.

## Requirements for the Master of Science

Candidate must

1. have an undergraduate minor in biology or its equivalent at time of admission;
2. complete a minimum of 30 semester hours including a thesis of 3 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/ graduate hours;
3. complete 6 semester hours of a foreign language or pass a language examination or complete one year of approved research tools in addition to the 30 hours;
4. pursue a major of at least 16 semester hours which includes
BIOL 6620 Biological Research
BIOL 6630 Biological Literature*
BIOL 6640 Thesis Research
BIOL 6650,6660 Seminar
Remaining courses will include approved courses in biology, chemistry, mathematics, physics, or certain other related disciplines. A minor is optional but if elected must include a minimum of 12 semester hours.
5. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
6. successfully complete a written comprehensive examination (may be taken no more than twice).
*Students who completed BIOL 3230 or equivalent course should consult with department chair.

## Requirements for the Master of Science in Teaching

The Master of Science in Teaching degree should be pursued by those individuals interested in teaching at the secondary level. Candidates seeking initial licensure must meet the major requirements listed below, satisfy a professional education component, and meet discipline-related requirements. The candidate should contact the chair of the Department of Educational Leadership for the professional education component and the chair of the Department of Biology for the dis-cipline-related requirements.

The biology component for all students will be selected with and approved by the graduate coordinator of the Department of Biology.
A candidate desiring to major in biology who is a licensed teacher must

1. have an undergraduate minor in biology or its equivalent at time of admission;
2. complete a minimum of 32 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours;
3. complete a major of at least 18 semester hours which includes
BIOL 5320 Seminar: Advancements in Biology
BIOL 6330 Principles of Physiology
BIOL 6460 Conservation Biology
BIOL 6500 Special Problems in Biology
BIOL 6630 Biological Literature*
BIOL Biology Elective 5---/6---
Remaining courses will include approved courses in biology, chemistry, mathematics, physics, or other related disciplines.

The appropriate education courses are determined by the State of Tennessee's most current licensing requirements. All M.S.T. candidates, whether licensed or seeking initial licensing, must contact the chair of the Department of Educational Leadership for number of hours and education courses necessary to complete the degree.
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete a written comprehensive examination (may be taken no more than twice).
*Students who completed BIOL 3230 or equivalent should consult with department chair.

## Courses in Biology [BIOL]

5010 (501) Embryology. Four credits. Prerequisites: BIOL 1110 and 1120. Early development of the frog, chick, pig, and human. Living material, whole mounts, and serial sections used for the study of cleavage, germ layer formation, histogenesis, and organogenesis. Three lectures and one three-hour laboratory.

5020 (502) Comparative Anatomy of the Vertebrates. Four credits. Prerequisites: BIOL 1110 and 1120. Vertebrate morphology and the development and function of systems and organs. Three lectures and one three-hour laboratory.

5030 (503) Non-Flowering Plants. Four credits. Prerequisites: BIOL 1110 and 1120. Structure, physiology, methods of reproduction, and classification of the algae, fungi, liverworts, mosses, and ferns. Three lectures and one three-hour laboratory.

5040 (504) General Entomology. Three credits. Prerequisites: BIOL 1110 and 1120. Structure, classification, evolution, importance, and life history of insects. Two lectures and one three-hour laboratory.

5050 (505) Parasitology. Three credits. Prerequisites: BIOL 1110 and 1120. Life histories, host-parasite relationships, and control measures of the more common parasites of humans and domesticated animals. Two lectures and one three-hour laboratory.

5100 (510) History and Philosophy of Biology. Three credits. Prerequisites: BIOL 1110 and 1120. Development of biology; the philosophy, ideas, and contributions of outstanding biologists. Two lectures.

5120 (512) Flowering Plants. Four credits. Prerequisites: BIOL 1110 and 1120. Structure and classification of seed plants and a survey of local flora. Three lectures and one three-hour laboratory.

5130 (513) Histology. Four credits. Prerequisites: BIOL 1110, 1120, 2120, and CHEM 1110 and 1120. Microscopic anatomy of vertebrate cells, tissues, and organs. Three lectures and one threehour laboratory.

5140 (514) Invertebrate Zoology. Four credits. Prerequisites: BIOL 1110 and 1120. Structure, functions, life histories, and economic importance of the invertebrate phyla. Laboratory work comprises detailed studies of representative specimens. Three lectures and one three-hour laboratory.

5170 (517) Endocrinology. Three credits. Prerequisites: BIOL 1110 and 1120, and CHEM 1110 and 1120. Structure, function, and integrative mechanisms of vertebrate endocrine organs, with additional attention to invertebrate hormones. Three lectures.

5180 (518) Vertebrate Zoology. Four credits. Prerequisites: BIOL 1110 and 1120. Structure, life history, and classification of fish, amphibians, reptiles, birds, and mammals. Local representatives emphasized. Three lectures and one three-hour laboratory.

5220 (522) Ichthyology. Four credits. Prerequisites: BIOL 1110 and 1120. The morphology, physiology, taxonomy, and ecology of fishes. Three lectures and one three-hour laboratory.

5240 (524) General Ecology. Four credits. Prerequisites: BIOL 1110 and 1120, and CHEM 1110 or consent of instructor. Basic concepts of the ecosystem and community, aquatic and terrestrial habitats, and population ecology; complemented by field and laboratory activities. Three lectures and one three-hour laboratory per week.

5250 (525) Limnology. Four credits. Prerequisites: BIOL 1110, 1120, 4240, and CHEM 1110. Biological, chemical, and physical aspects of lakes and streams. Not open to students who have had Aquatic Ecology. Three lectures and one three-hour laboratory.

5260 (526) Nature Study. Three credits. Prerequisites: BIOL 1110 and 1120. Identification of local plants and animals and a consideration of the ecological principles governing them. Two lectures and one two-hour laboratory.

5320 (532) Seminar: Advancements in Biology. Two credits. A broad overview of biological principles and recent research developments. Two lectures.

5331- (533 A-Z) Biome Analysis. One to four credits. Prerequisite:
5333 Permission of department. An intensive classroom and on-site study of a specific biome with special emphasis on data collection and analysis. Consult department head for specific credits and costs.
5331 (533A) Biome Analysis - Cedar Glade
5332 (533B,D,E) Biome Analysis
5333 (533C) Biome Analysis - Desert
5390 (539) Ethology. Four credits. Prerequisite: BIOL 1110. Innate and learned animal behavior in primitive and advanced animals including behavior associated with space, reproduction, and food getting. Three lectures and one three-hour laboratory.

5460 (546) Human Genetics. Three credits. Prerequisite: BIOL 2120. Application of the fundamental laws of inheritance to humans. Two lectures and one two-hour laboratory.

5500 (550) Plant Physiology. Four credits. Prerequisites: BIOL 1110, 1120, 2120, and CHEM 2030 or 3010. Plant growth; development and metabolism at the cellular and whole plant levels. Three lectures and one three-hour laboratory.

5510 (551) Food/Industrial Microbiology. Four credits. Prerequisite: BIOL 2230. The interaction between microorganisms and food and industrial processes of importance to humans. Two lectures and two two-hour laboratory periods.

5520 (552) Plant Anatomy. Four credits. Prerequisite: BIOL 1120. Plant cells, tissues, and organs. Emphasis on the survival value of the plant's various structural features. Three lectures and one three-hour laboratory.

5540 (554 A-Z) Topics in Environmental Education. One to four credits. Prerequisite: Junior standing or above. An intensive classroom and field study of natural science and resources in Tennessee. Special emphasis on data collection, analysis, and problem solving. Target groups are graduate students and upper-division undergraduates in the areas of biology and education. Consult the department chair for specific credits and costs. This course will not apply to the biology major or minor.

5550 (555) Biotechnology. Three credits. Prerequisites: BIOL 1110, 1120, 2230, and senior/graduate level. Instruction in both theory and application of current research methodologies in biology and molecular biology. Topics included immunochemistry, polymerase chain reaction, restriction enzyme analysis, and electrophoresis. One two-hour block and one three-hour block which includes both lecture and laboratory.

5560 (556) Neurobiology. Four credits. Prerequisites: BIOL 1110 and 1120 , and PSY 4030 or 4240 . Introduces comparative neurobiology. Topics include the basic structure and function of the nerve cell and organization of nervous systems of representative species of invertebrate and vertebrate animals. Three hours lecture and one three-hour laboratory.

5570 (557) Principles of Toxicology. Three credits. Prerequisites: BIOL 1110 and 1120, and CHEM 1110, 1120, 3010. Adverse effects of chemical agents on living organisms; current toxicological techniques in laboratory portion of course. Two hours lecture and one three-hour laboratory.

5580 (558) Marine Biology. Four credits. Prerequisites: BIOL 1110 and 1120, and CHEM 1110 and 1120. Biological, chemical, and physical characteristics of major marine environments and their associated flora and fauna. Three lectures and one threehour laboratory.

6060 (606) Advanced Dendrology. Three credits. Prerequisite: BIOL 1120. Woody plants with special emphasis on classification, identification, and literature of important timber trees of North America. Two lectures and one three-hour laboratory.

6070 (607) Plants and Man. Three credits. Prerequisite: BIOL 1120. Human dependence on plants emphasized. Topics include origin of agriculture, fruits and nuts, grains and legumes, vegetables, spices and herbs, oils and waxes, medicinal plants, psychoactive plants, beverages, fibers and dyes, tannins, wood and ornamental plants. Three lectures.

6080 (608) Advanced Mycology. Four credits. Prerequisites: Graduate standing plus BIOL 1120. Fungi, with emphasis on taxonomy, morphology, culture, and importance to humans. Three lectures and one three-hour laboratory.

6120 (612) Aquatic Ecology. Three credits. Physical, chemical, and biotic conditions of freshwater lakes and streams and of population structure and dynamics in these environments. Not open to students who have had Limnology. Two lectures and one threehour laboratory.

6130 (613) Ornithology. Three credits. Structure, taxonomy, natural history, and identification of birds. Emphasizes field work. Two lectures and one three-hour laboratory.

6180 (618) Mammalogy. Three credits. Morphology, physiology, systematics, and the development of mammals. Two lectures and one three-hour laboratory.

6200 (620) Speciation. Three credits. Prerequisite: BIOL 2120. Mutation, natural selection, adaptation, isolating mechanisms, genetic drift, hybridization, ploidy in the process of species formation, and a history of the development and ideas of evolution. Two lectures.

6210 (621) Protozoology. Three credits. Morphology, physiology, reproduction, ecology, taxonomy, and life cycles of the protozoa. Two lectures and one three-hour laboratory.

6220 (622) Herpetology. Three credits. Prerequisites: BIOL 1110, 1120, and 4240. Morphology, natural history, and identification of amphibians and reptiles. Local representatives emphasized. Two lectures and one three-hour laboratory.

6270 (627) Cell Metabolism. Three credits. Prerequisites: Organic chemistry and one course in physiology or biochemistry or permission of instructor. Metabolic pathways in cells including regulation and genetic aspects of metabolism.

6290 (629) Advanced Scanning Electron Microscopy. Four credits. Prerequisite: Permission of instructor. Application of scanning electron microscopy to study materials with emphasis on theory of scanning electron microscopy and preparation of biological specimens for microscopy. One lecture and six hours laboratory.

6330 (633) Principles of Physiology. Four credits. Prerequisites: BIOL 1110, 1120, 2120, and CHEM 1110 and 1120. Physical and chemical properties of protoplasm, cells, and organisms and their relationships to life processes. Three lectures and one threehour laboratory.

6350 (635) Biostatistical Analysis. Four credits. Prerequisites: BIOL 1110, 1120, and 2120. Intermediate-level introduction to biostatistical procedures used in research. Three lectures and one three-hour laboratory.

6360 (636) Energy Dispersive X-Ray Theory and Analysis. One credit. Prerequisite: BIOL 4290 or 6290 . Theory of X-ray analysis and elemental analysis of materials using an energy dispersive X -ray system with scanning electron microscopy. One threehour laboratory.

6380 (638) Experimental Immunology. Four credits. Prerequisite: BIOL 2230. Mechanisms of immunity including the more recent developments in immunology. Three lectures and one twohour laboratory.

6390 (639) Advanced Cell and Molecular Biology. Four credits. Prerequisites: BIOL 1110, 1120, 2120, 2230, and CHEM 3010 or 2030. Molecular biology of the cell with emphasis on current experimental techniques. Three lectures and one three-hour laboratory.

6400 (640) Medicinal Plants. Three credits. Prerequisite: BIOL 1120. Plants affecting human health, including poisonous, psychoactive, and remedial plants. Ethnobotanical and modern medicinal uses are treated. Three lectures.

6410 (641) Advanced Transmitting Electron Microscopy. Four credits. Prerequisite: Permission of instructor. Ultrastructure of the cell using basic and specialized techniques. One lecture and two three-hour laboratory periods.

6430 (643) Clinical and Pathogenic Microbiology. Four credits. Prerequisite: BIOL 2230. Comprehensive coverage of the most recent discoveries and techniques used for the identification of pathogenic organisms and their relationships to disease processes. Two lectures and two two-hour laboratory periods.

6440 (644) Advanced Virology. Four credits. Prerequisites: BIOL 2230, and CHEM 1110 and 1120. Emphasizes the main virus families and their biochemical composition. Experimental approaches and techniques will be developed in order to identify and manipulate viruses. Two lectures and two two-hour laboratory periods.

6450 (645) Advancements in Molecular Genetics. Four credits. Prerequisites: BIOL 2120 and 2230, and CHEM 1110 and 1120. Recent advancements in microbial genetics and gene manipulation with emphasis on applications of molecular genetics, including gene regulation and recombinant DNA technology. Three lectures and three one-hour laboratory periods.


6460 (646) Conservation Biology. Four credits. Prerequisite: BIOL 4240 or 5240. Measuring biodiversity: species, ecosystem, and genetic diversity. Topics include conservation ethics, extinctions, habitat degradation, exotic species, and management of populations and ecosystems. Meets six hours per week for lecture and laboratory.

6500 (650) Special Problems in Biology. Four credits. Prerequisite: Permission of department. Plan, implement, and interpret a research problem in some area of biology. Available topics limited to areas of graduate faculty interest and expertise.

6590 (659) Environmental Toxicology. Four credits. Prerequisites: BIOL 1110 and 1120, and CHEM 1110, 1120, and 3010. Ecological effects of chemicals in the environment and techniques currently utilized to assess these effects. Current environmental assessment techniques, including biomonitoring, will be covered in the laboratory. Three hours lecture and one three-hour laboratory.

6620 (662) Biological Research. Three credits. Prerequisite: Permission of department. Selection of a research problem, review of pertinent literature, and execution of the research.

6630 (663) Biological Literature. Three credits. Literature sources, forms of literature, bibliographic methods, scientific writing. Two lectures.

6640 (664) Thesis Research. One to six credits. Prerequisites or corequisites: BIOL 6620 and permission of department. Completion of the research problem begun in BIOL 6620; preparation of the thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. Minimum of three credits required for M.S. degree. $\mathrm{S} / \mathrm{U}$ grading.

6650/ 6660 (665/666) Seminar. One credit each. Discussion of recent advances and problems in biology. Individual problems for oral and written reports.

6700 (670) Plant-Animal Interactions. Three credits. Prerequisite: Graduate standing. Evolutionary and ecological perspectives on how plants attract and repel symbionts and how those symbionts influence plant fitness. Topics include angiosperm evolution, the coevolution of plants with pollinators, herbivores, mycorrhizae, and N -fixing bacteria, and how plant secondary metabolites facilitate or mitigate these interactions. One two-hour block and one three-hour block include lecture and laboratory.

6710 (671) Biostatistical Analysis II. Three credits. Prerequisite: BIOL 4350 or 6350 . Advanced-level applied, multivariate biological statistics. Three lectures per week.

## Field Station Affiliation

MTSU is an affiliate of the Gulf Coast (Miss.) Research Laboratory. Certain courses in marine biology may be taken for graduate credit and transferred to MTSU. See department head for list of courses.

# Business Administration 

Troy Festervand, Assistant Dean and Director of Graduate Business Studies, Jennings A. Jones College of Business<br>Business and Aerospace Building N222A/B

The University offers a Master of Business Administration degree which requires courses in the Departments of Accounting, Economics and Finance, Computer Information Systems, and Management and Marketing. See departmental listings in this catalog for complete course descriptions.
The director of graduate business studies also serves as advisor for the M.S. in Accounting and Information Systems. (See pages 52,69.)

## Application Process

A complete application package consists of the graduate application, application fee, official transcripts from all collegiate institutions attended, and official GMAT score report.
Deadlines for Completed Applications: Fall - July 1; Spring - December 1; Summer - April 1. Completed application packages received after the deadline will be evaluated based on the date received.

## Requirements for the <br> Master of Business Administration

## Candidate must

1. be admitted to the program (see page 25). For admission, a student must meet one of the following:
a. GPA $\times 200+$ GMAT $=950$
or Upper Division GPA $\times 200+$ GMAT $=1,000$
b. International students must comply with the following provision: For undergraduate degrees from foreign institutions where a grade point average cannot be clearly established but where that work is thought to be equivalent to domestic grades of $\mathbf{B}$ or higher, admission eligibility may be determined by the GMAT score. A score of at least 450 is required for unconditional admission under such circumstances. Preparatory work taken in institutions with grading systems paralleling that of most United States institutions must conform to a B average.
2. complete the following foundation courses before enrolling in core courses listed in 3.a. below:*
ACTG 6000 Survey of Accounting Principles, 3 hours
INFS 6010 Survey of Information Systems Issues, 3 hours
Q M 6000 Quantitative Methods Survey, 3 hours
ECON 6030 Survey of Economic Theory, 3 hours

FIN 6000 Survey of Financial Management, 3 hours
MGMT 6000 Management and Operations Concepts, 3 hours
MKT 6000 Marketing Concepts, 3 hours
BLAW 6430 Legal Environment of Management, 3 hours In addition to the above, it is desirable that all students in the Jennings A. Jones College of Business be proficient in keyboarding and basic computer skills. Students should develop these proficiencies prior to taking Jennings A. Jones College of Business courses in which these skills are typically used. To develop proficiency in keyboarding, students may take BMOM 1000, Keyboarding for Computers. Basic computer skill may be developed by taking INFS 2200, Introduction to Microcomputing.
*Some or all of these courses may be waived by the director of Graduate Business Studies based upon an analysis of previous courses completed.
3. follow a program which stresses interrelationships of functional business areas and which requires a total of 36 semester hours, at least 30 of which must be at the 6000 level. NOTE: Core courses may not be satisfied by independent study.
a. Core courses: all candidates will take the following 24 semester hours:
ACTG 6910 Accounting and Business Decisions
(Undergraduate Accounting majors
should take another 6000-level accounting course.)
$\begin{array}{lll}\text { ECON } & 6000 & \text { Managerial Economics } \\ \text { FIN } & 6710 & \text { Financial Analysis } \\ \text { MGMT } 6600 & \text { Study of Organizations } \\ \text { MGMT } & 6650 & \text { Operations Management } \\ \text { MKT } & 6800 & \text { Marketing Management } \\ \text { INFS } & 6610 & \begin{array}{l}\text { Information Systems Management } \\ \text { and Application }\end{array} \\ \text { B AD } & 6980 & \begin{array}{l}\text { Business Policy (The student will take } 6980\end{array}\end{array}$
b. Global/international elective: 3 semester hours
(Student should see the director of graduate business studies for a current list of courses that meet the global/international requirement.) NOTE: Independent study may not be used to satisfy this 3-hour elective.
c. Elective Cognate: 6 semester hours
(choose 6 hours from approved electives in same field)
d. Approved elective: 3 semester hours
(Course taken to satisfy this elective requires prior approval of the director of graduate business studies.)
NOTE: Independent study course requested to satisfy this elective must be accompanied by a research proposal which has been approved by the supervising faculty member, appropriate departmental chair, and director of graduate business studies.
e. A student who has had substantial undergraduate instruction in accounting, economics, finance, information systems, management, or marketing may be required, as determined by the director, to take an alternate 6000-level course in the same area of instruction in lieu of the required graduate course.
4. A Candidacy Form will be prepared when an applicant is approved for admission to a graduate business program.
5. B AD 6980, Business Policy, includes the required comprehensive written examination for the M.B.A. This course should be taken during the student's last semester and after completing the following courses: ACTG 6910, INFS 6610, ECON 6000, FIN 6710, MGMT 6600 and 6650, and MKT 6800, or the equivalent.

# Department of Business Education, Marketing Education, and Office Management 

Linda McGrew, Chair<br>Business and Aerospace Building N429C

A Master of Business Education is offered by the Department of Business Education, Marketing Education, and Office Management. Advisement for the degree is provided by graduate faculty members in this department. A minor in Business Education is offered at the graduate level.

## Requirements for the <br> Master of Business Education (M.B.E.)

Normally, the required test score for admission to the program is 30 on the Miller Analogies Test or a satisfactory Graduate Record Examination score.

## Candidate must

1. complete 33 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours;
2. have at least 24 semester hours of undergraduate business subjects;
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
4. successfully complete a written comprehensive examination (may be taken no more than twice);
5. meet licensure requirements to teach business subjects upon completion of the degree or select the nonteaching option.

Required Courses ( 6 semester hours)
BMOM 5710 History and Foundations of Business Education and Marketing Education*
BMOM 6620 Research in Business and Marketing Education
27 hours of electives

## Research Option

Required Courses
BMOM 5710 History and Foundations of Business Education and Marketing Education*
BMOM 6620 Research in Business and Marketing Education
BMOM 6780 Problems in BE/ME/VOE
24 hours of electives
*Students who complete this course at the undergraduate level may substitute another three-hour graduate level course in business or marketing education.

BMOM, FOED, and SPSE electives will be chosen in consultation with BMOM advisor or department chair.
A non-licensure training and development specialization includes BMOM 5410 and 5450. Electives for this specialization will be chosen in consultation with BMOM advisor or department chair.

## Courses in Business Education, Marketing Education, and Office Management [BMOM]

5200 (520 A-Z) Problems in BE/ME/OM. One, two, or three credits. Prerequisites: Graduate standing and consent of department chair. Individual research, reading analysis, or projects in contemporary problems and issues in concentrated area of study under direction of a faculty member. May be taken twice.

5210 (521) Innovations and Problems in Accounting. Three credits. Prerequisites: ACTG 2110 and 2120 or approval of instructor. A short history of accounting and data processing including aims, evaluation of textbooks, teaching strategies, testing, and course content.

5240 (524) Materials and Methods in Basic Business. Three credits. Analysis of objectives, materials, research, and appropriate instructional strategies for developing teaching strategies and delivery systems in basic business courses such as introduction to business, economics, international business, business communication systems, American business/legal systems, business management, marketing, and introduction to finance.

5250 (525) Innovations and Problems in Administrative Business Services and Technology. Three credits. Prerequisite: BMOM 2330 or equivalent. Instructional strategies in office technology including objectives, testing, audio-visuals, course content, basic programming, and standards.

5340 (534) Integrated Administrative Technology. Three credits. Prerequisites: BMOM 2330 and 2340 or equivalent. Development of necessary skills for administrators of word processing centers. Word processing feasibility, development, and implementation for business using a total information processing concept. Students develop a thorough knowledge and refine skills using various application software.

5350 (535) Records Management. Three credits. Equipment and systems used for information storage, transmission, and retrieval. Filing, microfilming, tape processing, storage system design, form usage, and other information management functions in the office.

5410 (541) Managerial Media Presentations. Three credits. Prerequisite: BMOM 2330 or equivalent knowledge of computers. Presentations in business and classroom environments. Emphasis on the communication process; audience analysis; presentation design and planning; media integration; innovative delivery techniques; equipment, software, and material selection; and evaluation criteria.

5450 (545) Training Strategies for Business Systems and Technology. Three credits. Prerequisite: BMOM 4410 or equivalent. Corporate learning specialist activities such as design, development, delivery, and evaluation of learning programs for a business environment. Focuses on adult learning theories with emphasis on professional learning activities related to innovative corporate educational programs.

5510 (551) Business Report Writing. Three credits. Prerequisite: BMOM 3510 or equivalent. Nature, general functions, and present need of reports in industry. Recognizing, organizing, and investigating problems preparatory to writing reports and construction and writing of distinctive business and technical reports.

5520 (552) Instructional Strategies in Marketing Education. Three credits. Develops competence in techniques of teaching with emphasis on problem-solving and demonstration procedures. Emphasizes teaching-learning evaluation.

5600 (560) Organization and Administration of Marketing Education Programs. Three credits. Organizing marketing education programs at the secondary and post-secondary levels; emphasizes youth organizations, techniques of coordination, and administrative procedures.

5640 (564) Problems in Office Management. Three credits. Evaluation of significant research in office management. Observations in local business offices and visits to managers and identifying and solving office problems.

5660 (566) Organizational Communications. Three credits. Prerequisite: BMOM 3510 or equivalent. Research and analysis of case studies of significant research; case studies in business communication; communication policies, principles, and procedures from the executive's viewpoint.

5670 (567) International Business Communication. Three credits. Provides a theoretical and practical framework for understanding and conducting effective international business communication. Emphasis on the analysis and development of international business communication processes.

5680 (568) Diversity in the Workplace. Three credits. Emphasis on developing skills essential for working effectively with a diverse
work force in global and domestic settings, incorporating the value of diversity into organizations, and building multicultural work teams.

5710 (571) History and Foundations of BE and ME. Three credits. Developments, aims, principles, and present status of business education; organization and evaluation of the business education curriculum; administration and supervision of business education.

5730 (573) Consumer Education. Three credits. Opportunity to develop understanding of relationship of consumer education to instructional program in business. Emphasis on sources of information and formulation of a conceptual framework essential to the decision-making process.

5800 (580) Administrative Office Simulation. Three credits. Prerequisites: BMOM 2330 and 2340 or equivalent. A culmination course which could serve as a transition from the traditional classroom atmosphere to the administrative office atmosphere. Primary emphasis on information and administrative management and controlled decision making through simulation experiences.

5810 (581) Internship Program. Three credits. Prerequisites: BMOM 2330 and 2340 or equivalent. A supervised program requiring 300 hours of related work experience in a marketing or office position. Provides experience of the application of theory into practice.

6310 (631) History and Philosophy of BE/ME/VOE. Three credits. Historical development, philosophy, and objectives of business and marketing education. Contributions to general education, vocational education, and adult education. Curriculum in relation to future needs, objectives, and social change.

6460 Issues and Trends in Business Education/Vocational-Technical Education. Three credits. (Same as VTE 6460.) Exploration

and analysis of research-based studies on current issues and trends in vocational-technical education and business education, marketing education, and office management.

6620 (662) Research in Business and Marketing Education. Three credits. Introduction to research methods, tools, and interpretation of research data.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6650 (665 A-Z) Workshop in BE and/or ME. Three credits. Innovations in marketing education and/or business education. Special programs and organizations featured.

6670 (667) Organization, Administration, and Supervision of Business Education. Three credits. Administrative problems of a school system. Emphasis on those of the supervisor of business education, the department head, and the teacher as to reorganization, budgets, curriculum, equipment, personnel, adult education, and public relations.

6700 (670) Coordination of Cooperative Programs. Three credits. Organization of such programs and their characteristics in combining classroom instruction with regularly-scheduled supervised experience and on-the-job training.

6720 (672) Measurement and Evaluation in BE and ME. Three credits. Teacher-made, standardized, and industry-developed tests and other standards used in teaching, used to evaluate student achievement, and used by industry for employment and promotion.

6770 (677) Vocational Guidance in BE and ME. Three credits. Developing teacher competence through utilization of occupational information, surveys, and job analysis to determine community opportunities and requirements for employment, placement, and promotion in preparing students for careers in business.

6780 (678) Problems in BE/ME/VOE. Three credits. Individualized research projects in special areas of concern to teachers of business education, marketing education, and vocational education and to trainers in business and industry.

6810 (681) Recent Developments in Basic Business. Three credits. Present status and trends affecting content of basic business courses, aims, objectives, learning aids, motivation devices, resource materials, and current research.

6820 (682) Managerial Communication. Three credits. Analysis of communication theory and communication processes with emphasis on development of executive communication skills essential for understanding organizational processes from a holistic perspective. Covers organizational theory, behavior, and interpersonal communication from both a domestic and global perspective.

6830 (683) Recent Developments in Integrated Business Technology. Three credits. Trends in teaching office technology; selecting classroom equipment and applications software, setting standards of achievement for job competencies, developing proficiency in applications of current software, analyzing supportive instructional technologies and materials, and assessing instructional issues in current research and writings.

# Department of Chemistry 

Earl Pearson, Chair<br>Davis Science Building 239

The Department of Chemistry offers a Master of Science degree with a major in Chemistry and the Doctor of Arts in Chemistry; also offered is a minor in Chemistry at the graduate level.
The required test score for admission to the M.S. program is a satisfactory Graduate Record Examination score. For admission to the D.A. program, a score of 900 on the GRE is expected.

## Requirements for the Master of Science (5000 and 6000 level)

## Chemistry

Candidate must

1. have an undergraduate minor in chemistry or its equivalent at time of admission;
2. complete a minimum of 30 semester hours including a thesis of 3 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/ graduate hours;
3. complete CHEM 6640, 6800, 6870 , plus one course from five of the following six areas:
Inorganic Chemistry - CHEM 6410, 6420
Analytical Chemistry - CHEM 5230, 6200
Organic Chemistry - CHEM 5100, 6110
Physical Chemistry - CHEM 5730, 6720
Biochemistry - CHEM 5500, 6510, 6520
Applied Chemistry - CHEM 5600, 5700, 6610
The remaining courses may come from courses in chemistry or approved cognate courses in biology, mathematics, computer science, and physics. Up to 8 hours of Thesis Research (CHEM 6640) may be applied to the degree program.
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete a written comprehensive examination (may be taken no more than twice).

## Requirements for the Doctor of Arts (6000 and 7000 level)

1. Candidate must have completed undergraduate prerequisites of at least 18 semester hours of chemistry at the undergraduate level and at least 20 semester hours at the master's level.
2. There are two alternatives:

## Alternative \#1

48 semester hours above the master's level with at least two-thirds of the program on the 7000 level.
Work in the major teaching field will consist of at least 24 semester hours of classwork, plus 6 semester hours of internship/externship, plus 6 semester hours for the dissertation.

## Alternative \#2:

60 semester hours above the master's level with at least two-thirds of the program on the 7000 level. 5000-level courses may not be applied.
Work in the first teaching field will consist of at least 18 semester hours of classwork in chemistry, with that in the second teaching field consisting of at least 18 semester hours of classwork in anything which is offered as a major at the master's level (see exceptions, page 42), plus 6 semester hours of internship/ externship, plus 6 semester hours for the dissertation.
3. The core of professional education, 12 semester hours, consists of FOED 7520 and 7560 and SPSE 7540 and 7550.
4. A doctoral advisory committee will be appointed.
5. Candidacy Form must be filed with the Graduate Office prior to the completion of 24 credit hours.
6. Qualifying examinations as described on page 43 must be completed.
7. Defense of the proposed dissertation and preparation of the dissertation:
a. The Dissertation Prospectus

The dissertation prospectus should conform to the specifications given on page 43.
b. Type of Dissertation

Guidelines for selecting the research and dissertation topic are given on page 44.
c. The Defense of Dissertation Seminar

Guidelines are given under the discussion of the D.A. degree on page 44 . After the candidate has successfully defended the proposed problem, it is assumed that he/she will develop, with the supervision of the advisory committee, this proposed problem into a complete dissertation. The candidate will be notified in writing of the committee's approval.

## Courses in Chemistry [CHEM]

Graduate standing and consent of instructor are prerequisites for graduate courses in chemistry. The 5000-level courses also have the same prerequisites as listed for the corresponding 4000-level courses in the undergraduate catalog.

5100 (524) Organic Spectroscopy. Three credits. Prerequisite: CHEM 3220. Theory of and practice in the interpretation of mass, infrared, Raman, ultraviolet-visible, and nuclear magnetic resonance spectra. Three hours lecture.

5230 (523) Instrumental Analysis. Four credits. Prerequisite: CHEM 2230. Potentiometric titration polarographic, coulometric, gas chromatographic, ultraviolet, visible, and infrared absorption, and atomic absorption techniques of analysis. Requirements and limitations of each technique and the applications to various chemical systems emphasized from both a theoretical and an experimental standpoint. Three lectures and one three-hour laboratory period.

5330/ 5340 (501/502) Physical Chemistry Fundamentals. Four credits each. Modern physical chemistry including current theories of atomic and molecular structures, chemical thermodynamics, electrochemistry, chemical kinetics, and related theoretical topics. Three lectures and one three-hour laboratory period.

5350/ 5360 (521/522) Physical Chemistry. Four credits each. Quantitative principles of chemistry involving extensive use of calculus. Major topics include thermodynamics, phase changes, chemical equilibria, electrochemistry, reaction kinetics, quantum chemistry, molecular structure, and statistical mechanics. Three lectures and one three-hour laboratory period.

5400 (516) Inorganic Chemistry. Three credits. Basic concepts and theories of inorganic chemistry and how these are used to predict and understand the physical and chemical properties of compounds of the elements other than carbon. Inorganic compounds in the air, water, earth, and in the laboratory, and in biochemistry, geochemistry, and industrial materials and processes.

5500 (525) Biochemistry I. Three credits. Prerequisite: CHEM 3220 or consent of instructor. The chemical properties of biological molecules such as amino acids, proteins, enzymes, and carbohydrates. Chemical basis of enzyme catalysis and reactions of carbohydrate metabolism.

5580 (535) Clinical Biochemistry. Five credits. Prerequisite: Admission to an affiliated medical technology program. An intensive classroom/laboratory treatment of principles and procedures of clinical biochemistry.

5600 (570) Introduction to Environmental Chemistry. Three credits. Quality of the environment and of chemical changes in the environment through contamination or modification of the air, water, and soils as affected by human, agricultural, industrial, and social activities.

5630 (571) Detection of Chemical Pollutants. Four credits. Theory and practice of analytical chemistry methods used in pollution measurement. Three lectures and one three-hour laboratory period.

5700 (528) Polymers, an Introduction. Three credits. Their structure, properties, and applications.

5730 (529) Advanced Physical Chemistry. Four credits. Modern chemical concepts and computations applied to quantum chemistry molecular spectroscopy, and statistical thermodynamics. Three lectures and one three-hour calculation laboratory period.

6110 (624) Topics in Organic Chemistry. Three to six credits. A selection of modern topics.

6200 (623) Topics in Analytical Chemistry. Three to six credits. Prerequisite: CHEM 4230/5230. Selected topics of major interest in chemical analysis.

6410 (606) Transition Metal and Theoretical Inorganic Chemistry. Three credits. Prerequisite: CHEM 5400 or consent of instructor. The chemistry of transition metal complexes, organometallic compounds, and of related compounds, their practical applications, and modern theoretical treatments of this chemistry. Three hours of lecture.

6420 (622) Topics in Inorganic Chemistry. Three to six credits. Selected topics of current interest in inorganic chemistry such as organo-metallic chemistry, symmetry and group theory, physical methods of characterizing inorganic compounds, inorganic materials science, and kinetics and mechanisms of inorganic reactions.

6480/ 6490 ( 616 A,B) Laboratory in Inorganic Chemistry. One credit each. Prerequisite or corequisite: CHEM 6410 (for 6480), CHEM 6420 or CHEM 5700 (for 6490), or consent of instructor.
6480 Inorganic synthetic methods 6490 Physical methods in inorganic chemistry

6510 (635) Biochemistry II. Three credits. Prerequisite: CHEM 5500. The structure of lipids, amino acids, nucleotides, and nucleic acids and their metabolism at a molecular level. Emphasis on understanding the chemical basis of biological phenomena.

6520 (625) Topics in Biochemistry. Three to six credits. Prerequisite: CHEM 6510 or consent of instructor. Selected topics of particular interest in biochemistry.

6530 (645) Biochemical Techniques. Two credits. Prerequisite/ corequisite: CHEM 6510 or consent of instructor. Laboratory in biochemical techniques with emphasis on protein purification, enzyme kinetics, carbohydrate and lipid analysis, and manipulation of DNA.

6610 (670) Environmental Soil Chemistry. Three credits. Prerequisite: Working knowledge of physical and organic chemistry. Fundamental chemical principles applied to the fate and behavior of organic and inorganic contaminants in the soil-water environment. Topics include sorption and redox reactions of contaminants.

6640 (664) Thesis Research. One to six credits per semester. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6720 (629) Topics in Physical Chemistry. Three to six credits. Advanced theories of, latest literature in, and unsolved problems of a particular research area in physical chemistry selected by the professor.

6800 (663) Chemistry Seminar. One credit. Required of graduate students specializing in chemistry. Scientific articles reviewed and reports on individual research projects presented.

6870 (662) Chemistry Research. Three credits. Original laboratory problem that will furnish material for a thesis.

6890 (665) Individual Research. Three credits. Limited to and required of all graduate students in chemistry who expect to do research using university facilities in any semester or term when the student is not registered for any other course. This course may be repeated as many times as is necessary for the research to be completed. Pass/fail grading.

7210 (713) Problems in Modern Chemical Laboratory Procedures. Three credits. Newly developed laboratory techniques and procedures which the student had not previously had the opportunity to learn.

7220 (714) Independent Study of Instrumental Analysis. Three credits. Developing skill in using selected sophisticated instruments.

7640 (764) Dissertation Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of dissertation. Once enrolled, student should register for at least one credit hour of doctoral research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

7700 (711) Topics in Theoretical Chemistry. Three to six credits. Bonding, stereochemistry, empirical and semi-empirical parameters, state functions, spectroscopic interpretation, and reaction mechanisms.

7710 (712) Topics in Applied Chemistry. Three to six credits. Some important and current practical applications.

7800/ 7810 (760/761) Chemistry Internship. Three credits each.

## Courses in Physical Science [PSCI]

Graduate standing and consent of instructor are prerequisites for graduate courses in physical science.

5030 (542) Experimental Physical Science. Four credits. Basic concepts, laws, and principles of astronomy, chemistry, geology, and physics with particular emphasis on the utilization of equipment available or easily improvised in actual school situations to illustrate these concepts, laws, and principles.

5080 (500) Problems in Physical Science. Four credits. A problem from chemistry, physics, or other physical science appropriate to the student's background and interest.

6020 (666) Investigations in Physical Science. One, two, or three credits. Prerequisite: Graduate standing or consent of instruct. Topics from astronomy to chemistry and physics, with special emphasis on the development of hands-on activities, determination of content cognitive demand, development of appropriate assessment instruments/implementation plans, and implementation of these across the pre-college curriculum. For practicing pre-college science teachers and school administrators. Consult the listed instructor for costs and specific credits. This course will not apply towards chemistry graduate degrees.

## Department of Computer Information Systems

Lee Maier, Chair<br>Business and Aerospace Building N333C

The Department of Computer Information Systems offers the Master of Science in Accounting and Information Systems with information systems as the primary field. The department also offers courses for the Master of Business Administration degree. A minor in Information Systems is offered for students seeking a master's degree other than the M.B.A. The director of graduate business studies serves as advisor for the M.S. in Accounting and Information Systems.
Students are also encouraged to contact the CIS Department to discuss its program.
The prerequisites for a student seeking an M.S. in Information Systems are the same as those required for the M.B.A. degree plus instruction in international business. A recent graduate of an AACSB-accredited program would normally possess an adequate background in the business prerequisites.
A student electing Information Systems as a primary field may be required to complete additional prerequisites including Quantitative Methods Survey, Q M 6000; Business Policy, B AD 4980; and INFS 6010, Survey of Information Systems Issues. Completion of prerequisite courses does not reduce the hours necessary for completion of degree. Students without formal training or experience in computer programming are often encouraged to take some additional INFS courses including COBOL Applications, INFS 2720, and Advanced Programming, INFS 4760 (5760). A portion of these requirements may be satisfied in conjunction with the student's graduate studies.
To be admitted to the M.S. program (see page 25), a student must meet one of the following:
a. GPA $\times 200+$ GMAT $=950$

$$
\text { or Upper Division GPA } \times 200+\text { GMAT }=1,000
$$

b. International students must comply with the following provision: For undergraduate degrees from foreign institutions where a grade point average cannot be clearly established but where that work is thought to be equivalent to domestic grades of $\mathbf{B}$ or higher, admission eligibility may be determined by the GMAT score. A score of at least 450 is required for unconditional admission under such circumstances. Preparatory work taken in institutions with grading systems paralleling that of most United States institutions must conform to a $\mathbf{B}$ average.

## Requirements for the Master of Science <br> Information Systems as Primary Field

## Required

INFS 6710 Systems Analysis
INFS 6790 Seminar in Database Management
Q M 6770 Computer-Based Decision Modeling
ACTG 6910 Accounting and Business Decisions (or approved substitute)
INFS 6980 Information Systems Practicum

## Electives

Six hours in INFS at the 6000 level
Three hours of INFS or ACTG at the 5000 or 6000 level
Three hours of approved electives at the 5000 or 6000 level Three hours in international/global at the 6000 level (may be satisfied by INFS 6750, Seminar in Global Information Systems)

## Additional Requirements

INFS 6980 must be passed with a grade of B- or higher with a maximum enrollment of two times.
The degree is to be completed within six years from the time of admission to the degree program.

No foreign language or thesis is required in the program.
No more than two (2) 5000-level classes may be taken as part of the degree program.
Information systems majors may meet the international/global requirement with any approved Jennings A. Jones College of Business course; however, the selection of INFS 6750, Seminar in Global Strategic Information Systems is encouraged.

Students planning to graduate in the minimum amount of time, including Summer attendance, should plan their program carefully in order to meet course sequencing and scheduling constraints. The Computer Information Systems Department can provide scheduling assistance.
A limited number of graduate assistantships are available on a competitive basis to qualified students.
Students with an undergraduate degree in information systems may not take INFS 6610 to satisfy either a required or elective course in the program.

## Courses in Information Systems [INFS]

5200 (520) Microcomputer Database Applications. Three credits. Prerequisites: 6 hours of information systems. Focus on designing, deploying, maintaining, and querying a database using appropriate hardware and software. In-depth study of e-commerce applications in a microcomputer environment.

5760 (576) Advanced Programming. Three credits. Prerequisite: INFS 2720. Functional programming experience in structured programming techniques; top-down design; advanced file handling and maintenance techniques to include sequential, indexed sequential, direct, and relative file organization; interactive, menu-driven applications; and uploading/downloading programs to a central site. Requires extensive laboratory work.

5790 (579) Database Techniques. Three credits. Prerequisite: 6 hours of information systems. Fundamental concepts: conventional data systems, integrated management information systems, data base structure systems, data integration, complex file structure, online access systems. Emphasis on total integrated information systems data base and data base management languages.

5830 (583) Database Design and Application Development. Three credits. Prerequisite: 6 hours of information systems. Operational database design and implementation. Includes the development of interfaces that enable end users to query the database contents and transform data into information. Requires each student to participate fully in a group project.

5900 (590) Seminar in Data Communications. Three credits. Prerequisite: 6 hours of information systems. Current topics in the field of data communications.

6010 (601) Survey of Information Systems Issues. Three credits. Topics include Systems Development Life Cycle (SDLC), Data Resource Management, and Information Resource Management. Incorporates various microcomputer applications software packages. May not be used for elective credit in graduate business degree programs.

6610 (661) Information Systems Management and Applications. Three credits. Prerequisites: Graduate standing and INFS 3100 or 6010 . Focuses on utilization of computing resources in managerial context. Students will develop an understanding of issues and implications of information resources and end-user computing as well as develop skills in application of these concepts in a problem-solving oriented microcomputer system environment. NOT open to students with an undergraduate degree in information systems.

6710 (671) Systems Analysis. Three credits. Prerequisite: INFS 6610 or an undergraduate major or minor in Information Systems or permission of instructor. Practical explanation of the total systems concept and a knowledge of systems development. Addresses the entire development cycle including analysis, design, and implementation.

6720 (672) Seminar in Decision Support Systems. Three credits. Prerequisite: INFS 3100 or 6010 . Examines the broad area of management support systems. Concepts and issues surrounding decision support systems, expert systems, and executive information systems. Software packages used to solve application problems chosen from appropriate business areas.

6740 (674) Strategic Information Systems. Three credits. Prerequisite: 6 graduate hours of information systems. Focuses on the use of information system (IS) and information technology (IT) in the strategic management process in business organizations. Emphasis on the strategic view of IS and IT and their impact on organizational strategy. Use of IS and IT to support prominent generic strategy models and how IS and IT aid applying the principles of those generic strategic models.

6750 (675) Seminar in Global Strategic Information Systems. Three credits. Prerequisite: INFS 3100 or 6010 or permission of instructor. Examines the managerial, operational, and strategic implications of information and communication technology in the global context. Particular emphasis on the strategic dimension.

6790 (679) Seminar in Database Management. Three credits. Prerequisite: INFS 6610 or an undergraduate major or minor in Information Systems or approval of instructor. Advanced topics
in computer-related information systems as found in current literature and practical application. Advanced information structures and data management concepts applied in the design of computer-based information systems. Additional topics include data structures as applied to distributed processing systems, computer system component resource allocation, and data communication systems design. Significant computer application projects required.

6880 (688) Seminar in Electronic Commerce. Three credits. Prerequisite: INFS 3100 or 6010 or permission of instructor. The business and technical implications of electronic commerce from the perspective of the manager of information technology. Introduces the technical, business, managerial, and social issues associated with electronic commerce systems. Addresses the role of information technology in the development of electronic commerce applications and considers the ethical and legal implications of electronic commerce.

6900 (690) Business Data Communication Management. Three credits. Prerequisite: INFS 3100 or 6010 or permission of instructor. Management and use of data communications technologies to support the operations of businesses. Practical experiences in the use of data communications technologies, such as local area networks, the Internet, distributed computing, and distributed databases.

6980 (698) Information Systems Practicum. Three credits. Prerequisites: 6 hours of information systems. Emphasizes communication skills, creative thinking, problem-solving, and professional responsibility from a leadership perspective. Includes the discussion of information systems assessment in organizations. Capstone course for Information Systems majors and must be taken the last semester prior to graduation.

6990 ( 699 A, B) Independent Research in Information Systems.
6991 Three credits. Prerequisites: Graduate standing and consent of department chair. Provides individual research, readings analysis, or projects in contemporary problems and issues in a concentrated area of study under the direction of an appropriate faculty member. Maximum credit applicable toward degree may not exceed six credits.

## Courses in Quantitative Methods [Q M]

6000 (600) Quantitative Methods Survey. Three credits. Quantitative methodologies to assist in the decision-making process. Emphasis on applied statistics and decision sciences topics that are practical, useful, and of wide application for business analysis. May not be used for elective credit in graduate business degree program.

6770 (677) Computer-Based Decision Modeling. Three credits. Prerequisite: QM 3620 or 6000. Advanced techniques in quantitative methods. Modeling and optimization techniques. Computer applications emphasized.

6960 (696) Statistical Methodology and Analysis. Three credits. Prerequisite: Q M 3620 or 6000 . Descriptive and inferential statistical concepts with the use of expert systems to assist in the selection of appropriate design and methodology. Utilization of common packages for problem solution and analysis.

# Department of Computer Science 

Richard Detmer, Chair<br>Kirksey Old Main 306

The Department of Computer Science offers the Master of Science with a major in Computer Science and a minor at the graduate level.

Admission to the Master's program requires a satisfactory Graduate Record Examination score.

## Requirements for the Master of Science

## Candidate must

1. have completed CSCI 1170, 2170, 3080, 3110, 3130, 3160, and 3250 or equivalent;
2. have completed MATH 1910 and MATH 2050 or equivalent;
3. complete 30 semester hours including a thesis of 3 semester hours and a major of 18 semester hours of computer science, or if a thesis is not written, 36 semester hours with a major of 24 semester hours (if a minor is elected, it must include a minimum of 12 semester hours);
4. complete at least two one-year course sequences in computer science, selected with the consent of the advisor (available core sequences are CSCI 5160-6190, 52506260, 5300-6300, 5330-6130, 5350-6350, 5560-6560, 5700-6180, 5800-6180, 6250-6450, 6350-6550);
5. complete at least 70 percent of the program at the 6000 level;
6. complete 6 semester hours of approved research tools with grades of C or better on the undergraduate or graduate level;
7. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
8. successfully complete a written comprehensive examination over two sequences from the approved list and two additional 6000-level courses that are not from the same areas as the sequences (may be taken no more than twice);
9. present an oral defense if a thesis is elected; if a thesis is not elected, then an oral presentation on an approved computer science topic is required (Pass/Fail, may be repeated only once).

## Courses in Computer Science [CSCI]

5130 (513) Microprocessor Operation and Control. Three credits. Prerequisite: CSCI 3160. Digital systems based around microcomputers, microcomputer architecture, logic replacement, memory design, timing considerations, input/output design, interfacing, robotics, and total system design.

5160 (516) Compiler Analysis and Design. Three credits. Prerequisites: CSCI 3110 and 3160. The various phases of a compiler along with grammars, finite automata, regular expressions, LR parsing, error recovery, backward and forward flow analysis, and code optimization. A term project consisting of the design and construction of a functional compiler required.

5250 (525) Computer Graphics. Three credits. Prerequisites: CSCl 3110 and 3180 or consent of instructor. Topics include vector drawing displays, raster scan displays, input devices and techniques, graphics software, transformations, projections, interpolation, and approximation.

5300 (530) Data Communication and Networks. Three credits. Prerequisite: CSCI 3250. Computer network architectures, protocol hierarchies, and the open systems interconnection model. Modeling, analysis, design, and management of hardware and software on a computer network.

5330 (533) Parallel Processing Concepts. Three credits. Prerequisites: CSCI 3130, 3250, and a working knowledge of either C or $\mathrm{C}++$. Parallel processing and programming in a parallel environment. Topics include classification of parallel architectures, actual parallel architectures, design and implementation of parallel programs, and parallel software engineering.

5350 (535) Introduction to Artificial Intelligence. Three credits. Prerequisite: CSCI 2170 and 3080 or equivalent. Principles and applications of artificial intelligence. Principles include search strategies, knowledge representation, reasoning, and machine learning. Applications include expert systems and natural language understanding.

5560 (556) Database Management Systems. Three credits. Prerequisite: CSCI 3110. The relational and object models of database design along with relational algebras, data independence, functional dependencies, inference rules, normal forms, schema design, modeling languages, query languages, and current literature.

5600 (560) Independent Study in Computer Science. One to six credits. Prerequisite: Consent of instructor. Students wishing to enroll must submit a written course/topic proposal to the department prior to the semester in which CSCI 5600 is taken. Proposal must be approved prior to taking the course. At the conclusion of the course, each enrollee will submit a written summary of the project.

5700 (570) Software Engineering. Three credits. Prerequisite: CSCl 3110. Consists of a theoretical component and a practical component. Topics include the history of software engineering, software development paradigms and life cycles, and computeraided software engineering (CASE). A team project will be developed in parallel with the theory.

5800 (580) Software Testing. Three credits. Prerequisite: CSCI 2170 and 3080. Integrates theory and applications of software testing techniques. Provides actual hands-on testing experience. Considers multiple testing paradigms.

5850 (585) Neural Nets. Three credits. Prerequisite: CSCI 3080. Various neural net architectures, theory, and applications, including models such as Perceptron, back propagation, Kohonen, ART, and associative memory. Learning and conditioning methods also studied.

5900 (590) Selected Topics in Computer Science. Three credits. Prerequisite: CSCI 2170. Advanced topics in computer science to be selected and announced at time of class scheduling. May be repeated for up to six credits total.

6100 (610) Analysis of Algorithms. Three credits. Prerequisites: CSCI 3110 and 3080 or consent of instructor. Topics include the analysis and design of algorithms; efficiency of algorithms; design approaches including divide and conquer, dynamic programming, the greedy approach and backtracking; P and NP; and algorithms in many areas of computing.

6130 (613) Selected Topics in Parallel Processing. Three credits. Prerequisites: Solid foundation in architecture and operating systems equivalent to CSCI 3130 and 3250. An in-depth investigation of one or more topics in parallel processing. Topic(s) to be selected by the professor. Possible topics include parallel algorithms, parallel programming languages, parallel programming tools, parallel software engineering, parallel architectures, parallel applications, and parallel VLSI. Repeatable up to 6 hours.

6180 (618) Software Design and Development. Three credits. Prerequisite: CSCI 2170. State-of-the-art techniques in software design and development; provides a means for students to apply the techniques.

6190 (619) Theory of Compilers. Three credits. Prerequisite: CSCI 4160/5160. Theory of parsing methods as well as symbol table construction, code optimization, run time storage management, and implementation of recursion.

6250 (625) Advanced Operating Systems. Three credits. Prerequisite: CSCl 3250. Topics include concurrent processes, name management, resource allocation, protection, advanced computer architecture, and operating systems implementation.

6260 (626) Advanced Computer Graphics. Three credits. Prerequisite: CSCI 4250/5250. Topics include three-dimensional curves and surfaces, projections, hidden line and surface elimination, raster graphics systems, and shading techniques.


6300 (630) Networks. Three credits. Prerequisite: CSCI 3250 or consent of instructor. Computer communications, network architectures, protocol hierarchies, and the open systems interconnection model. Modeling, analysis, and specification of hardware and software on a computer network. Wide area networks and local area networks including rings, buses, and contention networks.

6350 (635) Selected Topics in Artificial Intelligence. Three credits. Prerequisite: CSCl 3110 or equivalent. In-depth study of the principal areas of the field: artificial intelligence programming, problem-solving methods, knowledge representation methods, deduction and reasoning, and applications such as natural language processing and expert systems. Repeatable up to 6 hours.

6450 (645) Operating System Design. Three credits. Prerequisite: CSCI 6250. Definition, design, and implementation of a significant operating system proven from such areas as file systems, process management, memory management, time sharing, input/output device management, and user interface.

6550 (655) Introduction to Symbolic and Algebraic Manipulation. Three credits. Prerequisite: CSCI 3110. Techniques for algebraic manipulation on the computer. Includes symbolic differentiation and integration, extended precision arithmetic, polynomial manipulation; introduces one or more symbolic manipulation systems. Automatic theorem provers considered.

6560 (656) Selected Topics in Database. Three credits. Prerequisite: CSCI 5560. An in-depth investigation of one or more topics in database. Topic(s) to be selected by the professor. Possible topics include object-oriented database systems, distributed database systems, client-server database systems, deductive databases, multimedia databases, and database theory (concurrency, query optimization, recovery, security). May be taken twice for credit.

6600 (660) Selected Topics in Computer Science. Three credits. May be repeated for up to six credits total. Prerequisites: A solid foundation in undergraduate computer science and any prerequisites determined by the instructor. An in-depth investigation of one or more topics in computer science. Topic(s) to be selected by the professor. Possible topics include search techniques, for- example genetic algorithms, soft computing, ob-ject-oriented software engineering, expert systems, program verification, software quality, knowledge discovery in data bases, and design of embedded software systems.

6620 (662) Research Methods in Computer Science. Three credits. Prerequisite: Nine hours of graduate work in computer science. Research tools used in computer science examined. Student will select a research problem with approval of the instructor, review pertinent literature, and produce a report using the manual of thesis writing currently approved by the College of Graduate Studies.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

# Department of Criminal Justice Administration 

## Frank Lee, Chair <br> Vaughn House 6

The Department of Criminal Justice Administration offers a Master of Criminal Justice (M.C.J.) degree in cooperation with Tennessee State University. A minor in Criminal Justice at the graduate level is also offered at MTSU. Normally, the required test score for admission to the Master of Criminal Justice program is 25 on the Miller Analogies Test or a satisfactory score on the Graduate Record Examination. To be considered for Fall admission, an applicant's materials must be received by June 15; for Spring admission, November 1; and for Summer admission, April 15.
A graduate student may not enroll in more than 12 total hours in any given semester. This limitation applies to Criminal Justice graduate students who may be simultaneously enrolled at both TSU and MTSU. Any student exceeding the hours-per-semester limit will be dropped from a course or courses to the twelve-hour level. A student may, on rare occasions, be given permission for an overload, but the proper overload form must be executed before courses begin and under no circumstances will the overload exceed three hours or a total of 15 hours.

## General Requirements for the Master of Criminal Justice

## Candidate must

1. have completed a minimum of 18 hours of work at the undergraduate level in criminal justice or an approved equivalent;
2. complete a total of 36 hours ( 18 hours at MTSU and 18 hours at TSU) with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours including the following core courses:
Middle Tennessee State University - Fall Semester Only
CJA 6000 Criminal Justice Administration, 3 hours
CJA 6010 Seminar in Law Enforcement, 3 hours
Tennessee State University - Spring Semester Only
CJA 6020 Judicial Seminar, 3 hours
CJA 6030 Contemporary Corrections, 3 hours
3. file a candidacy form after having completed 10 semester hours credit and before having completed 16 semester hours credit. Candidate must have maintained an average grade of 3.00 or above on all work attempted. No fewer than 10 and no more than 16 semester hours may be counted toward the degree before the individual
is advanced to candidacy. Indicate research/thesis institution at this time.
4. complete the following 6 hours at one institution (MTSU or TSU):
CJA 6900 Research in the Criminal Justice Process, 3 hours
CJA 6640 Thesis Research, 3 hours
5. complete the remaining 18 hours of approved electives as follows:
12 hours at the non-thesis/research institution
6 hours at the thesis/research institution
6. successfully complete an oral comprehensive examination in conjunction with the thesis defense.

## Courses in Criminal <br> Justice Administration [CJA]

5220 (522) Community Relations and Minority Problems. Three credits. Analysis of public hostility toward police and current community relations projects; training and education of law enforcement officers; responsibilities of police administrators; causes of tension and conflict, positive and negative factors in the control of minority group hostilities; minority recruitment in law enforcement.

5260 (526) Special Issues in Law Enforcement. Three credits. Variety of subtopics related to law enforcement. Problems in private and public morality with regard to drug use, alcoholism, and sex offenses; analysis of current police training programs; relationship between legislation and political process which affects law enforcement.

5330 (533) Criminal Investigation. Three credits. (For CJA majors or with permission of instructor.) General investigative responsibilities and techniques, including administration preparation, investigative jurisdiction and responsibility, and the importance of substantive report writing. Includes special techniques required for specific investigative categories.

5500 (550) The Juvenile Justice System. Three credits. Juvenile delinquency and youth crime with emphasis on the history of the juvenile justice system, the court and police role within the system, rehabilitation and correction of the delinquent, and juvenile probation services. Alternatives to traditional procedures: community-based programs versus correctional institutions, nonjudicial adjustment, etc., examined.

5530 (553) Criminal Evidence and Procedures. Three credits. Types of individuals and problems of admissibility in court proceedings, proper treatment and disposition of evidence, legal procedure to be followed, and actual trial procedure.

5750 (575) Seminar in Corrections. Three credits. Each student selects a problem area of interest for an intensive research effort. The group will be presented with a contemporary corrections issue or problem and will be required to create practical and workable strategies for coping with the issue. Where feasible, arrangements will be made to implement the program in an actual correctional setting.

5800 (580) Crime in America: An Assessment. Three credits. An in-depth survey of the impact of crime on American society: amount and trends of crime, economic impact of crime, professional and white collar crime, characteristics of offenders and victims of crime.

5900 (590) Readings in Criminal Justice. Three credits. Advanced students capable of independent study will be allowed to do in-
depth readings in a particular area of criminal justice relevant to individual interests. Annotated bibliography and report required. Arrangements for this course should be made with the instructor prior to registration.

6000 (600) Criminal Justice Administration. Three credits. Criminal justice, juvenile justice, correctional and mental health processes, and other issues including those arising out of other processes of social control and community-based treatment of offenders. Development of a critical analysis of current literature, compilation of a bibliography, and completion of an intensive research paper required.

6010 (601) Seminar in Law Enforcement. Three credits. The function of police within the community and its relationship to the criminal justice system, the effects of police actions on the community and other segments of the system, social expectations and limitations, assessment and special problems. Analysis of relevant studies, formation of annotated bibliography, and organization of research into a formal composition.

6020 (602) Judicial Seminar. Three credits. Examination of the judicial system, including flow of the criminal case, personnel, court community relations, computers and the courts, and special problem areas. A research project consisting of a literature review, bibliography, and a thorough analysis required.

6030 (603) Contemporary Corrections. Three credits. Corrections programs in contemporary custodial and juvenile institutions and community-based corrections programs; problems and prospects associated with them. Each student required to make class presentations on assigned topics, participate in class discussions and analysis of reports, develop a bibliography, and submit a research paper in a specific area of corrections.

6040 (604) The Concept of Justice. Three credits. Historical development and philosophy of law. The notion of justice in a criminal context, with emphasis on equity and ethics in law and justice. Examines the sociology of law and societal constraints on proscribed behavior.

6230 (623) Police Management Systems. Three credits. The need for awareness of police management problems, reaction of criminal justice system within P.M.S., administrative behavior toward the organizational environment, and the nature of change within P.M.S. Preparation of a research paper which consists of complete analysis of a topic within P.M.S., a review of recent literature, and an annotated bibliography required.

6250 (625) Criminal Justice Internship. Three credits. Prerequisite: Permission of instructor. Student placed for an intensive field experience in a functional criminal justice agency. The selection of the placement agency determined by student's background, academic status, and interest.

6300 (630) Innovations in Law Enforcement. Three credits. The changing role of the police function and its relationship to the criminal justice system, including evaluation of the operational line function of the 80s, technological changes in society and their effects on law enforcement, and the etiology of innovation. Evaluation of recent literature, compilation of a list of selected readings, and unification of research into a methodological exposition.

6410 (641) Advanced Constitutional Law. Three credits. Examination of constitutional rights of the accused including pretrial, trial, and prisoner rights. Reading and critique of current literature and Supreme Court decisions, learning to function in a law library, and composing a research paper with a bibliography on a chosen constitutional topic.

6430 (643) Criminal Law: The Defense Side. Three credits. Procedure of the criminal courts from the defense viewpoint. ABA standards for defense attorneys, the handling of a case by the defense from arrest to appeal, and ethical problems posed for defense attorneys. Attention given to defense by appointment and plea bargaining.

6500 (650) Interviewing and Counseling Juveniles. Three credits. Causal theories of delinquency, application of theory to treatment, caseworker attitudes, and counseling styles. Discussion of individualized models for classification and treatment as well as group and process models.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6700 (670) Community-Based Corrections. Three credits. Intensive survey of probation and parole at both the adult and juvenile levels. Halfway houses, work-release programs, and other community correctional settings. Impact of the "justice model" upon community corrections featured.

6830 (683) Violence and Victimology. Three credits. Impact of violence on victims at both the adult and juvenile levels examined. Other major topics include the right to treatment, victims as witnesses, victims in the correctional system, and societal reaction to violence.

6900 (690) Research in the Criminal Justice Process. Three credits. Introduces research methods, including the experiment and experimental methods and models, survey research, participant observation, case studies, unobtrusive measures, the use of official and unofficial statistics, validity, reliability, and data analysis. Special emphasis on ethics in criminal justice research and on proposal writing and evaluation research.

6920 (692) Seminar in Criminal Justice Planning and Management. Three credits. Intensive introduction to principles of planning and management in the system. Students required to actively participate in planning exercises and to utilize data from actual situations for the development of appropriate management strategies.

6930 (693) Comparative Systems of Criminal Justice. Three credits. Systems in the U.S. and Great Britain, New York, and London. Crime and justice in northern and southern Europe, the Soviet Union, and Canada. Discussion of progressive criminal policy and the U.N. and the uses of comparative analysis of current literature and formal exposition on a related topic.

6940 (694) Crimes, Criminals, and Their Treatment. Three credits. Intensive exploration of the various systems of criminal typology, including a survey of the various theories of criminal behavior and a survey of institutional treatment methods currently in use. Extra-institutional treatment methods also examined.

6950 (695) Business and Industrial Security. Three credits. Examination of the scope of the problem, the economic impact, major problems (security, employee theft, shoplifting, industrial espionage). Discussion of the responsibility and effectiveness of the criminal justice system, programs for prevention and training of employees, managers, and security personnel. Preparation of an extensive research paper which analyzes an assigned topic and summarizes current trends in the literature required.

# Department of Economics and Finance 

John Lee, Chair<br>Business and Aerospace Building N329C

The mission of the graduate program in economics is to provide students with advanced studies in economic theory and research methodology. To accomplish its mission, the Department of Economics and Finance offers two degree programs: the Master of Arts (M.A.) with a major in Economics and the Doctor of Arts (D.A.) with a major in Economics. The Department's approach to these degree programs is global, interactive, and innovative. In the M.A. program, students are offered three curricular paths: general economics, Industrial Relations, and Financial Economics. M.A. students in economics are offered preparation for careers in private business and public service. The focus of the M.A. program is on decision analysis and applied research. D.A. students in economics are trained for teaching careers in higher education. The D.A. provides students with the opportunity to combine advanced training in economics with educational pedagogy and applied research.
The required test score for admission to both masters' programs is 30 on the Miller Analogies Test or a satisfactory score on the Graduate Records Examination (GRE). Admission to the doctoral program normally requires a score of 900 or better on the GRE.

## Requirements for the Master of Arts (5000 and 6000 level)

1. Candidates entering the M.A. program must have completed certain foundation courses. Each candidate's record is carefully examined to determine whether these functional areas have been satisfactorily covered in previous academic work. The foundation areas include:
Intermediate-level Macroeconomics
Intermediate-level Microeconomics
Intermediate-level Quantitative Methods
The M.A. advisor will notify the student of any deficiencies in the foundation courses. Students lacking work in these areas must take the requisite undergraduate courses.
2. Candidates for the M.A. in Economics or the M.A. in Economics with a concentration in Industrial Relations must complete a minimum of 30 semester hours if a thesis is written or a minimum of 33 semester hours if a
thesis is not written. At least 24 semester hours must be in courses numbered exclusively as 6000-level graduate courses.

## Major in Economics

1. Candidates choosing a major in economics must complete a minimum of 18 semester hours of economics including ECON 6110, 6120, and 6620.
2. Candidates can include a minor in their degree programs. A minor comprises 12 hours of approved courses. A list of graduate minors can be found on page 19.
3. Students not electing a minor can include a cognate area of up to 6 semester hours in their program. Cognate areas can be formed from courses in such fields as accounting, agriculture, finance, geography and geology, history, industrial studies, insurance, management, marketing, mathematics, political science, psychology, real estate, and sociology.
4. The student, with the assistance of the M.A. advisor, must file a Candidacy Form prior to the completion of 24 credit hours.

## Major in Economics with a Concentration in Financial Economics

The mission of the concentration in Financial Economics is to provide students with the intellectual foundation and technical skills needed to enter careers as financial economists and analysts in private companies and public agencies. The Economics major with a concentration in Financial Economics requires the general M.A. core courses: ECON 6110, 6120, and 6620. In addition, a candidate must complete ECON 6460, 6730 and FIN 6710, 6740. An additional six hours of guided electives must be chosen from the following courses: ECON 6430, 6450, 6530, FIN 6720 or 6860 . The remaining six hours are general electives. The M.A. advisor must approve the selection of the general electives.

## Major in Economics with a Concentration in Industrial Relations

1. Candidates choosing the Industrial Relations concentration must complete the following courses: ECON 6000, 5620 (or 6620), 6500, 6510, and 5390. An additional 9 hours must be completed from the following courses: ECON 6520, 6440 (Industrial Relations topic only), 5510, 5490, and 5420. Students without substantial experience in the field of industrial relations are strongly encouraged to complete ECON 5420, 5490, and 5510 as initial courses in the Industrial Relations concentration. Up to 9 credits of substitutions may be made by passing competency tests that are administered and evaluated by industrial relations faculty. Courses designated for possible substitutions are 5390,5420,5490, and 5510. Before taking the competency tests the student, industrial relations faculty, and M.A. advisor will agree on the
courses to be substituted for those negated by any successfully passed competency exams. The remaining credit hour requirements are electives. Courses listed above and not selected to fulfill the above requirements may be taken as electives, but students are strongly encouraged to consider interdisciplinary options from the following: management, engineering technology and industrial studies, psychology, sociology, actuarial science, political science, and school personnel service education. The M.A. advisor in consultation with the industrial relations faculty must approve acceptable courses.

## Comprehensive Examinations

1. Candidates must successfully complete a written comprehensive examination that may be taken no more than twice. For the major in Economics, the comprehensive examination covers the three core areas: macroeconomics, microeconomics, and Econometrics I. For the major in Economics with a concentration in Financial Economics, the comprehensive examination includes macroeconomics, microeconomics, and a financial economics field examination. For the major in Economics with a concentration in Industrial Relations, the comprehensive examination encompasses four types of competencies:
a. applied technical analysis relevant to industrial relations practice including time values, regression analysis, and other computational methods that are generally based on ECON 5390, 5420, 6000, 6510, or 6620 (or 5620);
b. conceptual synthesis of Industrial Relations theory, applications, and issues from required and elective course content;
c. a specialty area defined by collaboration between the student, M.A. advisor, and Industrial Relations faculty, e.g., legislation and regulation of labor markets and employment, demographic influences upon the workplace, and technology change and the workplace; and
d. a synthesis of international issues taken from the content in the core and elective courses.
2. Before taking the comprehensive examination, the student is expected to attend and actively participate in regularly scheduled departmental student/faculty workshops where research papers are presented and discussed by the participants.

## Requirements for the Doctor of Arts (6000 and 7000 level)

1. There are two alternatives available: Alternative \#1
A program with a single teaching field: 48 semester hours above the master's level with at least two-thirds of the program on the 7000 level. 5000 -level courses may not be applied. Work in economics will consist of at least 24 semester hours of classwork, plus 6 semester hours of internship, plus 6 semester hours for the dissertation.

## Alternative \#2

A program with two teaching fields: 60 semester hours above the master's level with at least two-thirds of the program on the 7000 level. 5000-level courses may not be applied. Work in economics will consist of at least 18 semester hours of classwork, plus 6 semester hours of internship, plus 6 semester hours for the dissertation. Work in the second teaching field will consist of at least 18 semester hours of classwork in any subject which is offered as a major at the master's level (but see exceptions, page 42).
2. Prerequisites for Alternative \#1 include at least 18 hours of economics at the undergraduate level and 20 hours at the master's level. Students who elect Alternative \#2 must also have completed at least 18 hours of undergraduate credits in the second teaching field except when the second teaching field selected is a business area. If the second teaching field selected is a business subject, then the student must complete the undergraduate prerequisite or foundation courses for the M.B.A. listed under item \#2, page 63. Since Business Administration is broadly defined to cover several different business disciplines, a second teaching field in this area could include courses in either finance, accounting, information systems, management, or marketing.
3. A core of professional education must be completed and will consist of at least 12 semester hours, which must include FOED 7520 and 7560 and SPSE 7540 and 7550.
4. A doctoral committee will be appointed.
5. The student, with assistance of the graduate advisor, must file a Candidacy Form prior to the completion of 24 credit hours.
6. Qualifying examinations as described on page 43 must be completed. Before the qualifying examination, the student is expected to attend regularly scheduled departmental faculty/student workshops and make at least two workshop presentations. If Business Administration is selected as a second teaching field, qualifying examination requirements for that field are satisfied by the successful completion of B AD 6980 Business Policy.
7. The student must successfully defend a dissertation prospectus and then prepare the dissertation.
a. The Dissertation Prospectus

The dissertation prospectus should conform to the specifications given on page 43.
b. Type of Dissertation

Guidelines for selecting the dissertation topic are given on page 44.
c. The Defense of Dissertation Seminar Guidelines are given under the discussion of the D.A. degree on page 44. After the candidate has successfully defended the proposed problem he/she will develop, with the supervision of the advisory committee, this proposed problem into a complete dissertation. The candidate will be notified in writing of the committee's approval.

## Courses in Economics [ECON]

5310 (531) Public Finance II. Three credits. (Same as FIN 5310.) Prerequisites: ECON 2410 and 2420. Current issues in taxation, theory of income taxation, consumption taxes, property and wealth taxes. Advanced treatment of tax incidence, tax efficiency, income distribution, fiscal federalism, and state and local budget issues. Students are required to complete a term project resulting in a paper available for peer review and a class presentation.

5390 (539) Employee Benefits. Three credits. (Same as FIN 5390.) Includes descriptive review and taxation, legislative, and administrative dimensions of the major components of employee benefit plans such as retirement systems, deferred compensation plans, health insurance, death benefits, disability benefits, paid and unpaid time off. Technical analysis and problem solving emphasized to develop applied skills. Social insurance and international benefits integrated.

5400 (540) Business and Government. Three credits. Structure, conduct, and performance of American industries; public policies toward business; economic analysis of these policies.

5420 (542) Labor and Human Resource Economics. Three credits. Current issues and theories, returns to training and education (human capital), earnings differences; theoretical interpretation and empirical economic impacts of unions, government regulation, and international forces upon labor relations and labor markets; human resource information systems (spreadsheet applications) and integration of Internet information sources and forensic analysis.

5440 (544) International Economics. Three credits. Differences between domestic trade and international trade and foundations of international trade; economic effects of free trade and restricted trade; mechanisms of international payments and structure of balance of payments; history and contemporary issues of trade policies and world monetary systems.

5470 (547) Economic Development of the Third World. Three credits. Conditions and problems of the less developed countries; causes, processes, and consequences of economic development; introduction to basic growth models, development theories, and strategies for development. Economic as well as non-economic factors studied.

5490 (549) Industrial Relations Legislation Three credits. Effects of domestic and international legislation and regulation of governments on the practical functions of labor markets and employment relations in the public and private sectors. Specific dimensions include unions and other collective and collaborative institutions, workforce diversity, and the impacts of technology. Domestic and international electronic resources heavily integrated into learning experiences based on research and analysis.

5510 (551) Unions and Collective Bargaining. Three credits. Collective bargaining contract administration and alternative dispute resolution mechanisms. Information technology tools. Analytical focus on the impacts of total compensation agreements, strike strategies, and the interdependent influences of the union and non-union sectors of the economy. Practical cases emphasized. A brief international comparative survey of unions and other collective relationships included.

5620 (562) Econometrics and Forecasting. Three credits. Prerequisites: QM 2610 and MATH 1810 or equivalent. Application of mathematical and statistical techniques to economic problems. Introduces econometric model construction and estimation and
related problems. Requires use of econometric computer package.

5890 (589) Internship in Economics. Three credits. Prerequisite: Graduate status and recommendation of advisor. Supervised work experience in cooperating business firms or government agencies together with specialized academic study relating to the work experience.

5990 (599) Problems in Economics. Three credits. Problems for intensive study are chosen in joint consultation between student and instructor.

6000 (600) Managerial Economics. Three credits. Prerequisites: ECON 2410 and 2420 or 4570 or equivalent. Primarily for M.B.A. students with particular attention given to business administration and finance topics including demand analysis, production and cost decisions, quantitative market analysis, capital budgeting, and alternative theories of the firm. Special emphasis on case studies, software applications, and interpretation of economic meanings of related analyses.

6030 (603) Survey of Economic Theory. Three credits. Overview of micro and macro economic principles with an emphasis on applications to decision making in a competitive market environment. May not be used for elective credit in graduate business degree programs.

6100 Mathematical Methods for Economics. Three credits. Preparation for core courses in economics. Covers all essential mathematical methods, including matrix algebra, differential and integral calculus, constrained optimization, the use of differential and difference equations in dynamic analysis, the basics of optimal control and stochastic calculus.

6110 (611) Macroeconomics I. Three credits. Prerequisites: ECON 3510 and 5900 or permission of the instructor. Measurement concepts in macroeconomics, schools of macroeconomic thought, traditional models of aggregate demand and supply, open economy models and issues, and new approaches to macroeconomics. Computer applications.

6120 (612) Microeconomics I. Three credits. Prerequisite: ECON 6100. Intensive review of the structure of microeconomic theory including optimization algorithms, envelope theory, preference axioms, intertemporal choice, alternative forms of cost and production functions, behavior under uncertainty, pricing information, market strategies, game theory, general equilibrium, social choice and externalities.

6200/ 7200 Economics of Education. Three credits. Prerequisite: ECON 6120 or permission. The role of education in creating human capital, the existence of externalities, the returns to education to the individual and society, the education "industry," and the issues surrounding education reform.

6390/ 7390 Social Insurance, Pensions, and Benefits. Three credits. Prerequisites: ECON 4390/5390 (or equivalent). An intensive survey of policy and practice in employee benefits, with an in-depth examination of pension plans. Covers an interdisciplinary mix of economics, accounting/finance, law and regulation.

6400 (640) Economics of Health Care. Three credits. Applications of microeconomics to analysis of the health care delivery system in the United States. Major issues include the private and public demand for health care, supply of health care, cost of health care, the pricing of health care, and the analysis of the various health care reform policies of the industry. Examines how economics can provide valuable insights into the above problems of social choice.

6430 (643) Seminar on Public Finance. Three credits. (Same as FIN 6430.) Examines the role of government in the allocation and distribution of society's resources. Topics include theories of government sector growth, public and quasi-public goods, externalities and agency theory, transitivity and completeness of voting preferences, income redistribution and economic justice, social insurance, health care programs, tax shifting and incidence analysis, efficiency and equity in taxation, and efficiency and redistributive aspects of deficit financing. Topics may involve case studies such as budget formulation, environmental policies, payroll taxes, and alternative tax structures.

6440 (644) Special Topics in Economics. Three credits. Independent study of a particular topic selected by the student and approved by the instructor. Provides an opportunity to study special areas of interest for which regular courses are not offered.

6450 (645) Seminar on Monetary Policy. Three credits. (Same as FIN 6450.) Prerequisite: ECON 3210 or equivalent recommended. Objectives and limitations of monetary policy, alternative monetary theories underlying policy decisions and the controversy among theories, transmission channels of monetary policy, alternative strategies used to achieve the objectives of monetary policy, practical considerations in the execution of monetary policy, global linkages and monetary policy, and the effects and consequences of policy decision on economic activity and business decisions.

6460/ 7460 (646) Seminar on Financial Markets. Three credits. (Same as FIN 6460/7460.) Prerequisite: FIN 3000 or 3010 or 6000 or equivalent. Credit flows within the U.S. and the global economies, the economic and financial forces influencing the general level of interest rates and the relationship among interest rates, the characteristics of key short- and long-term financial assets, new financial instruments, derivative instruments, global financing linkages, global linkages among financial instruments and among national economies, and interest rate risk, including the measurement and means of protection.

6470 (647) Seminar in Economic Growth and Development. Three credits. Prerequisites: ECON 2410 and 2420 and permission of instructor. Satisfies the M.B.A. international course requirement. Critical analysis of causes, processes, and consequences of economic development; evaluation of various policies and strategies for economic development; introduction to advanced growth models and theories. Special emphasis on the less developed countries.

6500 (650) Modern Issues in Labor and Industrial Relations. Three credits. A survey of labor market and employment relations issues evolving in our changing economic environment. Coverage includes the concepts of efficiency, equity, and ethics of market and institutional behavior and economic issues related to work force demographics and work place organization. Distinction drawn between cooperative and competitive models of economic organization and outcomes in the employer-employee relations environment. Internet labor market information sources and international comparisons incorporated.

6510/ 7510 (651) Theory and Analysis in Labor Economics and Industrial Relations. Three credits. Prerequisite: ECON 4570 or 6000 or $4420 / 5420$ (or equivalent of either). Recommended prerequisites: Courses or equivalent experience involving financial computations, spreadsheet applications, and statistical software. Micro and macro theory of labor demand and supply and government policy implications, economic theory and measurement of human capital, returns to education, discrimination, income distribution, and impacts of international trade.

6520 (652) Special Media Projects. Three credits. Non-traditional learning experiences. Approval includes faculty and student written mutual agreement and conformance to departmental standards for independent study. Examples of special projects include production of CDs, DVDs, cable TV programming, Internet projects, internships that clearly add non-redundant learning experiences, or highly applied projects that demonstrate the integration of information technologies into mainstream business or other organization decision making.

6530 (653) International Trade Theory and Policy. Three credits. Prerequisite: ECON 5440 or equivalent background recommended. Advanced study of the key topics covered and introduction to other topics not covered in ECON 5440. Critical examination of major issues and evaluation of latest theories in international trade and monetary relations.

6540 (654) Japanese Society and Business. Three credits. (Same as SOC 6710.) Japanese economy, business practices, and social and physical environment in comparison with those in other countries, particularly the United States.

6550 (655 A, B) Studies in Economic Development: Pacific Asia. Three credits. Prerequisite: ECON 5470 or equivalent recommended. Analysis and evaluation of processes of economic development with focus on a specific area of the United States or of the world. Area covered varies.

6620 (662) Econometrics I. Three credits. (Same as FIN 6620.) Prerequisite: ECON 4620 or equivalent. Focuses on the use of regression analysis in economics. Emphasis on using econometric software packages to investigate actual economic problems. A prerequisite for ECON 6630.

6630 (663) Econometrics II. Three credits. Prerequisite: ECON 6620 or permission of instructor. Covers more advanced topics in econometrics, including recent model adequacy tests, BoxJenkins time series analysis, dynamic modeling, systems of equations, discrete and limited dependent variable models, pooled regression. Emphasizes practical applications in various computing environments.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. S/U grading.

6660/ 7660 History of Economic Thought. Three credits. Prerequisite: Graduate status. The evolution of economic thought from Aristotle to John Maynard Keynes as shaped by economic, social, political, and intellectual forces.

6730 (673) Seminar on Financial Institutions. Three credits. (Same as FIN 6730.) Focus on the common and distinctive aspects of the provision of financial services and the management of risk associated with those services. Roles, characteristics, and operation of financial institutions, constraints that these institutions face in meeting that objective, regulatory environment within which they operate, risks that they face and the management of those risks, evolution experienced during the 1980s and 1990s, and the probable course of change in the years ahead.

7110 (711 A,B) Macroeconomics II. Three credits. Economic growth and dynamic models; models of consumption and investment behavior. Monetary and fiscal policy issues. Alternative modeling approaches: macro-econometric models vs. calibrated simulation models.

7120 (712A) Microeconomics II. Three credits. Prerequisites: ECON 5660, 6120, and 6620 or approved equivalents. Selected topics in microeconomics.

7121 (712B) Seminar in Applied Microeconomic Theory. Three credits. Prerequisite: ECON 6120. Advanced methods used in practical applications of economics. Topics include index numbers and productivity analysis; indicators and allocational effects of price distortions; multi-market partial equilibrium and computable general equilibrium models; construction, simulation, and interpretation of multi-sectoral growth models.

7250 Methods of Outcome Assessment. Three credits. Prerequisites: ECON 7120 and 7630. Deals with outcomes assessment of the educational process. Covers techniques to rank educational institutions, methods to assess the effectiveness of educational programs, ways to evaluate individual courses or instructors, and methods to assess student learning. Key quantitative tools that are used in outcomes assessment, including data envelope analysis, stochastic frontier models, and hierarchical linear models. Also considers the political and incentive problems that typically arise in implementing assessment methods in practice.

7500 Economics Workshop. One credit. Students present material related to their dissertation proposal or ongoing dissertation research to peers and the graduate faculty in a formal workshop setting. Credit is awarded after a student completes two separate workshop presentations that are judged satisfactory by the attending graduate faculty.

7550 Quantitative Policy Analysis in International Economics. Three credits. Prerequisites: ECON 6530, 7120, and 7630. Applica-tions-oriented course emphasizing quantitative tools to analyze policy issues related to international trade, exchange rates, sectoral resource allocation, and growth. Topics include an extended introduction to trade policy analysis using a general equilibrium modeling framework. Practical aspects of general equilibrium modeling emphasized and applied to a particular issue of interest, such as the impact of trade liberalization on labor markets and growth or the impact of trade and exchange rate distortions on resource allocation and growth.

7600 (760) Instructional Development and Practice in Economics. Three credits. Workshop atmosphere where students learn and practice presenting key economic concepts, using new technology in the classroom (including remote link technology), organizing and structuring courses and individual classes, using assessment tools effectively, and avoiding dealing with conflict in the classroom. Offers preparation to teach hands-on undergraduate classes in economics.

7610 Economic Internship. Three credits. Prerequisites: FOED 7520 and SPSE 7550. Supervised teaching of undergraduate economics courses.

7630 Seminar in Applied Econometrics. Three credits. Prerequisites: ECON 6630. Third course in the econometrics sequence. Advanced econometric methods and their use in the analysis of empirical problems in macroeconomics and microeconomics. Includes applications of recent panel data estimators, qualitative and limited dependent variable models, structural time series models, and the simulation of multiple-equation models. Emphasis on case studies that allow students to integrate knowledge from economic theory and econometrics.

7640 (764) Dissertation Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of dissertation. Once enrolled,
student should register for at least one credit hour of doctoral research each semester until completion. S/U grading.

7710 Topics in Advanced Financial Economics. Three credits. (Same as FIN 7710.) Prerequisites: ECON/FIN 7460, ECON 7121, and ECON 7630. Major topics in financial economics including applied interest rate analysis, choice under uncertainty, the capital asset pricing model, consumption-based asset pricing model, factor models, the efficient markets hypothesis, and models of time-varying market volatility with an emphasis on empirical applications of theoretical concepts using Microsoft Excel. Cultivation of practical programming skills is designed to complement application of economic theory to financial markets.

7900 Research Seminar. Three credits. Students practice writing academic papers, critiques, and monographs in economics and finance, with some emphasis on developing a viable dissertation proposal. Includes identifying a topic, delineating its scope, fitting it into the literature, finding data, choosing an appropriate methodology, presenting the results and conclusions, and comparing them to the existing literature; pitfalls to avoid when working on dissertations and academic papers.

## Courses in Finance [FIN]

5310 (531) Public Finance II. Three credits. (Same as ECON 5310.) Prerequisites: ECON 2410 and 2420. Current issues in taxation, theory of income taxation, consumption taxes, property and wealth taxes. Advanced treatment of tax incidence, tax efficiency, income distribution, fiscal federalism, and state and local budget issues. Students are required to complete a term project resulting in a paper available for peer review and a class presentation.

5360 (536) Management of Financial Institutions. Three credits. Prerequisite: FIN 3210 or equivalent or consent of instructor. Application of principles of institution management with a focus on operations, policy-making, asset, liability, and capital management of commercial banks and non-bank financial institutions.

5390 (539) Employee Benefits. Three credits. (Same as ECON 5390.) Includes descriptive review and taxation, legislative, and administrative dimensions of the major components of employee benefit plans such as retirement systems, deferred compensation plans, health insurance, death benefits, disability benefits, paid and unpaid time off. Technical analysis and problem solving emphasized to develop applied skills. Social insurance and international benefits integrated.

5430 (543) Real Property Valuation. Three credits. Prerequisite: FIN 2450 or consent of instructor; FIN 3010 strongly recommended. Theory and methods of real property valuation. Qualitative and quantitative analysis incorporated to appraise residential and income-producing properties. Comparable sales, cost-depreciation, and income capitalization analysis emphasized.

5590 (559) Problems in Real Estate. Three credits. Current controversial conditions in the field of real estate with concentration on major problems and policies in managing real estate and other related resources.

5710 (571) Insurance in Estate Planning. Three credits. Prerequisite: FIN 3610 or permission of instructor. Insurance as it may relate to estate planning examined in detail. Focus on estate planning principles including the problems of estate liquidity, taxation, governmental regulation, and costs involved in han-
dling estates. Also included are ownership provisions and beneficiary designations, settlement options, and trusts.

5730 (573) Insurance Company Operations. Three credits. Prerequisite: FIN 3610 or permission of instructor. Insurance marketing, underwriting, reinsurance, rate making, claims adjusting, loss control activities, and other functions and activities.

5750 (575) Risk Management. Three credits. Prerequisite: FIN 3610 or permission of instructor. Analysis of major sources of liability loss exposures and the insurance coverages designed to meet those exposures. Noninsurance techniques such as loss control and risk transfer are also discussed.

5790 (579) Problems in Insurance. Three credits. Prerequisite: FIN 3610 or permission of instructor. Application of various insurance coverages to fulfillment of personal, business, and social needs. Special problems are chosen or assigned in areas of the student's interest in joint consultation between student and instructor.

5890 (589) Internship in Finance. Three credits. Prerequisite: Graduate status and recommendation of advisor. Supervised work experience in cooperating business firms or government agencies together with specialized academic study relating to the work experience.

5990 (599) Problems in Finance. Three credits. Chosen in joint consultation between student and instructor.

6000 (600) Survey of Financial Management. Three credits. Principles and tools of financial management including time value of money, security valuation, funds acquisition and capital budgeting, cost of capital, and international environment. May not be used for elective credit in graduate business degree programs.

6430 (643) Seminar on Public Finance. Three credits. (Same as ECON 6430.) Examines the role of government in the allocation and distribution of society's resources. Topics include theories of government sector growth, public and quasi-public goods, externalities and agency theory, transitivity and completeness of voting preferences, income redistribution and economic justice, social insurance, health care programs, tax shifting and incidence analysis, efficiency and equity in taxation, and efficiency and redistributive aspects of deficit financing. Topics may involve case studies such as budget formulation, environmental policies, payroll taxes, and alternative tax structures.

6440 (644) Readings in Finance. One to three credits. Independent readings-based study of a particular topic in finance selected by the student and approved by the instructor. Provides an opportunity to study special areas of interest for which regular courses are not offered.

6450 (645) Seminar on Monetary Policy. Three credits. (Same as ECON 6450.) Prerequisite: ECON 3210 or equivalent recommended. Objectives and limitations of monetary policy, alternative monetary theories underlying policy decisions and the controversy among theories, transmission channels of monetary policy, alternative strategies used to achieve the objectives of monetary policy, practical considerations in the execution of monetary policy, global linkages and monetary policy, and the effects and consequences of policy decision on economic activity and business decisions.

6460/ 7460 (646) Seminar on Financial Markets. Three credits. (Same as ECON 6460/7460.) Prerequisite: ECON 3210 or
equivalent. Credit flows within the U.S. and the global economies, the economic and financial forces influencing the general level of interest rates and the relationship among interest rates, the characteristics of key short- and long-term financial assets, new financial instruments, derivative instruments, global financing linkages, global linkages among financial instruments and among national economies, and interest rate risk, including the measurement and means of protection.

6550 (655) Real Estate Investment. Three credits. Prerequisites: FIN 2450 and 3010. Development of a framework for making real estate investment decisions and for analyzing real estate investment alternatives.

6620 (662) Econometrics I. Three credits. (Same as ECON 6620.) Prerequisite: ECON 4620 or equivalent. Focuses on the use of regression analysis in economics. Emphasis on using econometric software packages to investigate actual economic problems. A prerequisite for ECON 6630.

6710 (671) Financial Analysis. Three credits. Prerequisite: FIN 3010 or 6000. Theory of corporate finance with applications. Techniques and problems for maximizing wealth through the application of discounted cash flow analysis. Emphasis on risk, capital budgeting, and capital structure.

6720 (672) Cases in Financial Management. Three credits. Prerequisite: FIN 6710. Applications-oriented approach to managerial problem-solving. Topics may include working capital management, capital budgeting, cost of capital estimation, lease/purchase decisions, bond refunding, and international issues.

6730 (673) Seminar on Financial Institutions. Three credits. (Same as ECON 6730.) Focus on the common and the distinctive aspects of the provision of financial services and the management of risk associated with those services. Roles, characteristics, and operation of financial institutions, constraints that these institutions face in meeting that objective, regulatory environment within which they operate, risks they face and the management of those risks, evolution experienced during the 1980s and 1990s, and the probable course of change in the years ahead.

6740 (674) Security Analysis. Three credits. Prerequisite: FIN 3810 or consent of instructor. Interpretation of financial statements, valuation and selection of securities, security risk, legal and regulatory issues, and agency problems.

6860 (686) International Financial Management. Three credits. Prerequisite: FIN 3010 or 6000. International capital markets, exchange rate exposure, risk management, and other multinational finance issues. Essential not only for United States exporters, but also for those facing competition from abroad.

7710 Topics in Advanced Financial Economics. Three credits. (Same as ECON 7710.) Prerequisites: ECON/FIN 7460, ECON 7121, and ECON 7630. Major topics in financial economics including applied interest rate analysis, choice under uncertainty, the capital asset pricing model, consumption-based asset pricing model, factor models, the efficient markets hypothesis, and models of time-varying market volatility with an emphasis on empirical applications of theoretical concepts using Microsoft Excel. Cultivation of practical programming skills is designed to complement application of economic theory to financial markets.

# Department of Educational Leadership 

James O. Huffman, Interim Chair<br>Jones Hall 323

The Department of Educational Leadership offers the Specialist in Education degree (Ed.S.) and the Master of Education degree (M.Ed.) with majors in Administration and Supervision and Curriculum and Instruction. The Ed.S. in Administration and Supervision offers specializations in K-12 public schools and higher education.
The M.Ed. in Administration and Supervision offers a concentration in Library Science and specializations in K-12 public schools and higher education. The M.Ed. in Curriculum and Instruction offers a concentration in English as a Second Language. A graduate minor in Library Science is available.

Normally, for admission to the specialist's or master's programs, a satisfactory score on the Miller Analogies Test or the Graduate Record Examination is required. For the M.Ed. in Curriculum and Instruction, an acceptable National Teachers Examination score for certified teachers may fulfill the admission score requirement.
Applicants for the Ed.S. and M.Ed. degrees should submit a completed application, transcripts, three letters of reference, and verification of test scores to the Graduate Office. Once the completed file is received in the department, an advisor is assigned, and the file is reviewed by the Educational Leadership Graduate Admission Board. Students should consult an advisor to determine what courses to schedule each semester.

Students pursuing an M.Ed. or Ed.S. degree must be admitted to the program prior to the completion of 12 semester hours of credit.

## Doctor of Arts Educational Component

The Doctor of Arts degree is offered by the Departments of Chemistry; Economics; English; Health, Physical Education, Recreation, and Safety; and History. Requirements are described under the appropriate departmental heading. The student should consult with the education advisor to determine education course schedules.

Professional Education Core:
FOED 7520 Problems of Evaluation in Higher Education
FOED 7560 Seminar in College Teaching
SPSE 7540 Overview of Higher Education
SPSE 7550 Instructional Development in Higher Education

## Requirements for the Specialist in Education

Candidate must

1. hold a master's degree;
2. complete a minimum of 30 semester hours with a minimum of 15 at the 7000 level;
3. have teacher licensure. The licensure requirements will be waived for the higher education specialization and other special circumstances. In the event licensure is waived, some prerequisite courses may be required prior to full admission into the program. A student seeking a licensure waiver must initiate a written request with the advisor, seek approval from the chair and dean of the College of Education and Behavioral Science, and forward the request to the departmental office, Jones Hall 321.
4. be admitted by the Educational Leadership Graduate Admissions Board prior to completion of 12 semester hours;
5. file a Candidacy Form with the Graduate Office prior to the completion of 24 hours;
6. successfully complete a written comprehensive examination or oral presentation of research project during the semester of graduation (exam may be retaken once during a subsequent semester).

## Administration and Supervision Major (Ed.S.) <br> Specialization: K-12 Public Schools

This program is not designed to meet licensure requirements.

## Required Courses ( 9 semester hours)

SPSE 7200 Administrative Behavior: Theory into Practice
FOED 7060 Seminar in Educational Foundations
FOED 7610 Directed Individual Educational Research (Prerequisite: SPSE 7010)

Specialized Core ( 15 semester hours)
SPSE 7010 Educational Research Methodology
SPSE 7020 Administration of School Personnel
SPSE 7040 Seminar in Supervision
SPSE 7050 School Business Management
SPSE 7320 Educational Facilities and Transportation Services
Electives ( 6 semester hours):
To be selected with approval of advisor

## Administration and Supervision Major (Ed.S.) Specialization: Higher Education

## Required Courses ( 9 semester hours)

SPSE 7200 Administrative Behavior: Theory into Practice
FOED 7060 Seminar in Educational Foundations
FOED 7610 Directed Individual Educational Research (Prerequisite: SPSE 7010)

[^1]Select two courses from the following:
FOED 7520, FOED 7560, SPSE 7550, SPSE 7530, SPSE 7210, FOED 7580

Electives (6 semester hours)
To be selected with approval of advisor

## Curriculum and Instruction Major (Ed.S.)

Required Courses ( 9 semester hours)
FOED 7060 Seminar in Educational Foundations
FOED 7610 Directed Individual Educational Research (Prerequisite: SPSE 7010)
SPSE 7130 The Curriculum: Structures and Functions
Specialized Core (12 semester hours)
SPSE 7010 Educational Research Methodology
SPSE 7150 Curriculum Study and Instructional Design
SPSE 7160 Practicum in Curriculum Development
FOED 7080 Contributions of Psychology to Education

## Electives (9 semester hours)

To be selected with approval of advisor

## Requirements for the Master of Education

Candidate must

1. hold a bachelor's degree;
2. complete 33 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours (Students should refer to the appropriate major for specific requirements.);
3. have teacher licensure. The licensure requirements will be waived for the higher education specialization and other special circumstances. In the event licensure is waived, some prerequisite courses may be required prior to full admission into the program. A student seeking a licensure waiver must initiate a written request with the advisor, seek approval from the chair and dean of the College of Education and Behavioral Science, and forward the request to the departmental office, Jones Hall 321.
4. be admitted by Educational Leadership Graduate Admissions Board prior to completion of 12 semester hours;
5. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
6 . successfully complete a written comprehensive examination during the semester of graduation (may be retaken once during a subsequent semester).

## Administration and Supervision Major (M.Ed.) Specialization: K-12 Public School

Students must be admitted to the program prior to the completion of 12 semester hours.
Completion of this program will meet course requirements for Tennessee administration licensure. Additional state requirements must be met. Requirements for licensure should be checked in the Teacher Licensing Office, McWherter Learning Resources Center 170.

## Required Courses ( 33 semester hours)

FOED 6020 Educational Foundations
FOED 6030 School and Community Relations
FOED 6610 Analysis and Application of Educational Research
SPSE 6010 Organization and Administration of Public Schools

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> 6040 Supervision of Instruction
> 6050 Instructional Leadership
> 6120 Professional Internship, 9 credits; (may substitute for SPSE 6040, 6400, 6600)
> 6340 School Finance
> 6390 School Law
> 6400 The Principalship
> 6430 Introduction to Curriculum Development
> 6600 Microcomputers in Educational Administration

## Administration and Supervision Major (M.Ed.) Specialization: Higher Education

Required Courses ( 9 semester hours)<br>FOED 6020 Educational Foundations<br>FOED 6610 Analysis and Application of Educational Research<br>SPSE 6080 Studies in Leadership<br>Specialized Core (12 semester hours)<br>SPSE 6530 Administration of Higher Education<br>SPSE 6600 Microcomputers in Educational Administration<br>SPSE 6210 Legal Issues in Higher Education<br>FOED 6580 The College Student

Electives ( 12 semester hours)
To be selected with approval of advisor

## Administration and Supervision Major (M.Ed.) <br> Concentration: Library Science

Required Courses (33-39 semester hours)
LIBS 5150 Books and Media for Children
LIBS 5160 Books and Media for Young People and Adults
LIBS 6110 School Library Administration
LIBS 6120 Classification and Cataloging Media and Materials
LIBS 6130 Principles of Librarianship
LIBS 6170 Basic Reference Materials
LIBS 6180 Library Science Practicum Pre K-6
LIBS 6190 Library Science Practicum 7-12
LIBS 6200 School Library Media Center Skills and Issues
SPSE 6430 Introduction to Curriculum Development
FOED 6610 Analysis and Applications of Educational Research
For students seeking initial teacher licensure, a student teaching experience (12 semester hours) is required.

## Curriculum and Instruction Major (M.Ed.)

Students must be admitted to the program prior to the completion of $\mathbf{1 2}$ hours of coursework.
The Curriculum and Instruction program is designed to foster the development of teaching skills that result in increased pupil performance. By analyzing curriculum choices and strategies, along with best teaching practices, those who complete this program will be better equipped to provide an environment in which students engage in relevant and meaningful learning activities.

## Required Courses (9 semester hours)

FOED 6020 Educational Foundations
FOED 6610 Analysis and Application of Educational Research
SPSE 6430 Introduction to Curriculum Development
Specialized Core ( 18 semester hours)
YOED 6680 Issues and Trends in Teaching and Learning
SPSE 6140 Teacher Leadership for School Improvement
SPSE 6250 Seminar in Curriculum Improvement
SPSE 6450 Elementary and Middle School Curriculum OR
SPSE 6480 Instructional Excellence in Secondary Schools
SPSE 6640 Microcomputers in the K-12 Educational Setting
FOED 6630 Educational Tests and Measurement

## Electives (6 semester hours)

To be selected with approval of advisor

## Curriculum and Instruction Major (M.Ed.) Concentration: English as a Second Language

## Core Courses ( 9 semester hours)

SPSE 6430 Introduction to Curriculum Development
FOED 6020 Educational Foundations
FOED 6610 Analysis and Application of Research
Required Courses (15 semester hours)
YOED 6020 Reading, Writing, and Learning in ESL
FOED 6850 Cultural Issues in Education
F L 6700 Introduction to Linguistics
F L 6900 Issues in Foreign Language Acquisition
ENGL 5540 Approaches to Teaching ESL Grammar and Writing

## Electives (6 hours)

SPSE 6480 Instructional Excellence in Secondary Schools
ENGL 5510 Modern English Grammar and Usage*
*Prerequisite to ENGL 5540
The following courses have also been approved as electives if students have already taken SPSE 6480 and/or ENGL 5510:
SPED 6800 Exceptional Children and Youth
PSY 6530 Psychology of Reading and Reading Development
READ 6710 Adolescent Literacy
Practicum (3 semester hours):*
CDFS 6700 (Pre-K-Elementary, 1 hour credit)
ELED 6700 (4-8 Middle School, 1 hour credit)
SPSE 6700 (9-12 High School, 1 hour credit)
*Ten hours of field experience must be completed at each level

## Minors

A minor in Library Science consists of 18 semester hours. A minor in Education consists of 12 semester hours selected with the consent of the advisor. The Master of Arts in Teaching and the Master of Science in Teaching degrees require a minor in Education to be approved by the minor advisor.

## Non-degree, "Plus 30," and Add-on Endorsements

Students taking courses for licensure renewal, add-on endorsements, or "plus 30" upgrade on teacher licensure should register as non-degree students. Students enrolling in 6000level courses must hold a bachelor's degree, and students enrolling in 7000-level courses must hold a master's degree. Non-degree seeking students cannot register for 7000-level courses without departmental permits.

## Courses in Foundations of Education [FOED]

6020 (602) Educational Foundations. Three credits. Assists educational personnel in developing contexts and concepts in which educational problems and issues may be understood through awareness of findings in humanistic and behavioral studies.

6030 (603) School and Community Relations. Three credits. The reciprocal relationship of the two and the skills necessary for analyzing problems and utilizing data and technical skills in planning effective school-community relations programs.

6580/ 7580 (658/758) The College Student. Three credits. The changing nature of the college student with emphasis on institutional efforts to provide for the development of the student.

6610 (661) Analysis and Application of Educational Research. Three credits. It is recommended that this class be taken within the first 9 hours of the M.Ed. program. Qualitative and quantitative research applicable to the field of education. Both producers and consumers of educational research with a literature review presented to support possible solutions to significant hypotheses or problems.

6630 (663) Educational Tests and Measurements Three credits. Basic concepts in educational measurement and evaluation; evaluation as a part of the teaching-learning process; utilization of evaluation for instructional improvement.

6850 (685) Cultural Issues in Education. Three credits. Ways the school and community can give greater understanding of and improve the life chances of minority group members.

7060 (706) Seminar in Educational Foundations. Three credits. Opportunities to think reflectively and critically on the historical, philosophical, psychological foundations of education and attendant implications.

7080 (708) Contributions of Psychology to Education. Three credits. Concepts and generalizations of the various theories of psychology and their relationships to education in such areas as motivation, retention, evaluation, discipline, capacity, practice, understanding, transfer-creative thinking, problem solving, and methods of instruction.

7520 (752) Problems of Evaluation in Higher Education. Three credits. Three semester hours of statistics recommended. Introduction to testing theory, design, and construction. Use of the evaluation process and instruments; instructions, advising, and research situations. Required of all Doctor of Arts students.

7560 (756) Seminar in College Teaching. Three credits. Development of the student with focus on teaching and learning. Required of all Doctor of Arts students.

7570 (757) Issues in Higher Education. Three credits. Higher education in America, its historical, philosophical, political, and sociological background, development, and relationships. Current trends and problems, particularly those relating to the financial and legal aspects.

7610 (761A) Directed Individual Educational Research. Three credits. Prerequisite: SPSE 7010. It is recommended that this class be taken the following semester after enrollment in SPSE 7010. Culmination of research sequence (FOED 6610 and SPSE 7010) which requires studying a professional educational problem through completing and presenting a research project.

7611 (761B) Directed Individual Educational Research. One credit. Prerequisite: FOED 7610. Must be taken each semester (not including summer) until research is completed. Completion of the research problem begun in FOED 7610. Students should continue to register for FOED 7611 each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

## Courses in Youth Education [YOED]

5110 (511) Directed Teaching, Grades 7-12. Twelve credits. Prerequisites: All required professional education courses; appropriate special methods course(s); minimum grade point average of 2.50 overall and in the teaching major including undergraduate study; passing scores on the NTE Tests of Communication Skills and General Knowledge; admission to teacher education.

A full-day supervised teaching experience in a public school classroom. Pass/Fail grading.

5510 (551) The Teaching Internship, Grades 7-12. Nine credits. Supervised on-the-job student teaching internship. Available only to those with at least one year of paid teaching experience in the major in which endorsement is sought. Applicant must meet all prerequisites for Directed Teaching.

6020 (602) Reading, Writing, and Learning in ESL. Three credits. (Same as F L 6020.) Provides teaching ideas for promoting oral, reading, and writing development in English for K-12 English learners. Language acquisition theory, classroom organization, teaching strategies, and assessment procedures for effective English learner instruction.

6100 (610) Aviation Workshop. Four credits. (Same as AERO 6100.) A first course in aerospace education; provides an overview of aerospace historically and in the future.

6110- (611A, 611B, 611C) International Aerospace Education
6112 Seminar. Three credits each. Acquaints teachers with aerospace implications on an international scale. Outstanding international points of interest in six or more countries visited. Offered in Session IV of the summer.
6110 (611A) Europe/Mid-East
6111 (611B) The Americas
6112 (611C) The Far East
6540 (654) Problems in Aerospace Education. One, two, or three credits. (Same as AERO 6540.) Content varies with needs of individual students who are interested in making a specialized study of current problems in the field of aerospace education.

6680 (668) Issues and Trends in Teaching and Learning. Three credits. Emphasis on examining current issues and trends in teaching and learning.

6700 (670) Advanced Aviation Workshop. Four credits. (Same as AERO 6700.) Builds on prior experiences in aviation/aerospace. Essential for the prospective teacher of aerospace education courses at any level.

## Courses in School Personnel Services Education [SPSE]

5210 (521) General Methods Including A/V. Three credits. A general course.

5220 (522) Technology in Teaching. Three credits. Prerequisites: Admission to Teacher Education Program. Use of selected hardware and software in the teaching/learning process. Design and creation of inexpensive teaching and learning materials.

5260 (526 A-Z) Problems in Education. One, two, or three credits. Opportunity for individuals or groups to work on problems related to their individual topics. Credit to be determined at the time of scheduling.

6000/ 7000 (600/700) Professional Negotiations. Three credits. Concepts and principles of operating a school district under the master contract. Special emphasis on the laws of various states relative to the professional negotiations process.

6010 (601) Organization and Administration of Public Schools. Three credits. Basic concepts, principles, and practices in local, state, and federal organization and administration of education.

6040 (604) Supervision of Instruction. Three credits. Development and purposes of supervision involving principles and techniques for organization and facilitation of programs at the school and system level.

6050 (605) Instructional Leadership. Three credits. Research on student learning, effective teaching, and effective schools. Attention given to processes for promoting school improvement.

6080/ 7080 (608/708) Studies in Leadership. Three credits. Roles, responsibilities understandings, and behavior patterns in effective administrative and supervisory personnel. Developing sensitivity to individuals, the nature and structures of groups, and the problems of communication within and among groups and individuals.

6090/ 7090 (609/709) Seminar: Conducting Program for School Improvement. Three credits. Emphasizes motivation, identification of needs and goals, planning and organization, and utilization of various resources as components of successful school improvement programs.

6120/ 7120 (612/712) Professional Internship. Nine credits. Requires approval of departmental chair and agreement of superintendent of the school district. May be substituted for SPSE 6040, 6600, and 6400. Educational administration and supervision experiences learned in the school setting under the supervision of a sponsoring mentor. Internship in cooperating school systems.

6140 (614) Teacher Leadership for School Improvement. Three credits. Assessing standard teaching practices, analyzing the relationship between effective teaching and effective schools, and developing strategies for instructional and school improvement. Includes experiences to help students become more reflective in their daily teaching.

6210/ 7210 (621/721) Legal Issues in Higher Education. Three credits. The legal framework as it pertains to higher education and its operations. Special attention given to rights of students as well as professors. Law cases, constitutional provisions, attorney general's opinions, rules and regulations of the Tennessee Board of Regents, Tennessee Board of Trustees, and the Tennessee Higher Education Commission studied and discussed.

6250/7250 (625/725) Seminar in Curriculum Improvement. Three credits. For the advanced major in curriculum development utilizing small group or seminar approach. Issues and research in curriculum improvement analyzed critically.

6310 (631) Supervising Student Teachers. Three credits. Administration and supervision of student teaching.

6330 (633) Elementary and Middle School Principalship. Three credits. The organization and administration of elementary and middle schools with emphasis on current practices, trends, and problems.

6340 (634) School Finance. Three credits. State, local, and federal financing of education; includes taxation trends, school funds, and apportionment; evaluation of equalization plans; state bond loan programs; development and administration of school budgets; education and economy.

6380 (638) Secondary School Administration. Three credits. Organization and administration of the modern high school with emphasis on current practices and problems.

6390 (639) School Law. Three credits. Legal framework within which public schools operate. Special attention given to the legal rights and liabilities of school personnel and school board members. School laws, case laws, constitutional provisions, attorneys' general rulings, and regulations of the State Board of Education emphasized.

6400 (640) The Principalship. Three credits. Organization and administration of the modern K-12 school with emphasis on current practices and problems.

6430 (643) Introduction to Curriculum Development. Three credits. Opportunity to study, discuss, and evaluate modern practices and procedures in curriculum development and reorganization in schools and school systems.

6450 (645) Elementary and Middle School Curriculum. Three credits. Concepts, processes, and skills related to curriculum development and evaluation.

6480 (648) Instructional Excellence in Secondary Schools. Three credits. Development of creative approaches for secondary classroom teaching in order to stimulate creative and critical thinking abilities of students.

6500/ 7500 (650/750) Studies in Education: Administration. One, two, or three credits. Individual or small group study and/or research in educational administration which provides an opportunity for in-depth study and specialization for majors. To be structured for student needs by teacher. Repeatable up to six hours.

6520/ 7520 (652/752) Studies in Education: Curriculum. One, two, or three credits. Individual or small group study and/or research in the area of curriculum development. To be structured for student needs by teacher. Repeatable up to six hours.

6530/ 7530 (653/753) Administration of Higher Education. Three credits. Complexity of the structure of higher education (national, regional, state, and local) and how it is organized. Attention given to the interrelationships of the institution and its internal and external constituencies.

6550 (655) Supervised Field Experience. Three credits. Direct field experience in appropriate areas of school operation which will meet specific needs related to such individual matters as career plan, position changes (principals, supervisors, superintendents, curriculum directors, etc.), or needed competencies.

6560/ 7560 (656/756) Studies in Education: Supervision. One, two, or three credits. Individual or small group study and/or research in the area of supervision of instruction. To be based on individual needs and structured by teacher. Repeatable up to six hours.

6590/ 7590 (659/759) Independent Study in Higher Education. One, two, or three credits. A practicum in higher education. Course will vary to meet the needs of individual students who are interested in making a specialized study of current problems in the field of higher education.

6600 (660) Microcomputers in Educational Administration. Three credits. Offers preparation for incorporating microcomputer technology into the school work-place. Student designs a model school administrative unit by applying the microcomputer skills and understanding acquired.

6640 (664) Microcomputers in the K-12 Educational Setting. Three credits. Offers preparation for incorporating microcomputer technology into the K-12 school environment. Student designs a computer-assisted instruction project by applying the microcomputer skills and understanding acquired.

6700 (670) Practicum in English as Second Language for Grades 9-12. One credit. A practicum course for the ESL teacher. Includes ten hours field experience in the ESL classroom with 912 students from different cultures.

6900 (690) Learning Systems and Instructional Design. Three credits. Assessment of effectiveness and efficiency of various learning systems and learning modules. Stresses need for systematic approaches to instruction. Practice in stating behavioral objectives, motivation, adaptation, evaluation, and systems assessment in which media are utilized as integral parts of learning modules.

6910 (691) Problems in Learning Resources. Three credits. Consideration of recent developments in curriculum, teaching, physical facilities, and innovations in library service and media utilization. Includes participation in projects such as media and materials for handicapped, educational TV, library skills, graphic communication, library activities for specific subjects or groups, and individualization of instruction.

6920 (692) Automation of Library Processes. Three credits. Application of data processing and computerization techniques to acquisitions, cataloging, circulation, and business operations of libraries and media centers. Includes an examination of newer developments such as MARC, facsimile transmission, and automated retrieval of data. Basic technical courses recommended prior to taking this course.

6960 (696) Preparation and Utilization of Instructional Materials. Three credits. (Same as LIBS 6960.) Discussion and examination of teaching aids.

7010 (701) Educational Research Methodology. Three credits. It is recommended that this class be taken within the first 9 hours of the program. FOED 6610 or appropriate research course is recommended prior to this course. Designing research studies, including development of understandings, as well as skills and techniques, needed in gathering, structuring, interpreting, and presenting data required for educational research. SPSE 7010 is a prerequisite for enrollment in FOED 7610, which is recommended to be taken the following semester.

7020 (702) Administration of School Personnel. Three credits. School district personnel problems. Consideration by school administrators of relationship between the school and the community with special reference to the administrative role.

7040 (704) Seminar in Supervision. Three credits. Identification and investigation of the problems of supervision and research; experimentation in the use of supervisory techniques.

7050 (705) School Business Management. Three credits. Reading, discussion, and problem solving in the field of business administration.

7100 (710) The Junior-Community College. Three credits. Prerequisite: Open only to doctoral candidates. History, philosophy, organization, administration, current developments, and problems in two-year colleges.

7110 (711) Readings in Educational Administration. Three credits. Review of the research literature on the social and political pro-
cesses involved in the development and implementation of public policy and legislation relating to education at the national, state, and local levels.

7130 (713) The Curriculum: Structures and Functions. Three credits. Scope, sequence, organization, and priorities involved in the development of "continuity of educational experience" from kindergarten through grades 13-14.

7150 (715) Curriculum Study and Instructional Design. Three credits. Readings in current research relative to basic and emerging ideas of curriculum development and instructional design.

7160 (716) Practicum in Curriculum Development. Three credits. Principles and practices of curriculum construction applied through simulated and field experiences.

7200 (720) Administrative Behavior: Theory into Practice. Three credits. An exploration of the relevant new developments in the field of educational administration, including recent concepts and research.

7320 (732) Educational Facilities and Transportation Services. Three credits. Development of competencies in the areas of school plant planning, maintenance and utilization, financing, analysis of transportation, survey of school plant, site selection, and educational specifications.

7540 (754) Overview of Higher Education. Three credits. Higher education in America. Attention given to its historical, philosophical, political, and sociological background, development, and relationships. Includes current trends and problems, particularly those which relate to the financial and legal aspects of higher education. Required of all Doctor of Arts students.

7550 (755) Instructional Development in Higher Education. Three credits. Prerequisite: FOED 7560. Addresses effective college teaching, instructional strategies, and use of technology in teaching at the higher education level. Required of all Doctor of Arts students.

## Courses in Library Science [LIBS]

5150 (515) Books and Media for Children. Three credits. Materials suitable for elementary school children including a study of leisure time interests and curricular needs, criteria for evaluating materials, and related aids used in their selection.

5160 (516) Books and Media for Young People and Adults. Three credits. Basically the same approach as LIBS 5150 but adapted to the secondary school and adult level.

6110 (611) School Library Administration. Three credits. Purpose, structure, and function of the school library media center and the library program.

6120 (612) Classification and Cataloging Media and Materials. Three credits. Simplified procedures for classifying books and audio-visual materials, cataloging routines, and filing.

6130 (613) Principles of Librarianship. Three credits. Presents the broad field of library service and librarianship as a profession. Emphasis on the place of the library in the instructional program of the school and on administrative details.

6170 (617) Basic Reference Materials. Three credits. Evaluation and use of basic reference materials for the Pre-K-12 school library. Discussion of the elements of reference work.

6180 (618) Library Science Practicum Pre-K-6. One to six credits. Prerequisite: 12 hours of library science courses. Opportunity to observe successful materials specialists/librarians at work and to participate in actual operations followed by seminar opportunities for exchange of ideas.

6190 (619) Library Science Practicum 7-12. One to six credits. Prerequisite: 12 hours of library science courses. Opportunity to observe successful materials specialists/librarians at work in grades 7 through 12 school libraries and participate in actual operations followed by seminar opportunities for exchange of ideas.

6200 (620) School Library Media Center Skills and Issues. Three credits. Prerequisites: LIBS 5150, 5160, 6110, 6120; FOED 6610. Aspects of the school library media centers, including oral presentations, use of library collection maintenance software, instruction and teaching in the library, and research into a current issue in librarianship.

6960 (696) Preparation and Utilization of Instructional Materials. Three credits. (Same as SPSE 6960.) Discussion and examination of teaching aids.


# Department of Elementary and Special Education 

Race Bergman, Interim Chair<br>Jones Hall 225

The Department of Elementary and Special Education offers the Master of Education degree with majors in Curriculum and Instruction, Reading, and Special Education as well as graduate minors in Curriculum and Instruction, Reading, and Special Education. The major in Curriculum and Instruction offers concentrations in Early Childhood Education, Elementary School Education, and Middle School Education. Concentrations in Mildly/Moderately Disabled Students, Preschool Disabled Students, Severely/Profoundly Disabled Students, and Vision Disabilities are available through the Special Education major. The Specialist in Education degree is offered with a major in Curriculum and Instruction and concentration in Elementary Education.
Students seeking admission to the Master of Education program are expected to score at least 30 on the Miller Analogies Test or 700 on the Graduate Record Examination or the minimum on a National Teachers Examination that meets Tennessee licensure standards. For admission to the specialist's program, a score of 800 on the Graduate Record Examination or a score of 40 on the MAT is expected.
Applicants for the Ed.S. and M.Ed. degrees in Curriculum and Instruction must have elementary teaching licensure, the attainment of which may require additional undergraduate courses prior to the completion of the degree.

## Requirements for the Specialist in Education

In order to be admitted the candidate must

1. hold a master's degree;
2. have a minimum of three years teaching experience in an elementary setting;
3. have an initial conference with a graduate advisor in the department.
In order to complete the degree, the candidate must
4. complete a minimum of 30 semester hours;
5. file a candidacy form with the Graduate Office prior to the completion of 24 credit hours;
6. successfully complete a thesis pertaining to an area of emphasis within the scope of elementary education;
7. successfully complete an oral defense.

## Curriculum and Instruction Major (Ed.S.) Concentration: Elementary Education

Required Core ( 9 semester hours)
SPSE 7010 Educational Research Methodology
FOED 7060 Seminar in Educational Foundations
SPSE 7130 The Curriculum: Structures and Functions
Specialized Courses ( 15 semester hours)
FOED 7080 Contributions of Psychology to Education
ELED 6290/ 7290 Inquiry in the Classroom
ELED 7220 Seminar in Elementary Education
ELED 7250 From Policy to Practice in American Public Schools
ELED 7640 Ed.S. Thesis Research
Elective Courses ( 6 semester hours)
To be selected with the consent of the advisor
Applicants having previously met any of the course requirements above may, with the consent of the advisor, choose options. Requirements for licensure should be checked in the Teacher Licensing Office, McWherter Learning Resources Center 170.

## Requirements for the Master of Education

In order to be admitted, the candidate must

1. have completed undergraduate prerequisites;
2. hold a current teaching license;
3. have an initial conference with an appropriate graduate advisor in the department;
4. have at least 2.75 undergraduate GPA for full admission and a 2.50 undergraduate GPA for conditional admission.
In order to complete the degree, the candidate must
5. complete a minimum of 33 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours;
6. file a Candidacy Form with the Graduate Office prior to the completion of 21 credit hours;
7. successfully complete a written comprehensive examination to be taken in the last semester of coursework (may be taken no more than twice).

## Curriculum and Instruction Major (M.Ed.) Concentration: Early Childhood Education

## Required Core ( 9 semester hours)

FOED 6020 Educational Foundations
FOED 6610 Analysis and Application of Educational Research
SPSE 6430 Introduction to Curriculum Development
Specialized Core ( 12 semester hours)
ELED 6010 The Teacher as Reflective Practitioner (prerequisite for all ELED courses)
ELED 6011 The Teacher as Reflective Practitioner (must be taken in last semester of coursework)
ELED 6090 Creating Learning Environments for Young Children
ELED 6200 The Classroom as Community
ELED 6620 Assessment of Teaching and Learning
Specialized Courses ( 6 semester hours)
READ 6000 Foundations of Reading
READ 6720 Diagnostic and Remedial Practices in the Improvement of Reading
READ 6760 Reading Instruction in Early Childhood Education

| READ | 6120 | Current Issues in Reading Instruction |
| :--- | :--- | :--- |
| ELED | 6000 | Teaching Writing |
| ELED | 6030 | The Early Childhood Practitioner, K-4 |
| ELED | 6130 | Current Issues in Elementary Language Arts |
| ELED | 6140 | Current Issues in Elementary Social Studies |
| ELED | 6170 | The Multi-Age Classroom |
| ELED | 6180 | Current Issues in Elementary Mathematics |
| ELED | 6190 | Current Issues in Elementary Science |
| ELED | 6230 | Integrated Curriculum, K-4 |
| ELED | 6250 | Technological Tools for Thinking and Learning |
| ELED | 6300 | Play Education and the Curriculum |
| ELED | 6310 Play Education and Social-Emotional Learning |  |
| ELED | 6320 | Play Education and Literacy |
| ELED | 6400 | Teaching the Special Needs Learner in the Heterogenous |
|  | Classroom |  |

## Electives ( 6 hours)

To be selected within the range of specialized courses or with the consent of the advisor.

## Concentration: Elementary School Education

## Required Core ( 9 semester hours)

FOED 6020 Educational Foundations
FOED 6610 Analysis and Application of Educational Research
SPSE 6430 Introduction to Curriculum Development
Specialized Core ( $\mathbf{1 2}$ semester hours)

| ELED | 6010 | The Teacher as Reflective Practitioner <br> (prerequisite for all ELED courses) |
| :---: | :---: | :---: |
| ELED | 6011The Teacher as Reflective Practitioner <br> (must be taken in last semester of coursework) |  |
| ELED | 6090 | Creating Learning Environments for Young Children OR |
| ELED | 6100 | The Early Adolescent Learner |
| ELED | 6200 | The Classroom as Community |
| ELED | 6620 | Assessment of Teaching and Learning |

Specialized Courses ( 6 semester hours)
READ 6000 Foundations of Reading
READ 6120 Current Issues in Reading Instruction
READ 6710 Adolescent Literacy
READ 6720 Diagnostic and Remedial Practices in the Improvement of Reading
READ 6760 Reading Instruction in Early Childhood Education
ELED 6000 Teaching Writing
ELED 6030 The Early Childhood Practitioner, K-4
ELED 6130 Current Issues in Elementary Language Arts
ELED 6140 Current Issues in Elementary Social Studies
ELED 6170 The Multi-Age Classroom
ELED 6180 Current Issues in Elementary Mathematics
ELED 6190 Current Issues in Elementary Science
ELED 6230 Integrated Curriculum, K-4
ELED 6240 Interdisciplinary Teaching, 5-8
ELED 6250 Technological Tools for Thinking and Learning
ELED 6300 Play Education and the Curriculum
ELED 6310 Play Education and Social-Emotional Learning
ELED 6320 Play Education and Literacy
ELED 6400 Teaching the Special Needs Learner in the Heterogeneous Classroom

## Electives ( 6 semester hours)

To be selected within the range of specialized courses or with the consent of the advisor.

## Concentration: Middle School Education

Required Core ( 9 semester hours)
FOED 6020 Educational Foundations
FOED 6610 Analysis and Application of Educational Research
SPSE 6430 Introduction to Curriculum Development
Specialized Core ( 12 semester hours)

| ELED | 6010The Teacher as Reflective Practitioner <br> (prerequisite for all ELED courses) |
| :--- | :--- |
| ELED | 6011The Teacher as Reflective Practitioner <br> (must be taken in last semester of coursework) |
| ELED | 6100 The Early Adolescent Learner |
| ELED | 6200 The Classroom as Community |
| ELED | 6620 Assessment of Teaching and Learning |

Specialized Courses ( 6 semester hours)
READ 6000 Foundations of Reading
READ 6120 Current Issues in Reading Instruction
READ 6710 Adolescent Literacy
READ 6720 Diagnostic and Remedial Practices in the Improvement of Reading
ELED 6000 Teaching Writing
ELED 6130 Current Issues in Elementary Language Arts
ELED 6140 Current Issues in Elementary Social Studies
ELED 6170 The Multi-Age Classroom
ELED 6180 Current Issues in Elementary Mathematics
ELED 6190 Current Issues in Elementary Science
ELED 6240 Interdisciplinary Teaching, 5-8
ELED 6250 Technological Tools for Thinking and Learning
ELED 6300 Play Education and the Curriculum
ELED 6310 Play Education and Social-Emotional Learning
ELED 6320 Play Education and Literacy
ELED 6400 Teaching the Special Needs Learner in the Heterogenous Classroom

## Electives

To be selected within the range of specialized courses or with the consent of the advisor.

## Minor in Curriculum and Instruction

Students desiring a graduate minor in Curriculum and Instruction in either of the three concentrations described above-Early Childhood, Elementary School Education, or Middle School Education-should complete 18 semester hours in elementary education to include ELED 6090 or 6100, 6200 , and 6620. This does not meet licensure requirements in elementary education.

## Reading Major (M.Ed.)

The Master of Education degree with a major in reading requires the completion of a minimum of thirty-three (33) semester hours. A reading methods course is a prerequisite for graduate study in reading.

| Required Core (21-28 semester hours)* |  |  |
| :---: | :---: | :---: |
| READ | 6000 | Foundations of Reading |
| READ | 6720 | Diagnostic and Remedial Practices in the Improvemen of Reading (Prerequisite: READ 6000) |
| READ | 6750 | Research Seminar in Reading (Prerequisite: READ 6000 its equivalent, or permission of the instructor) |
| READ | 6790 | The Reading Practicum (Prerequisite: READ 6720 or its equivalent) |
| FOED | 6610 | Analysis and Application of Educational Research |
| PSY | 5260 | Introduction to Psychological Testing |
| ELED | 6620 | Assessment of Teaching and Learning |
| PSY | 6120 | Developmental Psychology: Child OR |
| PSY | 6130 | Developmental Psychology: Adolescent (or their equivalent) |

Special Education Options (3 semester hours)
To be selected with consent of advisor
Electives (9 semester hours)
To be selected with consent of advisor

## Minor in Reading

A minor is available in Reading, the content of which is determined through collaborative consultation with the student's major advisor and the advisor for Reading.

## Special Education Major (M.Ed.) Concentration: Mildly/Moderately Disabled Students

## Required Core (9 semester hours)

SPED 6780 Issues in Special Education
FOED 6610 Analysis and Application of Educational Research
Elective in Research Methodology
Concentration Courses ( 15 semester hours)
SPED 6300 Theoretical Perspectives on Mild/Moderate Disabilities
SPED 6310 Issues in Assessment of Mild/Moderate Disabilities
SPED 6330 Theories of Instruction for Mild/Moderate Disabilities
SPED 6370 Mildly/Moderately Disabled Adolescents and Adults
SPED 6380 Collaborative/Consulting Skills in Special Education
Restricted Electives (9 semester hours)
To be selected with consent of advisor

## Concentration: Preschool Disabled Students

Required Core (3 semester hours)
FOED 6610 Analysis and Application of Educational Research
Concentration Courses (15 semester hours)
SPED 6900 Characteristics of Pre-School Children with Disabilities
SPED 6910 Developmental Assessment
SPED 6920 Laboratory Experience I

SPED 6930 | Methods of Working with Children Who Are |
| :--- |
| Developmentally Delayed |
| SPED |
| SPE Laboratory Experience II |

Restricted Electives (15 semester hours)
To be selected with consent of advisor

## Concentration: Severely/Profoundly Disabled Students

Required Core ( 9 semester hours)
SPED 6780 Issues in Special Education
FOED 6610 Analysis and Application of Educational Research
Elective in research methodology
Concentration Courses ( 15 semester hours)
SPED 6380 Collaborative/Consulting Skills in Special Education
SPED 6400 Characteristics and Needs of Severely/Profoundly Disabled
SPED 6430 Theories of Instruction for Severely/Profoundly Disabled Students
SPED 6910 Developmental Assessment
CDFS 6300 Application of Child Development Principles I
Restricted Electives (9 semester hours)
To be selected with consent of advisor

## Concentration: Vision Disabilities

## Required Core (9 semester hours)

SPED 6380 Collaborative/Consulting Skills in Special Education
SPED 6780 Issues in Special Education
FOED 6610 Analysis and Application of Educational Research

| Concentration Courses (24 semester hours) |  |
| :--- | :--- |
| SPED | 6500 Anatomy and Physiology of the Eye |
| SPED | 6510 |
| Introduction to Braille and Communication Skills |  |
| for the Visually Impaired |  |

## Minor in Special Education

Students desiring a minor at the graduate level in Special Education must complete 18 semester hours in Special Education to include SPED 6020, 6800, and 12 additional semester hours of 6000 courses in Special Education. This does not meet licensure requirements in Special Education.

## Courses in Elementary Education [ELED]

5110 (511A) Directed Teaching Grades K-8. Twelve credits. Prerequisites to enrollment in the course include ELED 4010 and 4020 or 4030 and 4040, 3150, 4350 or 4400; SPED 3010; minimum grade point average of 2.50 overall and in the major; admission to Teacher Education program; passing scores on the NTE Tests of Communication Skills and General Knowledge. Fulltime, 15week semester of supervised teaching experience in the public schools. Pass/Fail.

5200- (520 A,B) Observation and Participation. Three credits. Di-
5201 rected laboratory experiences for teachers desiring to add an endorsement to their certificates. Includes language arts, math, science, social studies, art, and music.

## 5200 (520A) Kindergarten <br> 5201 (520B) Grades 1-6

5260 (526 A-Z) Problems in Elementary Education. One to three credits. A problem-oriented course, on or off campus, planned and designed for individuals, school faculty, school system, or other professional groups which will provide opportunities for in-service education related to assessed needs. Credit toward a degree limited to six semester hours.

5510 (551) The Teaching Internship, Grades 1-8. Nine credits. A supervised internship available only to those with at least one year of paid teaching experience in the major in which endorsement is sought. Applicants must meet all prerequisites for student teaching.

6000 (600) Teaching Writing. Three credits. An in-depth exploration of students' efforts to become writers. Presents theoretical and practical strategies for establishing an effective writing environment based on current research.

6010 (601a) The Teacher as Reflective Practitioner. Two credits. Articulates the role of and explores the varied dimensions of the process of reflective teaching as it may be utilized by the elementary, special education, reading, or secondary teacher. Pre-
requisite for all Curriculum and Instruction (Early Childhood Education, Elementary School Education, and Middle School Education) candidates.

6011 (601b) The Teacher as Reflective Practitioner. One credit. A culminating course summarizing and synthesizing the knowledge acquired throughout the graduate program. Must be taken in last semester of graduate work.

6030 (603) The Early Childhood Practitioner, K-4. Three credits. Emphasis on the emerging theories which have influenced current programs.

6090 (609) Creating Learning Environments for Young Children. Three credits. Prerequisite: ELED 6010. In-depth analysis of social, emotional, language, and cognitive variables which impact young children's learning and allow teachers to plan and maintain proactive environments. Required for those students wishing to concentrate in Early Childhood Education.

6100 (610) The Early Adolescent Learner. Three credits. Prerequisite: ELED 6010. Reflects on the early adolescent while focusing on the student-centered school environment and the appropriately well-balanced curriculum. Required for those students wishing to concentrate in Middle School Education.

6130 (613) Current Issues in Elementary Language Arts. One credit. Prerequisite: 6010. Overview of current issues surrounding the teaching of language arts.

6140 (614) Current Issues in Elementary Social Studies. One credit. Prerequisite: ELED 6010. Overview of current issues and trends surrounding the teaching of social studies. Topics will vary from semester to semester.

6170 (617) The Multi-Age Classroom. One credit. Prerequisite: ELED 6010. Examines the basic alternatives and tools that have been shown to be effective in multi-age classrooms in both primary and middle grades.

6180 (618) Current Issues in Elementary Mathematics. One credit. Prerequisite: ELED 6010. Overview of current issues and trends surrounding the teaching of mathematics. Topics will vary from semester to semester.

6190 (619) Current Issues in Elementary Science. One credit. Prerequisite: ELED 6010. Investigates current issues relating to the study and teaching of elementary school science. Topics will vary from semester to semester.

6200 (620) The Classroom as Community. Three credits. Prerequisite: ELED 6010. Explores the classroom community with respect to definitions and practice. Teachers will reflect on how their beliefs and attitudes influence practice. Required for all students.

6210 (621) Seminar on Current Innovations and Trends in Elementary Education. Three credits. Prerequisite: ELED 6010. Recent research in child development, school organization, curriculum, and evaluation.

6220 (622) Seminar in Early Childhood Education. Three credits. Review of issues, programs, and research in early childhood education.

6230 (623) Integrated Curriculum, K-4. Three credits. Prerequisite: ELED 6010. Helps develop the skills needed for organizing an integrated program, for teaching within an integrated program, and for assessing children's progress in ways appropriate to an integrated program.

6240 (624) Interdisciplinary Teaching, 5-8. Three credits. Prerequisite: ELED 6010. Assists the elementary and middle school teacher in organizing, assessing, and teaching in an interdisciplinary program.

6250 (625) Technological Tools for Thinking and Learning. Three credits. Prerequisite: ELED 6010. Learning environments supported by computer technology which promote knowledge construction. Special emphasis on use of the Internet and the design and development of a hypermedia learning environment.

6290/ 7290 (629/729) Inquiry in the Classroom. Three credits. An in-depth study of the inquiry process as it relates to teachers in the classroom. Theory and practice combine as teachers engage in their own research to improve classroom instruction.

6300 (630) Play Education and the Curriculum. One credit. Prerequisite: ELED 6010. Articulates the role of play for children's cognitive learning. A theoretical analysis will facilitate early childhood, elementary, and special educator's ability to design quality play experiences which promote children's learning.

6310 (631) Play Education and Social-Emotional Learning. One credit. Prerequisite: ELED 6010. Promotes elementary and special education teachers' abilities to plan and implement quality play experiences which promote children's social and emotional learning.

6320 (632) Play Education and Literacy. One credit. Prerequisite: ELED 6010. Relationship between play and literacy development highlighted. Course content will enable teachers to plan for play experiences which promote children's abilities to read, write, listen, and speak.

6400 (640) Teaching the Special Needs Learner in the Heterogeneous Classroom. Three credits. Prerequisite: ELED 6010 (prerequisite requirement for elementary education majors only). Helps develop skills, beliefs, and attitudes necessary for effectively incorporating and teaching special needs learners in a heterogeneous classroom.

6620 (662) Assessment of Teaching and Learning. Three credits. Prerequisite: ELED 6010 (or taken concurrently with 6010 by Elementary Education major only). Familiarizes teachers with assessment techniques that focus on the complex relationship between learning and instruction. Required for all students.

6700 (670) Practicum in English as a Second Language (4-8). One credit. A practicum course for the ESL teacher. Includes ten hours field experience in the ESL classroom with five to eight students from different cultures.

6870 (687) Home-School Interaction. Three credits. Includes approaches, activities, and materials related to parent education.

7220 (722) Seminar in Elementary Education. Three credits. Explores contemporary issues in education as they relate to the individual teacher, the school as an institution, the school clientele, and the community. Allows the student to adjust individual educational philosophy to a changing society and schools; gives contiguity to other educational experiences.

7250 (725) From Policy to Practice in American Public Schools. Three credits. The effect of public policy on educational practices. Emphasis on exploring policy variations within the educational practices in the U.S. and around the world with a particular emphasis on elementary education.

7260 (726 A-Z) Problems in Elementary Education. One to six credits. Prerequisite: Nine semester hours of graduate-level courses in elementary education.

7640 (764) Ed.S. Thesis Research. One to six credits. Prerequisite: Six semester hours of 7000-level courses in elementary education. Supervised, in-depth study, on an individual or group basis, of an area of elementary education. Student may register two semesters for three hours credit each semester or for six hours credit one semester. Open only to post-master's degree students.

## Courses in Reading [READ]

5130 (513) Corrective Reading in the Elementary School. Three credits. Prerequisite: A reading methods or literacy course. The modification of assessment and instruction for the resolution of reading problems in the elementary classroom.

5460 (546) Teaching Reading in the Content Area. Three credits. Emphasis on teaching reading in content subjects such as mathematics, science, and social studies in upper elementary, middle school, and secondary schools. Specific suggestions for activities and lesson strategies included. (Available on permission-ofdepartment basis only.)

6000 (600) Foundations of Reading. Three credits. Prerequisite: A reading methods or literacy course. Planning and developing a reading program through extensive reading in the field and seminar participation. Special emphasis on the reading process.

6120 (612) Current Issues in Reading Instruction. One to three credits. Specific issues and trends affecting reading instruction in today's classrooms. Repeatable up to three hours of various topics.

6260 (626) Individualizing Reading. Three credits. Theoretical background, organization, and implementation of individualizing reading through the self-selection of reading materials. Content applicable to elementary, middle school, secondary, adult, and special education teachers.

6710 (671) Adolescent Literacy. Three credits. Approaches to effective literacy enhancement in middle and secondary school programs. Suggestions for meeting the literacy needs of typical and atypical adolescent literacy learners.

6720 (672) Diagnostic and Remedial Practices in the Improvement of Reading. Three credits. Prerequisites: READ 6000 and FOED 6630 or PSY 5260 or ELED 6620 and PSY 6120 or 6130 or their equivalents. Formal and informal tools to document and define a reading difficulty as well as of approaches/strategies to overcome such difficulties. (Available on permission-of-department basis only.)

6730 (673) Curriculum and Supervisory Problems in Reading. Three credits. Developmental sequence of reading skills, pre-K to adult. Discusses the role of a reading specialist, in-service education, grants, critiquing materials, and the substance of school reading programs.

6750 (675) Research Seminar in Reading. Three credits. Prerequisite: READ 6000, its equivalent, or permission of the instructor. An investigation of significant research related to reading with emphasis on classroom practices, group analysis, and individual study. (Available on permission-of-department basis only.)

6760 (676) Reading Instruction in Early Childhood Education. Three credits. A methods course which concentrates on beginning reading and emergent literacy issues in developing reading and writing.

6790 (679) The Reading Practicum. Three to six credits. Prerequisite: READ 6720 or equivalent. A supervised practice in teaching children with various types of reading and learning problems. Student may enroll for 3 hours credit or 6 hours credit in a single semester. May be repeated for up to 6 credits; however, only 3 credits may apply toward the degree.

## Courses in Special Education [SPED]

5240 (524) Methods and Techniques of Behavior Management. Three credits. Overview of various approaches to behavior management. Application of various approaches in different special education settings. Basis of evaluation of various behavior change techniques.

5260 (526) Problems in Special Education A-Z. One to three credits. A problem-oriented course, on or off campus, planned and designed for individuals, a school faculty, school system, or other professional groups which will provide opportunities for pre- or in-service education related to assessed needs. Not more than 6 semester hours credit in independent study (SPED 6840) and/ or problems (SPED 5260) can be applied toward a degree or licensure.

5320 (532) Directed Teaching in Special Education (Self-contained). Nine credits. Prerequisites: ELED 3150, 4010, 4020; SPED 6200, 6800; full admission to Directed Teaching. A full-day, ten-week supervised teaching experience in a public classroom. Pass/Fail.

5350 (535) Directed Teaching in Special Education (Resource room). Nine to twelve credits. Prerequisites: ELED 3150; ELED 4010, 4020; SPED 6200 and 6800; full admission to Directed Teaching. A full-day, ten-week supervised teaching experience in a public classroom. Pass/Fail.

5510 (551) Teaching Internship: Special Education. Nine credits. A supervised teaching experience. Available only to those with at least one year of paid teaching experience in the major in which endorsement is sought. Applicants must meet all prerequisites for student teaching. Pass/Fail.

6020 (602) Overview of Special Education. Three credits. Theories and techniques of providing instruction to exceptional individuals. Designed for individuals without prior specialized experience and/or course work in special education. Not for degree credit.

6200 (620) Educational Diagnostics. Three credits. The role of the special educator in the assessment process; formal and informal assessment devices and procedures; involvement of parents in the evaluation; precision teaching; diagnostic and prescriptive teaching; writing IEPs.

6270 (627) Characteristics and Needs of the Mentally Retarded Child. Three credits. Includes the mentally retarded's cognitive, affective, motor, social, and language development.

6280 (628) Characteristics and Needs of the Emotionally Disabled Child. Three credits. A survey of theories and research relative to emotional/behavioral problems of children; discussion of classroom models for remediation and specific techniques appropriate for teacher use.

6300 (630) Theoretical Perspectives on Mild/Moderate Disabilities. Three credits. Reviews the various perspectives on mild/moderate disabling conditions from a historical perspective. Viability of each perspective examined. Implications of each for assessment and intervention considered.

6310 (631) Issues in Assessment of Mild/Moderate Disabilities. Three credits. Prerequisite: SPED 6300. Contexts a variety of tests and assessment tools within the various theoretical frameworks they represent. Considers the development of diagnostic batteries based on such tests. Particular attention given to the significance of the theoretical perspectives in selecting and interpreting data collected.

6330 (633) Theories of Instruction for Mild/Moderate Disabilities. Three credits. Prerequisite: SPED 6310. Contexts a variety of instructional approaches within the various theoretical frameworks from which each evolved. Considers the development and evaluation of IEPs through an integration of learner characteristics, instructional approaches, and educational needs.

6370 (637) Mildly/Moderately Disabled Adolescents and Adults. Three credits. The unique status of public school students, ages 16-21 years with mild/moderate disabilities. Focus on career, vocational, and transitional services. Highlights specific concerns and problems in adulthood.

6380 (638) Collaborative/Consulting Skills in Special Education. Three credits. Assistance in developing skills needed for consulting with parents, students, teachers, administrators, and others in the development and implementation of individualized education programs for disabled students.

6400 (640) Characteristics and Needs of Severely/Profoundly Disabled. Three credits. In-depth survey of severely/profoundly disabled students and their needs. Emphasis on cognitive, motor, social, communicative, behavioral, and physical characteristics of this population.

6430 (643) Theories of Instruction for Severely/Profoundly Disabled Students. Three credits. Advanced methods and techniques for teaching severely/profoundly disabled students.

6500 (650) Anatomy and Physiology of the Eye. Three credits. Examines structures of the eye and visual system and diseases/ conditions that affect vision. Considers various screening instruments to use for making referrals to eye specialists. Attention given to administration and interpretation of screening instruments.

6510 (651) Introduction to Braille and Communication Skills for the Visually Impaired. Three credits. Offers teachers and professionals who work with visually impaired and blind students skills and competencies in reading and writing braille.

6520 (652) Advanced Braille and Communication Skills for the Visually Impaired. Three credits. Prerequisite: SPED 6510. Reinforces and extends skills learned in SPED 6510. Formatting textbooks and trade books required by visually impaired students in schools. Emphasis placed on learning to use abacus, slate and stylus, and correction slate. Transcription according to Library of Congress standards.

6530 (653) Educational Procedures for the Visually Impaired. Three credits. Presents students with roles and responsibilities of the teacher of the visually impaired, including adaptations of curriculum, environment, equipment, and methods. Available re-
sources at local, state, and national levels. Particular attention given to the decision-making processes required, such as type of reading medium required for specific tasks, use of low vision aids, appropriateness of various types of modifications, and adaptations of regular curriculum.

6540 (654) Advanced Educational Procedures for the Visually Impaired. Three credits. Necessary skills to conduct functional vision assessments of students of normal intelligence as well as those with multiple disabilities. Assessing communication skills for the visually impaired.

6550 (655) Orientation and Mobility for the Classroom Teacher. Three hours. Basic orientation and mobility techniques to teach visually impaired students to enable them to move around the school environment safely. Included are concept development, protective techniques, basic and advanced sighted guide techniques, and the use of tactual maps.

6560 (656) Nature and Needs of the Visually Impaired. Three credits. Insights into problems associated with visual loss and its impact on individuals, family relations, and seeing populations. Also addresses advantages and limitations of adaptations and specialized instruction, equipment, devices, and aids. Examines the role and effect of various organizations and professionals on services for visually impaired persons.

6570 (657) Practicum in Special Education (Vision). Three credits. Understanding of eye conditions that result in visual disabilities and their implications; training in determining most appropriate modifications. Experiences in assessment of functional vision of students with visual disabilities and multiple disabilities; designed to facilitate application of these skills in real-life experiences with visually impaired and blind learners.

6720 (672) Working with Parents. Three credits. Understanding the concerns and needs of parents of children who have special needs. Also presents strategies and techniques for working effectively with parents.

6740 (674) Affective Education in the Classroom. Three credits. Theoretical basis for the role of the school in providing instruction in the affective domain. Emphasis on the translation of theories of emotional/social development into educational strategies.

6780 (678) Issues in Special Education. Three credits. Analysis of current issues in the field. Emphasis on the analysis of relevant research.

6800 (680) Exceptional Children and Youth. Three credits. Introduction to problems in identification, etiology, and educational treatment of mentally retarded, gifted, physically and emotionally challenged, learning disabled, and culturally disadvantaged children and youth.

6810 (681) Characteristics and Needs of the Learning Disabled Child. Three credits. An understanding of the causes and characteristics. Formal and informal evaluation instruments. An investigation of various educational approaches to learning disabilities, their theoretical bases, and practical implications.

6840 (684) Independent Study: Special Education. One to three credits. Prerequisite: Consent of the advisor. Enables students to develop and conduct a study based on individual professional interests. Not more than 6 semester hours credit in Independent Study (SPED 6840) and/or Problems (SPED 5260) can be applied toward a degree or licensure.

6850 (685) Characteristics and Needs of the Severely Handicapped Child. Three credits. An in-depth survey covering the characteristics and needs for serving the severely disabled. Includes how to develop a program and the IEP.

6860 (686) Characteristics and Needs of the Gifted Child. Three credits. Characteristics, needs, psychological and educational considerations, and identification procedure for gifted children.

6870 (687) Habilitation of Mentally Retarded and Multiple Handicapped Young Adults. Three credits. An in-depth look. Various habilitation models, how they are designed, and how they function.

6880 (688) Educational Procedures in the Education of the Gifted. Three credits. Prerequisite: SPED 6860. Reviews various theoretical models of learning and teaching which are most often used in developing curriculum for the gifted learner. Application of the models is stressed.

6900 (690) Characteristics of Pre-School Children with Disabilities. Three credits. Includes an in-depth study of young children delayed in their development. Focus on developmental needs.

6910 (691) Developmental Assessment. Three credits. Evaluative and diagnostic instruments and procedures used with very young and/or multiple-disabled individuals.

6920 (692) Laboratory Experience I. Three credits. Practicum experience in settings serving pre-school children who have developmental delays. Students will spend 60 hours in each of two practicum settings.

6930 (693) Methods of Working with Children Who Are Developmentally Delayed. Three credits. Current theories, practices, and procedures used to develop programs for pre-school children who are developmentally delayed (ages birth to 5 years).

6950 (695) Laboratory Experience II. Three credits. Practicum experience in settings serving pre-school children who have developmental delays. Students will spend 60 hours in each of two practicum settings.


# Department of Engineering Technology and Industrial Studies 

Walter Boles, Chair<br>Voorhies Industrial Studies Complex 143

The Department of Engineering Technology and Industrial Studies offers the Master of Science degree in Engineering Technology and Industrial Studies with thesis and non-thesis options and concentrations in Engineering Technology, Occupational Health and Safety, and Industrial Relations. Under the Engineering Technology concentration, the degree requires the student to select courses, as approved by the graduate advisor, that provide the student with a technical area of specialty. Currently, typical technical areas include manufacturing, environmental safety, computer integrated manufacturing, electronics, drafting and design, and quality control. Other technical areas can be designed to meet the student's individual needs, if approved by the graduate advisor. A minor in Industrial Studies is also available at the graduate level.

Normally, a satisfactory score on the Graduate Record Examination is required for admission to the master's program.
The Department cooperates with the Schools/Departments of Agribusiness and Agriscience; Business Education, Marketing Education, and Office Management; and Human Sciences to offer the Master of VocationalTechnical Education (M.V.T.E.) degree.

## Requirements for the

Master of Science Degree

## Thesis Option

Candidate must

1. have completed undergraduate prerequisites of at least 18 semester hours in industrial studies or equivalent coursework approved by the advisor;
2. complete at least 30 semester hours, with 21 semester hours at the 6000 level, to include ETIS 6620 and 6640 and 6 semester hours from the following courses: ETIS 6110, 6180, 6370; 6010 or 6040;
3. complete 6 semester hours of an approved research tool with grades of C or better on the undergraduate or graduate level. Typical research tools include statistics, computer science programming, or foreign language.
4. file a Candidacy Form with the Graduate Office after the completion of 12 graduate credits and prior to the completion of 24 credit hours to include ETIS 6620, 6 hours from ETIS 6020, 6110, 6180, 6370, and 3 hours from any industrial studies independent study or advanced technical problems course;
5. successfully complete a written comprehensive examination (may be taken no more than twice);
6. complete a major of at least 18 hours;
7. elect whether or not to have a minor. A minor, if elected, must include a minimum of 12 semester hours.

The program may include a cognate of 6 hours in management and marketing, computer science, economics, psychology, or vocational-technical education.

## Non-Thesis Option

Candidate must

1. have completed undergraduate prerequisites of at least 18 semester hours in industrial studies or equivalent coursework approved by the advisor;
2. complete at least 36 semester hours with at least 26 semester hours of 6000-level courses to include ETIS 6620 and 6510 or 6910 and 6 semester hours from the following courses: ETIS 6110, 6180, 6370; 6010, or 6040;
3. complete 6 semester hours of an approved research tool to include at least one course in statistics with grades of C or better on the undergraduate or graduate level. Typical research tools include statistics, computer science programming, or foreign language.
4. file a Candidacy Form with the Graduate Office after completion of 12 graduate credits;
5. successfully complete a written comprehensive examination (may be taken no more than twice);
6. complete a major of at least 18 hours;
7. elect whether or not to have a minor. A minor, if elected, must include a minimum of 12 semester hours.
The program may include a cognate of 6 hours in management and marketing, computer science, economics, psychology, or vocational-technical education.

## Concentration: Engineering Technology

## Candidate must complete

1. requirements for the thesis or non-thesis option;
2. core, approved by the advisor, consisting of emphasizing in one of the following typical areas: environmental safety, computer integrated manufacturing, drafting and design, quality control;
3. approved minor/cognate and/or additional electives as approved by the advisor.

## Concentration: Industrial Relations

## Candidate must complete

1. requirements for the thesis or non-thesis option;
2. core consisting of ET 5420,5940; ETIS 6010, 6620, 6640 (thesis option) or 6910 (non-thesis); PSY 5320;
3. electives to be selected from ETIS 6020, 6040, 6110, 6910; ECON 6510.

## Concentration: Occupational Health and Safety

Candidate must complete

1. requirements for the thesis or non-thesis option;
2. core consisting of ETIS 6020, 6040, 6070, 6620, and 6640 (thesis option) or 6910 (non-thesis);
3. electives to be selected from SAFE 5320, 5350, 6410, 6450, 6470, 6920; PHED 6650; ET 5420, 5440, 5450, 5960, 5970; ETIS 6010, 6110, 6510, 6920; PSY 5350.

## Courses in Engineering Technology and Industrial Studies [ETIS]

5490 (549) Topics in Industrial Technology. One to six credits. Selected topics offered as required to meet class needs.

5700 (570) Industrial Topics. One to six credits. Problems in any one of a variety of areas to meet class needs.

5790 (579) Shop Problems. Three credits. Prerequisites: Completion of all undergraduate courses in a given area and permission of instructor. For the advanced student who wishes to work on a designated problem in a specific area. Independent work on a selected problem or project under the instructor's guidance.

5990 (599) Introduction to Operations Research. Three credits. Problem solving in research and development involving operations research models, computer applications, and industrial problems.

6010 (601) Safety Planning. Three credits. Advanced study of planning in occupational safety and health management, including program planning and development methods and techniques, as well as various systems approaches to hazard control.

6020 (602) Safety Technology and Engineering. Three credits. Advanced study of the technical components of the occupational workplace hazards, hazards analysis, workplace design, current regulatory requirements, engineering techniques for hazard control, personal protective systems, equipment and techniques. Includes a practical application problem of hazard analysis and control.

6040 (604) Occupational and Environmental Hygiene. Three credits. Prerequisite: ET 4450/5450. An advanced quantitative study of occupational and environmental health principles, practices and sampling techniques, as required by either consensus or regulatory standards and their specific protocols to protect both workers and the public.

6070 (607) Anthropometric Factors in Accident Prevention. Three credits. The necessity and desirability of a thorough consideration of anthropometric factors when designing facilities and equipment and recognition of those factors most prevalent in accidents.

6110 (611) Designing for Economical Production. Three credits. Factors determining the acceptability of a product from a producibility point of view. Includes an analysis of function and cost, relative machining cost, material cost, manufacturing method, cost of tolerances, and surface finishes for the selected manufacturing methods.

6180 (618) Seminar in Industrial Quality Developments. Three credits. Review of current quality control practices. Investigation of new concepts and literature in the discipline. Examinations of vendor/customer relationships in quality.

6230 (623) Advanced Technical Drafting. Three credits. Current trends and techniques such as using computers to solve design problems and the use of group suggestions (brainstorming) in solving design problems.

6240 (624) Advanced Technical Problems in Metal. Three credits. In-depth insight into the use of metal in industry. Emphasis on industrial research and development techniques and their application in industry.

6260 (626) Advanced Technical Problems in Electricity/Electronics. Three credits. In-depth insight into the practical applications of electronic theory. Students required to design and develop electrical/electronic applications of an advanced nature.

6370 (637) Computer-Integrated Design and Manufacturing. Three credits. Prerequisite: ET 4590/5590 or consent of instructor. Applications of computer-integrated manufacturing. Current techniques of design for manufacturing and the integration into information flow, organization, product design, and software applications.

6510/6520 (651/652) Problems in Industrial Studies. Three credits each. Independent investigation and report of current problems of particular interest to individual students directed by department faculty members.

6620 (662) Methods of Research. Three credits. Introduces Master of Science students to scholarly research principles and to thesis formats for research reporting. A problem is researched and written up in thesis proposal format.

6640 (664) Thesis Research. One to six credits. Prerequisite: ETIS 6620. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. S/U grading.

6910/6920 (691/692) Problems in Engineering Technology. Three credits each. Independent investigation and report of a problem in engineering technology. Designed to meet the particular needs of the students; pursued under the direction of a department faculty member.

## Courses in Engineering Technology [ET]

5220 (522) Advanced Metalwork. Four credits. Techniques, equipment and procedures, advantages and disadvantages of current metal-casting processes used in industry. Laboratory exercises in sand molding and casting, the full mold process, investment casting, and permanent mold casting including pattern design and construction, mold making, metal melting and handling. Guest lecturer(s). Plant tour(s).

5230 (523) Advanced Machine Tool Technology. Four credits. Taper turning, boring and thread chasing, and calculations of screw threads and other operations. Gear terminology and calculations, practice gear cutting on the milling machine, use of index head.

5280 (528) Computer-Aided Manufacturing: Numerical Control (NC). Four credits. Role of NC in today's manufacturing environment; machines and machine control systems of a typical installation; justification. Emphasis on writing and debugging programs for a three-axis milling machine and a two-axis turning machine utilizing CNC and computer-aided part programming. For those with little or no experience with NC or those seeking to broaden their knowledge of NC .

5330 (533) Advanced Computer-Aided Drafting. Four credits. Prerequisite: ET 5360 or CM 5320. Interactive computer drafting and design using advanced AutoCad software and add-ons. Primarily for students who want to increase their capabilities using CAD software and hardware.

5340 (534) Design of Machine Elements. Three credits. Analytical design methods of machine elements. Stress analysis, working stress, combined stresses, failure theories, fatigue failure. Design techniques for shafts, fasteners, gears, bearings, and belt and chain drives. Includes a design project. Lecture.

5360 (536) Computer-Assisted Drafting/Design II. Four credits. Prerequisites: ET 2310 or CM 3320. Utilizes MS-DOS computer and AutoCAD software to develop skills in the creation and analysis of mechanical and architectural solid models for design and production purposes. Includes the use of shading and rendering to enhance three-dimensional model display and the extraction of two-dimensional engineering drawings.

5370 (537) Tool Design. Four credits. Design of tools, fixtures, gages, and dies. Translates product drawing specifications to tooling concepts. Utilizes computer drafting.

5420 (542) Industrial Safety. Three credits. Safety and health problems in the manufacturing, construction, and utilities industries, including pertinent laws, codes, regulations, standards, and liability considerations. Organizational and administrative principles and practices for safety engineering, accident investigation and recording, safety education, and safety enforcement.

5440 (544) Fire Safety. Three credits. Possible prevention activities, fire hazards and their causes, and fire inspection techniques.

5450 (545) Industrial Hygiene. Three credits. Safety and health education training, and investigation activities and how they are related to overall environmental safety.

5590 (559) Fundamentals of Computer-Integrated Manufacturing. Three credits. Identification of the terms, applications, and requirements for using computer-integrated manufacturing. An overall view of the design, drafting, manufacturing, and integration aspects of using computers for manufacturing. Includes manufacturing, human, and business elements.

5600 (560) Programmable Logic Controllers. Two credits. Introduces programmable logic controllers (PLCs). Selection, operation, and troubleshooting. Ladder diagrams and programming of PLC emphasized.

5610 (561) Instrumentation and Controls. Four credits. Devices and techniques used in the measurement of physical parameters. Consideration of accurates and sources of error, identification of typical measurements, sensors and transducers, control stability, and response. Two-hour lecture and four-hour laboratory.

5630 (563) Local Area Networks. Four credits. Foundation and experience to understand the design, implementation, and management strategies of local area networks (LAN). Data communications standards and protocol fundamentals included. Lecture, laboratory activities, and a LAN design requirement.

5640 (564) Industrial Electricity. Four credits. AC power theory and circuits for industrial applications, polyphase systems, power factor correction, and transformers. Theory, applications, and selection of motors and generators. Control subsystems with emphasis on power electronics.

5650 (565) Introduction to Microprocessors. Four credits. Prerequisite: ET 3620. Introductory course in microprocessor-based systems and their related components. Machine language programming extensively used to solve problems and to demonstrate the relationship of the microprocessor and its supporting peripherals. Basic microcomputer architecture also emphasized. Two-hour lecture and four-hour laboratory.

5660 (566) Microprocessor Interfacing. Four credits. Analog and digital conversion devices and their related systems. Introduction to individual subsystems; A/D and D/A data conversion. Organization and design of individual digital systems emphasized. Includes data transfer, conversion, storage, input and output with principal focus on systems external to computer systems.

5670 (567) Microprocessor Design. Four credits. Advanced course in design and application of microprocessor-based microcomputers for measurement and control systems. In-depth analysis of software and hardware in the design process. Design, develop, and test an operating system for a microprocessor-based computer.

5680 (568) Electronic Fabrication. Four credits. Prerequisite: ET 3610 or equivalent. Planning and designing electronic packaging, including printed circuit board design, component selection criteria, and construction techniques. Conventional and computeraided printed circuit board design techniques used.

5690 (569) Electronic System Analysis. Four credits. Theory of electronic trouble shooting and proper repair techniques of electronic devices.

5700 (570) Transform Circuit Analysis. Three credits. Prerequisites: ET 3600 and MATH 1910 or permission of instructor. An advanced course in network analysis that stresses network theorems and solutions of time and frequency-domain problems with the use of Laplace Transforms.

5710 (571) Industrial Seminar. One credit. Orientation to industrial job opportunities, placement practices, interview techniques, and preparation of application materials (resume, cover letter). Guest lectures, films, and student and faculty presentations.

5850 (585) Fluid Power. Three credits. Systems and the basic components that make up these systems, including hydraulic, pneumatic, and fluidic. Emphasis on understanding the language and graphic symbols associated with fluid power and the performance characteristics of system components. Lecture, laboratory, and problem solving.

5860 (586) Robotics. Three credits. Introduces the fundamentals of robots. Types of robots and controls, the prime movers, and the application of robots in the industrial environment.

5900 (590) Productivity Strategies. Three credits. Analysis, design, and implementation of productivity strategies and improvement programs for a wide variety of organizations. Touches a wide spectrum of disciplines such as work design, quality, design engineering, and employee involvement.

5910 (591) Maintenance Management. Three credits. Overview of the management of maintenance in an organization such as manufacturing, hospitals, or large maintenance shops. Application of work measurement, labor utilization, preventative maintenance, and computer applications.

5920 (592) Plant Layout and Materials Handling. Three credits. An overview of facility planning including equipment selection, work flow analysis, activity relationship analysis, and plant layout for product, process, and JIT requirements. Teams assigned actual projects in industry. CAD layout presentations to industry management required.

5930 (593) Production Planning and Control. Three credits. Concepts of manufacturing planning, forecasting, material requirements, planning, and control of inventories. Emphasis on computer systems for planning, scheduling, and control. Plant tours and special presentations are supplementary.

5940 (594) Methods and Work Measurement. Three credits. Design of work tasks, including analysis and improvement of existing tasks. Establishing engineered time standards by stopwatch, pre-determined times, and work sampling. Application of computer systems in work measurement.

5950 (595) Statistical Quality Control. Three credits. Statistical quality analysis of manufacturing processes including product sampling and design of overall quality system; study of various systems in use in industry.

5960 (596) Human Factors Engineering (Ergonomics). Three credits. Integration of the human into the work task environment. Emphasis on practical applications of ergonomics to task design and analysis. Design teams apply concepts to real world problems. Presentation of projects. Computer applications reviewed.

5970 (597) Engineering Economy. Three credits. Development of capital budgets; justification of capital projects using time value of money concepts; replacement analysis. Review of justification of actual capital projects and computer applications.

5980 (598) Federal and State Safety Legislation. Three credits. The Federal Occupational Safety and Health Act (OSHA) and the Tennessee Occupational Safety and Health Act (TOSHA) Environmental Protection Agency; rules and regulations and how they apply to industry.

## Course in Construction Management [CM]

5320 (532) Architectural Computer-Aided Drafting and Design. Four credits. Using computers to draw and design residential architectural plans. Specifically geared toward the construction area of concentration.

## Courses in Industrial Education [IED]

5000 (500) Program Development and Modification for the Special Needs Learner. Three credits. Basic strategies for identifying and working with special needs learners in industrial education.

5010 (501) History and Philosophy of Industrial Education. Three credits. Relation to the development of industrial education stressed.

5030 (503) Course Development in Occupational and Technology Education. Three credits. Basic techniques including occupational analysis, preparing objectives, planning a learning sequence, preparing learning activities, selecting and preparing learning resources, and evaluating student performance.

5040 (504) Methods of Teaching Occupational and Technology Education. Three credits. Understanding and skills required for individualizing instruction in industrial arts and trade and industrial education.

5060 (506) Organization and Operation of Occupational Student Organizations. Three credits. Orientation to incorporating occupational education programs. Emphasis on establishing an organization, planning chapter activities, utilizing community resources, chapter business procedures, and competitive activities.

5070 (507) Laboratory Organization and Classroom Management. Three credits. Laboratory planning and layout, purchasing supplies and equipment, inventory and record keeping, laboratory maintenance, class organization, and safety.
(548) Topics in Industrial Education. One to six credits. Selected topics offered as required to meet class needs.

## Courses in Environmental Science and Technology [EST]

5770 (577) Pollution Control Technology. Four credits. Introduces air, noise, solid waste, and water pollution control technology. Legislative regulations and equality standards, pollution types and sources, detection and analysis instruments, and treatment principles and practices.

5780 (578) Air, Solids, and Noise Pollution Technology. Four credits. Prerequisites: 8 hours each chemistry, biology, and physics or permission of instructor. Introduces air, noise, solid, and hazardous waste pollution technology, including legislative regulations and quality standards: sources, detection, and analysis instrumentation and practices, and treatment and abatement principles, equipment, and practices.

5810 (581) Energy and the Environment. Three credits. Introduces sources and methods of energy production and classifications of energy usages, with emphasis on usage trends, energy conservation strategies, and alternate energy utilization.

5820 (582) Solar Building Design. Three credits. Introduces environmental and economic impact of solar energy for residential and light industrial construction including topics such as day lighting, passive solar design, and hot water heating.

5840 (584) Energy Auditing. Three credits. Introduces types of energy consumption and classifications of energy usages. Emphasis on conservation strategies and total management for residential and industrial plants.

5870 (587) Passive Solar Design. Three credits. Introduces passive solar techniques in the construction of residential and light industrial structures. Includes day lighting, passive solar design, methods, and system integration.

# Department of English 

William Connelly, Chair<br>Peck Hall 302

The Department of English offers the Master of Arts, the Doctor of Arts, and a minor at the graduate level.
Normally, the combined test score for consideration for admission to the Master of Arts program is at least 900 on two parts of the Graduate Record Examination. For admission to the Doctor of Arts program, a minimum score of 1,000 on the GRE is expected. Scores will be calculated using two of the following parts of the GRE: Verbal, Analytical, Subject.

## Admissions Process

Admission to graduate study is not automatic by meeting minimal admission requirements. Students are selected from a pool of qualified applicants. Applications for summer/fall admission must be complete by May 1. Application for spring admission must be complete by November 1. Those seeking teaching assistantships must provide a 500 -word statement of purpose and apply by March 1 for the following fall semester.

## Requirements for the Master of Arts (5000 and 6000 level)

## Thesis Option

Candidate must

1. have earned at least 30 semester hours of undergraduate English;
2. fulfill a foreign language requirement in one of the following ways:
a. complete 18 undergraduate semester hours of a foreign language or complete 6 semester hours of 3000 -level work in a foreign language,
b. earn a final grade of $A$ or $B$ in a foreign language course numbered 4990,
c. pass a reading examination administered by the Foreign Languages and Literatures Department;
d. earn a final grade of B or better in both ENGL 6010 (Old English) and 6020 (Beowulf), which must be taken sequentially.
3. either
a. complete 30 semester hours in English, including ENGL 6640 and 6660 with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate courses, or
b. elect a minor, in which the student takes a minimum of 12 semester hours, plus a minimum of 18 hours in English including ENGL 6640 and 6660;
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete a thesis defense.

## Non-Thesis Option

## Candidate must

1. have earned at least 30 semester hours of undergraduate English;
2. fulfill a foreign language requirement in one of the following ways:
a. complete 18 undergraduate semester hours of a foreign language or complete 6 semester hours of 3000 -level work in a foreign language,
b. earn a final grade of $A$ or $B$ in a foreign language course numbered 5990,
c. pass a reading examination administered by the Foreign Languages and Literatures Department;
d. earn a final grade of B or better in both ENGL 6010 (Old English) and 6020 (Beowulf), which must be taken sequentially.
3. either
a. complete 36 semester hours in English with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate courses; or
b. elect a minor, in which the student takes a minimum of 12 semester hours, plus a minimum of 24 hours in English, including ENGL 6660
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete a written examination in a selected area of concentration (the examination may be taken no more than twice).

## Requirements for the Doctor of Arts (6000 and 7000 level)

1. Candidate must have earned undergraduate prerequisites of at least 30 semester hours in English and 20 semester hours of English at the master's level.
2. There are two alternatives:

## Alternative \#1

48 semester hours above the master's level with at least two-thirds of the program on the 7000 level and ENGL 7660 or its transfer equivalent. 5000-level course may not be applied. Work in the major teaching field will consist of at least 24 semester hours of classwork, plus 6 semester hours of the internship, plus at least 6 semester hours for the dissertation.

## Alternative \#2

60 semester hours above the master's level with at least two-thirds of the program on the 7000 level and ENGL 7660 or its transfer equivalent. 5000-level courses may not be applied. Work in the first teaching field will consist of at least 18 semester hours of classwork in English, with that in the second teaching field consisting of at least 18 semester hours of classwork in any subject which is offered as a major at the master's level, plus 6 semester hours of internship/externship, plus at least 6 semester hours for the dissertation.
3. A core of professional education courses of 12 semester hours must be taken consisting of FOED 7520 and 7560 and SPSE 7540 AND 7550.
4. A foreign language requirement must be fulfilled in one of the following ways:
a. earning a final grade of A or B in a foreign language course numbered 5990;
b. passing a reading examination administered by the Foreign Languages and Literature Department;
c. earn a final grade of B or better in both ENGL 7010 (Old English) and 7020 (Beowulf), which must be taken sequentially;
d. meeting this requirement at the M.A. level.
5. A Candidacy Form must be filed with the Graduate Office prior to the completion of 30 credit hours and appointment of a doctoral committee.
6. A written examination must be completed successfully in two selected areas of emphasis.
7. Following successful completion of written exams, a dissertation must be prepared according to one of the following:
a. a problem in the student's major field aimed at specific curriculum development;
b. research into or critical analysis of a body of literary materials; c. an interdisciplinary topic.

In case a, the dissertation committee should be composed of members from English and education; in case b, the committee may be composed solely of members of the English Department; in case c, the committee should be composed of members from English, the related field, and education.
8. A final oral defense of the dissertation must be completed successfully.

## Courses in English [ENGL]

5010 (501) Folklore. Three credits. Forms and types of folk culture with particular emphasis on the folk literature of the United States.

5510 (551) Modern English Grammar and Usage. Three credits. Historical development of the theory and practice of modern English grammar and usage.

5530 (553) History of the English Language. Three credits. Traces the development of the English language from cuneiform writing systems, Semitic and Phoenician syllabaries, through Greek and Latin contributions, Old and Middle English, up to Modern English.

5540 (554) Approaches to Teaching ESL Grammar and Writing. Three credits. Prerequisite: ENGL 4510/5510. A survey of the background and basic methods needed to teach English grammar and composition to students for whom English is a second language. Emphasizes understanding the problems non-native speakers face and developing techniques for helping non-native speakers express themselves in written English.

5860 (586) Special Topics in Film Studies. Three credits. A selected director, genre, period, aspect, or theme. Subject will vary each time course is taught.

6000/ 7000 (600/700) Poetry Workshop. Three credits. A rigorous writing course to develop the advanced writer's use of point-ofview, tone, rhythm, meter, line, and stanza. Practice in both the spontaneity of composition and the deliberate, disciplined work of revision. Examination, through poems and essays by relevant
authors, of the movements, forms, and possibilities of contemporary poetry.

6010/ 7010 (601/701) Old English Language and Literature. Three credits. Prerequisite for ENGL 6020/7020, Beowulf. Introduction to Old English language (grammar, phonology, syntax, and vocabulary) and literature (poetry and prose) and to the historical and cultural background of the Anglo-Saxon period.

6020/ 7020 (602/702) Beowulf. Three credits. Prerequisite: ENGL 6010/7010. Intensive line-by-line study of Beowulf in Old English, with special emphasis on its sources and analogues, twentieth century criticism, and current dating studies of the poem.

6030/ 7030 (603/703) Chaucer Seminar. Three credits.
6040/7040 (604/704) Medieval English Literature. Three credits. A study of Middle English literary types (in poetry, prose, and drama) and of the major authors and texts of the Middle English period. Includes study of Middle English dialects.

6050/ 7050 (605/705) Studies in Early English Drama, Excluding Shakespeare: 900-1642. Three credits. The origin and development of English drama, emphasizing Elizabethan and Jacobean Drama and the contributions of Shakespeare's contemporaries and successors.

6110/7110 (611/711) Spenser Seminar. Three credits.
6120/ 7120 (612/712) Studies in Sixteenth-Century English Prose and Poetry. Three credits.

6130/ 7130 (613/713) Studies in Seventeenth-Century English Prose and Poetry. Three credits. Selected nondramatic literature of the century, with primary emphasis on the seventeenth century before the Restoration. Included are Donne, Herbert, and the metaphysical poets and Jonson and the Cavalier poets.

6140/ 7140 (614/714) Studies in Milton. Three credits. The major poetry of John Milton, including Lycidas, Paradise Lost, Samson Agonistes, and Paradise Regained.

6150/ 7150 (615/715) Studies in Shakespeare. Three credits. Shakespeare's poems and plays, emphasizing poetic and dramatic techniques in Shakespeare's works and critical reaction to those works.

6200/ 7200 (620/720) Studies in Restoration and Eighteenth-Century Literature. Three credits. Designed to give students a definite critical knowledge of the major literary works of restoration and eighteenth-century England, 1660-1800. Course may focus on either drama, poetry, or prose or a combination.

6210/ 7210 (621/721) Studies in English Romanticism: Wordsworth and Coleridge. Three credits.

6220/7220 (622/722) Studies in English Romanticism: Shelley, Byron, and Keats. Three credits.

6230/ 7230 (623/723 A,B) Major British Writers. Three credits. An in-depth study of one, two, or three British writers. Course varies according to interests of instructor and students.

6270/ 7270 (627/727) Studies in Victorian Literature. Three credits. Intellectual backgrounds of the Victorian period; major prose writers: Macaulay, Carlyle, Newman, Mill, Ruskin, Arnold, Pater; major poets: Tennyson, Browning, Arnold.

6290/ 7290 (629/729) Modern British Literature. Three credits. Intellectual backgrounds of modern British literature; major novelists: Forster, Woolf, Joyce, Lawrence; major poets: Yeats, Eliot, Auden, Thomas; selected minor writers.

6300/ 7300 (630/730) History of Children's Literature. Three credits. History of British and American literature for children and analysis of issues in the field.

6330/ 7330 (633/733 A,B) Major American Writers. Three credits. An in-depth study of two or three American writers. Course varies according to interests of instructor and students.

6340/ 7340 (634/734) African-American Literature. Three credits. An in-depth study of the African-American literary tradition, with emphasis on significant authors, genres, texts, and contexts.

6350/ 7350 Critics and Criticism. Three credits. Examines significant critical movements in Western literature from classical times into the twentieth century. Focusing on major critics such as Aristotle, Johnson, Coleridge, and Eliot, the course also treats less influential figures and considers practical applications of theory to specific texts.


6360/7360 (636/736) Studies in Southern Literature. Three credits. Themes, theories, movements, and types of literature produced in the American South with particular emphasis on selected authors and texts.

6370/ 7370 (637/737) Satire. Three credits. Satire as a distinct genre, emphasizing its continuity in Western literature from its roots among the Greeks to its resurgence in the twentieth century; representative works from four periods: ancient, medieval and Renaissance, eighteenth century, and modern; prose, poetry, and drama.

6380/ 7380 (638/738) Modern Critical Theory. Three credits. Covers major critical trends in literary theory since 1965, including feminist, Marxist, structuralist, and deconstructive approaches to literature. Students explore background and implications of these theories and analyze selected works of literature in light of these approaches.

6390/ 7390 (639/739) Reading Postmodernism. Three credits. Theoretical discourse which works to define the cultural mindset known as "postmodernism." Theories examined will be applied to examples of postmodern literature, film, and/or television. Topics emphasized include the instability of social and cultural categories, the dissolving boundaries between "high" and "low" culture and art, and the subversion of realist narrative strategies.

6400/ 7400 (640/740) American Literature to $\mathbf{1 8 0 0}$. Three credits.
6410/ 7410 (641/741) Studies in American Literature: 1800-1860. Three credits.

6420/ 7420 (642/742) Studies in American Literature: 1860-1910. Three credits.

6430/ 7430 (643/743) Studies in American Literature: 1910-1950. Three credits.

6440/7440 (644/744) Popular Literature of the Twentieth Century. Three credits. The forms of literature reflecting the mass culture of America from 1900 to the present, including such genres as the mystery, the western, science fiction and fantasy, popular humor, comic strips, popular poetry, song lyrics, and the aesthetics of non-print media.

6450/ 7450 (645/745) Contemporary Women's Literature. Three credits. Study of recent women writers with emphasis on the relationship between literature and the social and political status of women. Course addresses diverse writers and issues of difference among women, including race, class, ethnicity, nation, sexuality, and other determinants of individual and group identity.

6460/7460 (646/746) Studies in Contemporary Drama. Three credits. The development of world drama from 1950 to the present, with attention to related criticism and theory.

6470/ 7470 (647/747) Studies in Narratology. Three credits. Examines modern and contemporary theories of narrative (modernist, rhetorical structuralist, dialogical) with particular application to selected authors and texts.

6480/ 7480 (648/748) Studies in Contemporary Literature. Three credits. Intellectual backgrounds of contemporary literature; significant developments in fiction, non-fictional prose, poetry, and drama.

6490/ 7490 (649/749) Studies in the Novel. Three credits. The novel as a literary genre may be approached from a variety of perspectives, including generic, historical, theoretical, or singleauthor approaches. Course varies according to interests of instructor and students.

6500/7500 (650/750 A, B) Selected Topics in Literature and Language. Three credits. A specialized field of literary or linguistic inquiry, its bibliography, critical problems, and probable solutions. Topics vary with the professor assigned to the course.

6510/ 7510 (651/751) Modern Rhetoric and Prose Style. Three credits.

6520/7520 (652/752) Essentials of Linguistics. Three credits. Major linguistic approaches to the study of language-dominant trends and current issues in linguistics; the phonological, morphological, and syntactic structure of the English language.

6560/7560 (656/756) Seminar in Teaching Composition. Three credits. Open only to first-year teaching assistants or with consent of instructor.

6570/7570 (657/757) Teaching Practicum in Portfolio Assessment. Three credits. Prerequisite: ENGL 6560/7560. A supervised teaching experience using the portfolio system of writing assessment. Students will teach one or two sections of ENGL 1010 and participate in workshops for portfolio teachers and in team assessments of freshman portfolios. Open only to first-year teaching assistants or with consent of instructor.

6580/7580 (658/758) Computers and Writing. Three credits. Practical and theoretical implications of computer technology and of the Internet and World Wide Web for the teaching of writing.

6590/ 7590 (659/759) Seminar in Teaching of Literature. Three credits. Recommended for second-year teaching assistants and others interested in teaching literature.

6620/ 7620 (662/762) Directed Reading and Research. Three credits. Prerequisite: Permission of the director of graduate studies. Individually supervised reading and research either in a historical period of English or American literature or in a major literary genre.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. S/U grading.

6660/7660 (666/766) Introduction to Graduate Study: Bibliography and Research. Three credits. Literary scholarship: its nature and scope; traditional and modern methods; the definition and solution of research problems; the production of literary scholarship. Required of all Master's students enrolling in English.

7600/ 7610 (760/761) Internship. Three credits each.
7640 (764) Dissertation Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of dissertation. Once enrolled, student should register for at least one credit hour of doctoral research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading

# Department of Foreign Languages and Literatures 

Deborah Mistron, Chair Boutwell Dramatic Arts Building 301

The Department of Foreign Languages and Literatures offers the Master of Arts in Teaching with concentrations in either French, German, or Spanish. Also offered is a minor at the graduate level. Students who would like to minor in foreign languages should determine the requirements based on their major curriculum in consultation with their advisors.
The Graduate Record Examination (GRE) is required. A combined score of 800 on the verbal and either quantitative or analytical portions of the Graduate Record Examination is considered indicative of potential for an acceptable level of academic performance.

## Requirements for the Master of Arts in Teaching-Foreign Languages Major ( 5000 and 6000 level)

This degree is intended to prepare native and non-native speakers of the foreign language for a career in foreign language teaching on the elementary or secondary level. Students planning to teach in elementary school must be licensed prior to admission to the M.A.T. program. Those planning to teach on the secondary level may be already licensed or may pursue licensure while enrolled in the M.A.T. program; however, requirements for admission to teacher education must be met. Students select a concentration from French, German, or Spanish.
Candidate must

1. have earned at least 24 semester hours of the language selected for admission to the program. Students may complete up to 6 hours of these undergraduate hours while concurrently enrolled in the graduate program. Native speakers must consult with the graduate director regarding this requirement.
2. complete a minimum of 33 semester hours including 21 hours in foreign language courses as listed below OR 18 hours in foreign languages and ENGL 6520, Essentials of Linguistics; no more than 30 percent of the total degree hours dual-listed as undergraduate/graduate hours can be counted toward the degree;
3. complete a professional education component approved by the chair of the Educational Leadership Department;
4. achieve an oral proficiency level in the target language of at least "Advanced" and a written proficiency level of
"Advanced Plus" on the ACTFL scale; students should consult the foreign languages graduate director for additional information on this requirement;
5. demonstrate a basic reading knowledge in a language other than the target language; this requirement may be met by passing a foreign language reading examination or by earning a final grade of A or B in French or German 4990;
6. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
7. successfully complete a written comprehensive examination that covers language teaching methods and the language, literature, and culture of the target language (may be taken no more than twice).

## Choices Under the M.A.T. in Foreign Languages

Candidates for the M.A.T. with a major in Foreign Languages and a concentration in either French, German, or Spanish may choose whether or not to seek licensure to teach. The curriculum selected is based on the individual's preference and need:

1. for those already licensed to teach in the state of Tennessee;
2. for those who seek licensure in conjunction with the M.A.T. degree;
3. for those who wish to pursue the degree without teacher licensure in Tennessee.
The foreign language requirement under each option is the same; candidates should consult an advisor in the Educational Leadership Department regarding the courses pertinent to their degree and career goals.

## Required courses in foreign languages:

F L 6010 Foreign Language Acquisition: Theory and Practice, 3 hours (taught in English)
French, German, or Spanish 6000 seminar, 3 hours
F L 6700 or ENGL 6520, 3 hours
6 hours of electives in 5000-or 6000-level courses in the concentration selected
6 hours selected from the following:
FL 69906 hours of internship abroad OR
F L 69903 hours of local internship AND
F L 6800 Instructional Technology in Foreign Language Education OR
FL 6900 Issues in Foreign Language Acquisition

## Courses in Foreign Languages [F L]

5550 (550) Introduction to Teaching Foreign Language. Three credits. Introduces students to a variety of approaches and methods for foreign language instruction in elementary or secondary schools.

6010 (601) Foreign Language Acquisition: Theory and Practice. Three credits. Acquaints students with major theories of foreign language acquisition and various approaches to language learning.

6020 (602) Reading, Writing, and Learning in ESL. Three credits. (Same as YOED 6020.) Provides teaching ideas for promoting oral, reading, and writing development in English for K-12 English learners. Language acquisition theory, classroom organization, teaching strategies, and assessment procedures for effective English learner instruction.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled for thesis research, students should register for at least one credit hour of research each semester until the thesis is completed. S/U grading.

6700 (670) Introduction to Linguistics. Three credits. Basic concepts of linguistic analysis, which are applied to linguistic phenomena in French, German, Spanish, and English.

6750 (675) Romance Linguistics. Three credits. Prerequisite: F L 6700, ENGL 6520, or permission of instructor. Introduces linguistic heritage of Latin as manifested in modern Spanish, French, Italian, Portuguese, Catalan, Sardinian, and Rumanian. Earlier language stages as well as mechanisms of language evolution also examined. Knowledge of one Romance language helpful but not required.

6800 (680) Instructional Technology in Foreign Language Education. Three credits. An introductory course with an emphasis on telecommunication and computer applications. Critical examination and evaluation of existing technologies and programs.

6900 (690) Issues in Foreign Language Acquisition. One, two, or three credits. (May be repeated for a maximum of 9 credits.) Prerequisite: Approval of graduate coordinator. Independent study to address a problem or investigate an issue agreed upon by both student and instructor.

6990 (699) Internship. Three or six credits. Prerequisite: F L 6010. Three credits are given for a supervised teaching internship at MTSU; six credits are given for a teaching internship abroad. Under certain circumstances a self-designed, non-teaching internship may be undertaken locally or in a foreign country where the target language is spoken. Students should consult the graduate director in Foreign Languages and Literatures for details.

## Courses in French [FREN]

5010 (510) Topics in Twentieth-Century French Literature. Three credits. Prerequisite: 6 hours of French beyond the intermediate level or permission of the instructor. Repeatable up to six hours.

5020 (515) Topics in French Film. Three credits.
5030 (520) Topics in Nineteenth-Century French Literature. Three credits. Prerequisite: 6 hours of French beyond the intermediate level or permission of the instructor. Repeatable up to six hours.

5040 (525) Topics in Eighteenth-Century French Literature and CuIture. Three credits. Prerequisite: 6 hours of French beyond the intermediate level or permission of the instructor.

5050 (530) Topics in Medieval and Renaissance French Literature. Three credits. Prerequisite: 6 hours of French beyond the intermediate level or permission of the instructor. Repeatable up to six hours.

5060 (533) Topics in Neoclassical French Literature. Three credits. Prerequisite: 6 hours of French beyond the intermediate level or permission of the instructor. Repeatable up to six hours.

5900 (590) Directed Study in French Literature and Culture. One to six credits. Prerequisite: 6 hours of French beyond the intermediate level or permission of the instructor. Individualized intensive reading in primary and secondary sources relating to a
specific topic in French literature or culture. Arrangements must be made with instructor prior to registration.

5990 (521) Techniques in Translation. Three credits. Prerequisites: Admission to the College of Graduate Studies or permission of the instructor. For graduate students seeking proficiency in reading French for research purposes. Open to undergraduates seeking to prepare for graduate study. Will not count toward a major or minor in French.

6000 (600) Seminar in French Studies. Three credits. Prerequisite: Permission of instructor. Comprehensive study of history and structure of French language; advanced stylistics leading to research project of cultural, literary, or linguistic topic.

6970 (697) Seminar in French Literature. Three credits. Prerequisites: 9 hours of French on the 4000/5000 level; must be of graduate status in the M.A. program or have permission of professor. An in-depth look at specific topics, themes, and/or authors in French literature from the medieval period to the present. May be taken twice.

## Courses in German [GERM]

5010- (534 A, B, C, D) Topics in German Literature. Three credits
5013 each. Prerequisite: 6 hours of German beyond intermediate level or permission of instructor.
5010 (534A) The Art of E.T.A. Hoffmann
5011 (534B) The Bourgeois Novel (Keller, Raabe)
5012 (534C) The Prose Fiction of Thomas Mann
5013 (534D) The Prose Fiction of Hermann Hesse and Franz Kafka

5020 (550) German Literature: $\mathbf{1 7 2 5 - 1 8 8 0}$. Three credits. Prerequisite: 6 hours of German beyond intermediate level or permission of instructor.

5030 (560) German Literature: $\mathbf{1 8 8 0}$ to present. Three credits. Prerequisite: 6 hours of German beyond intermediate level or permission of instructor.

5900 (590) Directed Study in German Literature and Culture. One to six credits. Prerequisite: 15 hours of German or permission of instructor. Individualized intensive reading in primary and secondary sources relating to a specific topic in German literature or culture. Arrangements must be made with instructor prior to registration.

5990 (521) Techniques in Translation. Three credits. Prerequisites: Admission to the College of Graduate Studies or permission of the instructor. For graduate students seeking proficiency in reading German for research purposes. Open to undergraduates seeking to prepare for graduate study. Will not count toward a major or minor in German.

6000 (600) Seminar in German Studies. Three credits. Prerequisite: Permission of instructor. Comprehensive study of history and structure of German language; advanced stylistics leading to research project of cultural, literary, or linguistic topic.

6970 (697) Seminar in German Literature. Three credits. Prerequisites: 9 hours of German at the 4000 level or higher or permission of instructor; graduate status in the M.A. or M.A.T. program. An in-depth study of an author, genre, period, or literary movement in German literature from 1850 to present. May be taken twice.

## Course in Humanities [HUM]

5550 (555) The Grail Legend in Film and Literature. Three credits. Prerequisite: ENGL 2110 and either HUM 2610 or ENGL 2210, 2230, or 2240 or permission of instructor. Explores the origin and development of the Grail legend in western art primarily in literature and film.

## Courses in Spanish [SPAN]

5010 (510) History of the Spanish Language. Three credits. Historical development of Spanish from Latin. Students also become familiar with the characteristics of Old Spanish.

5020 (515) Spanish Literature I. Three credits. Prerequisite: 6 hours of Spanish beyond the intermediate level or permission of instructor. Spanish literature from its beginnings to 1700, emphasis on literary history, styles, and themes. Prose fiction and nonfiction, poetry, and drama included.

5030 (525) Spanish Literature II. Three credits. Prerequisite: 6 hours of Spanish beyond the intermediate level or permission of instructor. Works from different genres which represent major literary movements from the eighteenth century to the present.

5040 (544) Latin American Literature I. Three credits. Prerequisite: 6 hours of Spanish beyond the intermediate level or permission of instructor. Latin American literature from pre-Columbian times through Romanticism. Prose fiction and non-fiction, poetry, and drama included.

5050 (545) Latin American Literature II. Three credits. Prerequisite: 6 hours of Spanish beyond the intermediate level or permission of instructor. Major works of Latin American literature from the late nineteenth century to the present.

5060 (555) Special Topics in Hispanic Studies. Three credits. Prerequisite: 6 hours of Spanish beyond the intermediate level or permission of instructor. Topics in language, culture, or literature.

5070 (565) Special Topics in Spanish Literature or Culture. Three credits. Prerequisite: 6 hours of Spanish beyond the intermedi-
ate level or permission of instructor. Topics in peninsular Spanish literature or culture.

5090 (575) Special Topics in Latin American Literature or Culture. Three credits. Prerequisite: 6 hours of Spanish beyond the intermediate level or permission of instructor. Topics in specialized areas of Latin American literature or culture vary.

5120 Spanish Phonetics and Pronunciation. Three credits. A practical introduction to phonetic principles involved in achieving native-sounding Spanish pronunciation, including sounds, stress, intonation, and smooth speech stylistics. Native Spanish speakers or students with native-like Spanish pronunciation may not take this course for credit without instructor permission.

5900 (590A) Directed Readings in Spanish Literature and Culture.
5910 (590B) Directed Readings in Latin American Literature and Culture. One to six credits. Prerequisite: 15 hours of Spanish or permission of instructor. Individualized intensive reading in primary and secondary sources relating to a specific topic in Spanish or Latin American literature or culture. Arrangements must be made with instructor prior to registration.

5990 Study Abroad. Three to twelve credits. Prerequisites: Enrollment in the Master of Arts in Teaching program or approval of the instructor. Students will spend at least four weeks in a Spanishspeaking country studying the Spanish language, literature, and culture. Credits may be earned in Murcia, Spain, or other study abroad programs approved by the Department of Foreign Languages and Literatures. Course may be used for elective credit for the Master of Arts in Teaching degree.

6000 (600) Seminar in Spanish Studies. Three credits. Prerequisite: Permission of instructor. Comprehensive study of history and structure of Spanish language; advanced stylistics leading to research project of cultural, literary, or linguistic topic.

6970 (697) Seminar in Hispanic Literature. Three credits. Prerequisite: 9 hours of Spanish at the 4000-5000 level or higher or permission of the instructor. An in-depth study of an author, genre, period, or literary movement in Peninsular or Latin American literature. May be taken twice.


# Department of Geography and Geology 

Ronald L. Zawislak, Chair<br>Kirksey Old Main 325B

The Department of Geography and Geology offers a graduate certificate in Geoscience. The certificate program consists of 12-16 hours taken from a variety of geography and geology courses. The certificate in Geoscience should be of particular interest to those in the private sector, K-12 and community college education, and government agencies. The department also offers a minor at the graduate level. Hours taken in the certificate program normally can be applied toward the minor.

The required courses for the graduate certificate in Geoscience are
GEOL 5060 Principles of Geoscience, 4 hours
One of the following:
GEOG 5530 Geographic Information Systems, 4 hours
GEOL 5160 Geologic Remote Sensing, 2-3 hours
GEOG 5490 Remote Sensing, 4 hours
Required courses total 6-8 hours credit. In addition to the required hours listed above, students will take 6-8 additional hours in geography and/or geology under the guidance of their academic advisor for a total of 12 to 16 hours to complete the graduate certificate in Geoscience.

## Courses in Geography [GEOG]

5280 (528) Special Problems and Topics in Geography. One to six credits. Research participation or guided readings in a particular area or topic appropriate to the student's interests and professional objectives. The type and amount of additional work will be decided upon when student registers for the course.

5310 (531) Resource Management and Conservation. Three credits. Current problems related to an intelligent use and management of our environmental resources. Additional projects, reports, and/ or papers.

5320 (532) Economic Geography. Three credits. Relationship of the physical factors of the environment to the productive occupations of humans and the distribution of the products produced. Additional projects, reports, and/or papers.

5330 (533) Political Geography. Three credits. Significance of geographical factors in understanding political relationships within and among nations; spatial implications of political decisionmaking processes. Additional projects, reports, and/or papers.

5340 (534) Historical Geography. Three credits. Prerequisite: GEOG 2000 or permission of instructor. The changing human geography of the United States during four centuries of settlement and development. Emphasis on changing population patterns as well as patterns of urban and rural settlement. Additional projects, reports, and/or papers.

5360 (536) Cultural Geography. Three credits. Prerequisite: GEOG 2000 or permission of instructor. Description and explanation of spatial patterns and ecological relationships in human culture. Emphasis on "reading" the cultural landscapes. An in-depth field component will be required.

5370 (537) Urban Geography. Three credits. An introduction to the development of towns, cities, and associated urban areas. Environmental problems also examined. Classroom analysis of various theories of urban development and of data collected by field work. Preparation of appropriate land-use map.

5380 (538) Cartography. Four credits. General knowledge of the field including familiarity with the techniques and tools of professional cartography and graphics. Selected lectures and class discussions. A series of map construction assignments; a specialized map assignment supported by written analysis. Three hours lecture and one two-hour laboratory per week.

5401- (540 A, B) Field Course. Four credits. Supervised study in some
5402 geographical area, preceded by classroom preview and concluded by a time of evaluation. Emphasis on the natural and cultural elements of the environment, with special attention directed toward the pattern of human occupancy. An intensive period of study and research on a full-time basis. Work required will depend on area researched and time involved. Consult department chair for specific fees.

5410 (541) Geography of the United States and Canada. Three credits. Natural, cultural, and geographic environment of these regions. Additional projects, reports, and/or papers.

5420 (542) Geography of Latin America. Three credits. Geographic regions of Mexico, Central America, the West Indies, and South America. Policy analysis and supporting data.

5430 (543) Geography of Europe. Three credits. General distribution of natural and cultural features of Europe followed by a detailed study of the regions and countries of the southern, central, and northwestern parts of the continent. Policy analysis of a European-oriented problem.

5450 (545) Geography of Australia and Oceania. Three credits. Physical and cultural geography of Australia, New Zealand, and the islands of the Southwest Pacific. Additional projects, reports, and/or papers.

5460 (546) Geography of the Former Soviet Union. Three credits. Analysis of the natural, cultural, and human use regions of the former Soviet Union. A policy analysis of an aspect of the region's geography is required.

5470 (547) Rural Settlement. Three credits. Prerequisite: GEOG 2000 or permission of instructor. A geographical analysis of forms, structures, and distribution of rural settlements in distinctive parts of the earth based upon their origin, function, and development. Special emphasis given in analyzing rural settlements of middle Tennessee. Additional projects, reports, and/or papers.

5490 (549) Remote Sensing. Four credits. Prerequisites: GEOG 1030 and 4380 (or 5380). Various vehicles of remote sensing such as
radar, satellite imagery, and infrared data. Use of data in preparation of maps and applications to land use and environmental problems examined. Selection of data from either a numeric or image remote sensing system, interpreting, and developing a report from the interpretations. Three hours lecture and one two-hour laboratory per week.

5500 (550) Geography of the Middle East. Three credits. An analysis of the problems, issues, and theories involved in understanding the physical, cultural, and regional geography of the area. Additional projects, reports, and/or papers.

5510 (551) Laboratory Problems in Remote Sensing. Four credits. Computer processing of selected satellite imagery. Laboratory will provide practical experience through design, execution, and completion of applied remote sensing projects, one of which will be the effects of an environmental impact.

5520 (552) Image Interpretation. Four credits. Principles, methods, and techniques of image interpretation including maps, satellite data, and aerial photos. Environmental impact of a special project. Three hours lecture and one two-hour laboratory per week.

5530 (553) Geographic Information Systems. Four credits. Lecture and laboratory work relative to computer-manipulated geographic data base. Laboratory work will involve experience in practical application of a geographic information system (GIS) to problem-solving. Student will take appropriate data and compile an environmental impact statement (EIS). Three hours lecture and two hours laboratory per week.

## Courses in Geology [GEOL]

5000 (500) Petrology and Petrography. Four credits. Prerequisite: GEOL 3000. Igneous, sedimentary, and metamorphic rocks. Theories of formation and evolution based upon mineralogical and geochemical evidence. Examination and classification of rocks in hand sample and thin section. Additional assignments involving data analysis and interpretation and completion of a research paper required for graduate credit.

5020 (502) Geomorphic Regions of the United States. Four credits. Prerequisite: GEOL 1030 or 1040. The origin, regional distribution, and geomorphic features and history of the landforms of the United States. Students required to analyze maps, structure sections, and aerial photography to determine geomorphic form and the forces and processes that produced these forms plus research a geomorphical problem resulting in a thesis-type paper. Three hours lecture and two hours laboratory per week.

5030 (503) Invertebrate Micropaleontology. Four credits. Invertebrate and microscopic animal life of the past including recent preserved representatives and their ancient fossilized ancestors. Numerous field trips to local fossil-collecting sites. Designed to aid in the preparation of earth science teachers, geologists, and biologists. Research paper on a topic approved by instructor. An oral presentation of this material may be required. Three hours lecture and two hours laboratory per week.

5050 (505) Meteorology. Three credits. Prerequisite: GEOL 1030 or 1040 or GEOG 1030 or consent of instructor. (PHYS 2010 or 2110 and CHEM 1110 recommended.) Physical laws as they relate to the atmosphere, atmospheric processes and their effects on air masses, fronts, and atmospheric circulation, the dynamics of the atmosphere and its relationship to the hydrosphere. Special problem to be assigned by the instructor.

5060 (506) Principles of Geoscience. Four credits. Includes topics from geology, astronomy, meteorology, and oceanography. Specifically designed to aid in the preparation of earth science teachers in the public schools. Term paper on topic approved by the instructor. Three hours lecture and two hours laboratory per week.

5070 (507) Sedimentation and Stratigraphy. Four credits. Prerequisites: GEOL 1030 or 1040, 1050, and 3000, or consent of instructor. Sedimentary rocks; the processes of sedimentation, the alteration of sediments through time, and an examination of the resulting stratigraphic units. For geoscience majors and those with interests in soil mechanics and civil engineering. Research paper on a topic approved by the instructor. An oral presentation may also be required. Three hours lecture and two hours laboratory per week.

5080 (508) Structural Geology. Three credits. Prerequisites: Knowledge of trigonometry, GEOL 1030 or 1040, and 3040; GEOL 1050 recommended. Orientation and deformation of rock. Geometric, analytical, and statistical solutions to structural problems. Emphasis on three-dimensional visualization, problem solving, geological map interpretation, and the mechanics of deformation. Case analyzing, research, and interpretation required. Lecture and laboratory.

5090 (509) Problems in Geology. One to six credits. Prerequisite: A minimum of 12 semester hours of geology, at least 6 hours of which must be upper division and excluding GEOL 1030 or by consent of instructor. An independent research-oriented project commensurate with the student's interests and qualifications. In-depth research requiring extensive and intensive search of applicable literature and large study area. An oral examination and discussion required. May be repeated up to a maximum of six hours.

5100 (510) Geophysical Prospecting. Four credits. Prerequisites: GEOL 3040, MATH 1910, PHYS 2010 or 2110, or consent of instructor. PHYS 2020 or 2120, GEOL 1030 or 1040, and MATH 1920 also recommended. Survey of seismic, gravimetric, and magnetic/electrical exploration methods. Applied course covering some elementary theory, basic field practice, computation fundamentals, interpretation techniques. Case analysis, research, and interpretation required. Two-hour lecture and two hours laboratory per week.

5110 (511) Earth Geophysics. Three credits. Prerequisites: MATH 1910 and 1920, PHYS 2010 or 2110, or consent of instructor. Also recommend PHYS 2020 or 2120 and GEOL 1030 or 1040. Introduction to earth's seismicity, magnetism, heat, and radioactivity. History and mechanics of earth-moon system, earth rotation, and oscillation discussed. Case analysis, research, and interpretation required.

5120 (512) Environmental Geology. Four credits. Prerequisite: GEOL 1030 or 1040 or GEOG 1030 or consent of instructor. Application of geologic information to minimize possible environmental degradation and maximize utilization of resources in the natural and modified environment, local examples and field trips. Topics include engineering properties of earth materials, natural hazard prediction and reduction, water supply, solid and hazardous wastes, mineral resources, global change, land-use planning, environmental impact analysis. Three hours lecture and two hours laboratory per week. An in-depth research project and paper required.

5130 (513) Hydrogeology. Four credits. Prerequisites: GEOL 1030 or 1040 or consent of instructor. Basic processes and measurement of the hydrologic cycle, including precipitation, evaporation, surface
runoff, stream flow, soil moisture, and ground water. Emphasis placed on ground water, including geology of occurrence, principles of flow, conceptual models of regional flow, chemistry and quality, well hydraulics, aquifer characteristics, resource development, detection of pollutants, and contaminant transport. Additional individual research project required, including a written and classroom report. Lecture and laboratory.

5140 (514) Inorganic Geochemistry. Three credits. Prerequisites: CHEM 1120 and GEOL 1040. Principles of inorganic geochemistry. Geochemistry of the earth and solar system, isotope geochronometers, thermodynamics of geochemical processes, mineral stability diagrams, isotope fractionation, rates of geochemical processes, chemical weathering, chemical compositions of surface and groundwater, geochemical exploration, geochemical cycles, environmental geochemistry. Additional assignments involving data analysis and interpretation and completion of a research paper required for graduate credit. Three-hour lecture per week.

5150 (515) Environmental Applications of Hydrogeology. Three credits. Prerequisite: GEOL 4130 or 5130 with a minimum grade of C. Advanced course that emphasizes applied methods for assessing hazardous and solid waste facilities and contaminated ground water remediation techniques. Included will be site characterization methods, ground water sampling procedures, and monitoring well installation techniques. Additional assignments involving case history analysis with an oral presentation will be required of graduate students. Three hours lecture per week.

5160 (516) Geologic Remote Sensing. Two to three credits. Prerequisite: GEOL 1030 or 1040 or permission of instructor. Application of satellite and airborne images to geologic and hydrologic problems. Remote sensing techniques including visible/infrared and radar imaging with an emphasis on current areas of research such as imaging spectroscopy. Problems examined include petroleum and mineral exploration, earthquake and volcanic hazards, groundwater transport, flooding, and other topics of current interest. Some applications in planetary geology also discussed. Practical experience with image processing, image interpretation, and simple computer programming. A term paper on a topic of mutual interest to the student and instructor required. Two- or three-hour lecture/laboratory per week.

5401- (540 C, D) Field Course. Four credits. Supervised study in some 5402 geological area preceded by classroom preview and concluded by a time of evaluation. Emphasis on the natural and physical elements of the environment, with special attention directed toward the geomorphology and geology of scientific areas. An intensive period of study and research on a full-time basis. Work required will depend on area researched and time involved. Consult department chair for specific fees.

Some geography and/or geology courses may be accepted as either geography or geology; others are accepted only in one discipline. Substitutions are made at discretion of department chair in consultation with the academic minor advisor.

# Department of Health, Physical Education, Recreation, and Safety 

Martha Whaley, Chair<br>Murphy Athletic Center 111

The Department of Health, Physical Education, Recreation, and Safety offers two Master of Science Degrees: one with a major in Health, Physical Education, and Recreation and one with a major in Exercise Science and Health Promotion. Four concentrations are available under the Master of Science HPER major: Health, Physical Education, Recreation, and Sport Management. Students may select from a thesis or non-thesis option. Graduate minors are available in Physical Education, Recreation, Safety, or Health. The department also offers the Doctor of Arts in Physical Education.

Normally, the required test score for admission to the Master of Science in Health, Physical Education, Recreation, and Safety program is 30 on the Miller Analogies Test or a satisfactory score on the Graduate Record Examination. For admission to the Master of Science in Exercise Science and Health Promotion program, the expectation is 35 on the Miller Analogies Test or 750 on the Graduate Record Examination. For admission to the doctoral program, either a 44 on the MAT or 900 on the GRE is expected.

## Requirements for the Master of ScienceHPER Major (5000 and 6000 level)

## Thesis Option

Candidate must

1. have earned undergraduate prerequisites of at least 18 semester hours in HPERS professional courses or a baccalaureate degree from an approved college in an area determined by the department chair to be related to the competencies required in the field of health, physical education, and recreation;
2. complete 30 semester hours of academic work to include the core course requirements: REC 6570, HLTH/ REC/PHED 6610, PHED 6820, and HLTH 6930, as well as HLTH/PHED/REC 6640 (3 hours required) with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours;
3. complete 6 semester hours of research tools (composed of HLTH/PHED/REC 6610 and HLTH/PHED/REC 6700) to be included within the 30-hour total;
4. be assigned a thesis committee composed of two members, one of whom must be from the Department of HPERS;
5. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
6. successfully complete a written comprehensive examination during the last semester of coursework (may be taken no more than twice);
7. successfully complete an oral examination relating to the thesis.
Candidate may incorporate 6 semester hours of designated cognate courses or a minor of 12 semester hours into the program.

## Non-Thesis Option

## Candidate must

1. have earned undergraduate prerequisites of at least 18 semester hours in HPERS professional courses or a baccalaureate degree from an approved college in an area determined by the department chair to be related to the competencies required in the field of health, physical education, and recreation;
2. complete 32 semester hours to include no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours;
3. complete a concentration which includes the core course requirements: REC 6570, HLTH/PHED/REC 6610, PHED 6820, and HLTH 6930 as well as 20 semester hours selected in consultation with the candidate's advisor;
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete a written comprehensive examination during the last semester of coursework (may be taken no more than twice).
Candidate may incorporate 6 semester hours of designated cognate courses or a minor of 12 semester hours into the program.

## Concentration: Health

Candidate must have earned appropriate undergraduate prerequisites.

## Core Requirements ( 12 hours):

REC 6570 Issues, Trends, and Research in Recreation HLTH/PHED/REC 6610 Research Methods in HPERS
PHED 6820 Administration and Supervision of Physical Education and Sport
HLTH 6930 Principles and Philosophy of School Health Education Programs
Health Electives (20 hours)
To be selected in consultation with advisor.

## Concentration: Physical Education (NCATE Accredited)

Candidate must have earned appropriate undergraduate prerequisites.

## Core Requirements (12 hours):

REC 6570 Issues, Trends, and Research in Recreation HLTH/PHED/REC 6610 Research Methods in HPERS
PHED 6820 Administration and Supervision of Physical Education and Sport
HLTH 6930 Principles and Philosophy of School Health Education Programs

Physical Education Requirement (20 hours):
PHED 6650 Physiological Bases of Human Performance
PHED 6830 Measurement in Exercise and Sport
PHED 6700 Data Analysis and Organization for Human Performance
HLTH/PHED/REC 6910 Independent Study in Health, Physical Education, and Recreation
FOED 6020 Educational Foundations
SPSE 6430 Introduction to Curriculum Development
PHED Elective selected in consultation with advisor

## Concentration: Recreation

Candidate must have earned appropriate undergraduate prerequisites.

## Core Requirements (12 hours):

REC 6570 Issues, Trends, and Research in Recreation
HLTH/PHED/REC 6610 Research Methods in HPERS
PHED 6820 Administration and Supervision of Physical Education and Sport
HLTH 6930 Principles and Philosophy of School Health Education Programs

## Concentration Requirements (9 hours):

REC 6700 Data Analysis and Organization for Human Performance
Choose two courses from the following:
REC 6510 Financial Management and Marketing of Leisure Services
REC 6520 Management Practices in Recreation and Leisure
REC 6530 Historical and Philosophical Principles in Recreation and Leisure Services
REC 6670 Behavioral Concepts in Recreation and Leisure Services

## Thesis Option Requirements:

REC 6640 Thesis Research (3 hours required)

## Non-Thesis Option Requirements

REC 6910 Independent Study in Health, Physical Education, and Recreation (2 hours required)

## Recreation Electives (6-9 hours):

In consultation with advisor, students should select a minimum of a) 3 hours if Thesis Option, or b) 6 hours if Non-Thesis Option from the recreation and leisure services courses listed below. In addition, a minimum of 3 hours of external electives from outside the HPERS department must be selected.
REC 5340 Wellness and Healthy Lifestyles
REC 5480 Recreational Therapy Techniques
REC 5490 Campus Recreation
REC 5500 Introduction to Recreational Therapy
REC 5510 Recreational Therapy in Clinical Settings
REC 5520 Transitional and Community Recreational Therapy
REC 5560 Field Studies in Recreation and Parks
REC 5570 Outdoor Recreation Workshop
REC 5580 Seminar: Outdoor Recreation and Environmental Issues
REC 5600/5601 Technology Applications
REC 5660 Evaluation of Recreation and Leisure Services

| REC | 6500Legal Issues and Risk Management in <br> Physical Education, Sport, and Leisure Services |
| :---: | :---: |
| REC | 6510Financial Management and Marketing <br> of Leisure Services |
| REC | 6520Management Practices in Recreation and Leisure |
| REC | 6530Historical and Philosophical Principles in Recreation <br> and Leisure Services |
| REC | 6550 Outdoor Environmental Education |
| REC | 6670 Behavioral Concepts in Recreation and Leisure Services |

NOTE: No more than 30 percent of the total hours applied towards the degree may be dually listed as undergraduate/graduate courses.

## Concentration: Sport Management

Candidate must have earned appropriate undergraduate prerequisites.

Core Requirements (12 hours):
REC 6570 Issues, Trends, and Research in Recreation
HLTH/PHED/REC 6610 Research Methods in HPERS
PHED 6820 Administration and Supervision of Physical Education and Sport
HLTH 6930 Principles and Philosophy of School Health Education Programs

Sport Management Requirements (12-15 hours):
PHED 6500 Legal Issues and Risk Management in Physical Education, Sport, and Leisure Services
PHED 6510 Sport Management
PHED 6880 Internship/Special Project
PHED 7050 Facilities and Equipment for Physical Education and Sport
Electives (3-8 hours):
To be selected in consultation with advisor based on student's professional goals
ACTG 6000 Survey of Accounting Principles
ATHC 5060 Sport Psychology
ATHC 5800 Administration of High School and College Athletics
BLAW 6430 Legal Environment of Management
FIN 6000 Survey of Financial Management
HIST 5680 History of Sport in America
M C 6300 Media Law and Ethics
MGMT 6000 Management and Operational Concepts
PHED 5600 Technology Applications
PHED 5601 Technology Applications Lab
PHED 6640 Thesis Research
PHED 6910 Independent Study in Health, Physical Education, and Recreation
REC 5790 Sport and Society
NOTE: All students, thesis or non-thesis, MUST do an internship, PHED 6880, at the end of their coursework.

## Requirements for the Master of ScienceExercise Science and Health Promotion Major (5000 and 6000 level)

## Thesis Option:

Candidate must

1. have earned undergraduate prerequisites of at least 18 semester hours to include human anatomy and physiology, be certified in CPR, and submit three letters of recommendation;
2. complete 33 semester hours to include the following courses:

| Requir |  | es - preferred sequence (21 hours): |
| :---: | :---: | :---: |
| PHED | 6700 | Data Analysis and Organization for Human Performance |
| PHED | 6650 | Physiological Bases of Human Performance |
| PHED | 6610 | Research Methods in HPERS |
| PHED | 6840 | Advanced Principles of Exercise Prescription and Assessment |
| PHED | 6830 | Measurement in Exercise and Sport |
| PHED | 6880 | Internship/Special Project |
| PHED | 6640 | Thesis Research |

Health electives - select two (6 hours):
HLTH 6000 Stress Management in Health and Health Promotion
HLTH 6860 Program Planning for Health Promotion
HLTH 6870 Health Promotion
HLTH 6950 Advanced Methods of Community Health Education
HLTH 6960 Health Dimensions
HLTH 6010 Holistic and Complementary Health Care
HLTH 6020 Somatic Therapy Techniques for Health Care Providers
HLTH 6100 Health Education and Behavior
HLTH 6850 Methods in Epidemiology
External electives (6 hours):
Select two graduate courses, excluding courses with HLTH or PHED prefixes, in consultation with advisor;
3. be assigned a thesis committee composed of two members, one of whom must be from the Department of HPERS;
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete written comprehensive examination during the last semester of coursework (may be taken no more than twice);
6. successfully complete an oral examination relating to the thesis.

## Non-Thesis Option:

## Candidate must

1. have earned undergraduate prerequisites of at least 18 semester hours to include human anatomy and physiology, be certified in CPR, and submit three letters of recommendation;
2. complete 39 semester hours which include the following courses:
Required courses - preferred sequence ( 27 hours)

| PHED | 6700 | Data Analysis and Organization for Human |
| :--- | :--- | :--- |
|  | Performance |  |
| PHED | 6650 | Physiological Bases of Human Performance |
| PHED | 6610 | Research Methods in HPERS |
| PHED | 6840 | Advanced Principles of Exercise Prescription and |
|  | Assessment |  |
| HLTH | 6870 Health Promotion |  |
| PHED | 6830 | Measurement in Exercise and Sport |
| PHED | 6890 | Seminar in Exercise Science and Health |
|  | Promotion |  |
| PHED | 6880 | Internship/Special Project |

Health electives - select two (6 hours)
HLTH 6000 Stress Management in Health and Health Promotion
HLTH 6860 Program Planning for Health Promotion
HLTH 6950 Advanced Methods of Community Health Education
HLTH 6960 Health Dimensions
HLTH 6010 Holistic and Complementary Health Care

HLTH 6020 Somatic Therapy Techniques for Health Care Providers
HLTH
HLTH 6850 Methods in Epidemiology

## External electives ( 6 hours)

Select two graduate courses, excluding courses with HLTH or PHED prefixes, in consultation with advisor;
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
4. successfully complete a written comprehensive examination during the last semester of coursework (may be taken no more than twice).

## Requirements for the Doctor of Arts in Physical Education (6000 and 7000 level)

1. Candidate must have earned 18 semester hours undergraduate and 20 semester hours at the master's level in professional HPER courses or related areas as determined by the department chair, D.A. graduate coordinator, and/ or major advisor. (Recommended courses: Physical Education Curriculum, Kinesiology, Foundations of Physical Education, Measurement and Evaluation, Physiology of Exercise, and Organization and Administration.) Candidate must submit three (3) letters of recommendation and a 400-word typewritten essay. The essay must address the candidate's career aspirations, philosophy of physical education, personal educational objectives, and research experiences or expectations.
2. There are two alternatives:

## Alternative \#1:

48 semester hours above the master's level with at least two-thirds of the program on the 7000 level. 5000-level courses may not be applied. The major consists of at least 24 semester hours of coursework, excluding field work or laboratory experiment, plus 6 semester hours to include PHED 7600, 7610, 7630, plus 6 semester hours for the dissertation. This program requires 12 hours in higher education.

## Alternative \#2:

Same as alternative \#1 with the addition of 18 hours in a second teaching field (for example, HPERS with a concentration in health or recreation); i.e., 60 semester hours above the master's level with at least two-thirds of the program on the 7000 level. 5000-level courses may not be applied. The major teaching field consists of at least 18 semester hours of coursework in physical education, excluding field work or laboratory experiment, plus 6 semester hours to include PHED 7600, 7610, 7630, predissertation seminar, plus 6 semester hours for the dissertation. The second teaching field consists of 18 semester hours of course work in any discipline that is offered as a major at the master's level. This program requires 12 hours in higher education.
3. The core of professional education consists of at least 12 semester hours, including FOED 7520 and 7560 and SPSE 7540 and 7550.
4. A doctoral advisory committee must be appointed.
5. Candidacy Form must be filed with the Graduate Office prior to the completion of 36 credit hours.
6. Qualifying examinations as described on page 43 must be successfully completed.
7. Dissertation, see guidelines page 44.
8. Final examination, see guidelines page 44.

## Courses in Physical Education [PHED]

5240 (524) Principles of Exercise Prescription and Assessment. Three credits. Prerequisites: PHED 4810, 4830, and 4910. Application of knowledge gained to practical situations; develop proficiency in using equipment and skills to evaluate an individual's health risks and fitness.

5340 (534) Wellness and Healthy Lifestyles. Three credits. (Same as HLTH and REC 5340.) Developing healthy lifestyles through health appraisal, fitness evaluation, identification of cardiovascular risk factors, and individual exercise prescriptions.

5600 (560) Technology Applications. One credit. (Same as HLTH and REC 5600.) Prerequisite: Introductory course in computer literacy or equivalent with instructor permission. Corequisite: 5601. Focus on understanding of and competency in use of a variety of technology applications related to the profession. Students will be required to enroll in the corresponding lab during the same semester.

5601 (560L) Technology Applications Lab. Two credits. (Same as HLTH and REC 5601.) Corequisite: PHED 5600. Investigation and application of profession-specific software and hardware applications.

5700 (570) Skills and Techniques of Teaching Rhythmic Activities. Three credits. (Same as DANC 5700.) Various dance forms, methods and materials, evaluative procedures, and experiences in teaching all forms of dance to students at the K-12 level.

5810 (581) Directing Intramural. Two credits. The organization and administration of intramural programs. Actual participation in developing and supervising intramural activities.

5910 (591) Kinesiology. Three credits. The science of human motion. Emphasis on principles of anatomy, physiology, and mechanics of human activity.

5920 (592) Special Problems. One, two, or three credits. (Same as HLTH and REC 5920.) Presentation and discussion of research work in physical education, recreation, health and safety education, or athletics. (A maximum of three semester hours may be applied toward a degree.)

5950 (595) Adaptive Physical Education. Three credits. Principles of planning and conducting physical education to provide for the special needs, interests, and abilities of exceptional students. Field work in local schools and community agencies.

6500 (650) Legal Issues and Risk Management in Physical Education, Sport, and Leisure Services. Three credits. (Same as REC 6500.) Understanding the legal basis for management actions, concepts of legal liability including torts and contracts as applied to physical education, sport, and leisure services organizations. Emphasis on the ability to plan, develop, and implement risk management programs.

6510 (651) Sport Management. Three credits. Overview of careers in sport management and psychosocial aspects of sport, philosophical foundations, management thought, organizational behavior, business, communication, marketing, intercollegiate ath-
letics, public recreation, event and facility management, and professional sport.

6610 (661) Research Methods in HPERS. Three credits. (Same as HLTH and REC 6610.) Location of information, methods of research, methods of collecting data, application of the computer in analyzing data, and preparation and presentation of a research paper.

6630 (663) Philosophy and Principles of Human Performance. Three credits. The philosophic basis of human performance and the scientific principles which provide a base for the development of sound programs.

6640 (664) Thesis Research. One to six credits. (Same as HLTH and REC 6640.) Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6650 (665) Physiological Bases of Human Performance. Three credits. Principles of exercise physiology. Acute responses and chronic adaptations of the body to physical activity, exercise, and sports participation and their impact on homeostasis examined. Physiological systems examined in detail.

6700 (670) Data Analysis and Organization for Human Performance. Three credits. (Same as HLTH and REC 6700.) Prerequisites: PHED 4810 or equivalent, good understanding of mathematical concepts, and computer literacy. Pertinent skills needed to analyze and organize research data through introduction of concepts, principles, techniques, and activities that lead to the appropriate organization and analysis of research data collected for health and human performance.

6800 (680) Program Planning in Physical Education. Three credits. Modern programs of physical education for all grade levels and the contribution of activities to the goals of education.

6820 (682) Administration and Supervision of Physical Education and Sport. Three credits. The organization, planning, and functions involved in administering and supervising programs of physical education and sport. Clinical or field experience required of students with a sport management concentration.

6830 (683) Measurement in Exercise and Sport. Three credits. Measurement theory related to reliability, objectivity, and validity, with application to real world testing situations in the field of health and human performance. Practical experience of testing through labs and/or a research project, including computer analysis and interpretation of reliability and validity data.

6840 (684) Advanced Principles of Exercise Prescription and Assessment. Three credits. Prerequisite: PHED 4240 or equivalent. Provides theoretical and laboratory learning experiences for health risk appraisal, cardiovascular evaluation, and exercise prescription for healthy people and special populations.

6880 (688) Internship/Special Projects. Three to six credits. (Same as HLTH 6880.) On-site practical experience in an exercise science, health promotion, or sport management program. Those with extensive work experience will develop, implement, and conclude a project (research or applied) in consultation with the major professor.

6890 (689) Seminar in Exercise Science and Health Promotion. Three credits. Current issues and research in exercise science
and health promotion. Written and oral presentation of a research project required.

6910 (691) Independent Study in Health, Physical Education, and Recreation. One, two, or three credits. (Same as HLTH and REC 6910.) Individual study of current problems or areas of interest.

7000 (700) Adapted Physical Activity. Three credits. Cognitive, neuromuscular, sensory, and orthopedic impairments; identification of current topics and procedures for testing and programming for individuals with disabilities; current research findings and practices to assist students in developing necessary skills to design and implement appropriate physical activity programs for individuals with disabilities.

7010 (701) Analysis and Criticism of Professional Literature. Three credits. Thorough consideration of selected specialized literature most likely to influence physical education programs, procedures, and practices in the school and community.

7020 (702) College Physical Education Administration. Three credits. Provides administrators and professional students with a broad base of workable administrative principles and guides.

7030 (703) Research Seminar in Human Performance. Three credits. Current problems, issues, trends, and research in human performance; selected lectures, reports, and class discussion.

7040 (704) History of Physical Education. Three credits. The role of physical activity in the lives of people from antiquity to the present with an emphasis on the major events, movements, and people that have influenced the development of physical education.

7050 (705) Facilities and Equipment for Physical Education and Sport. Three credits. The planning of areas and facilities related to physical education, athletics, and sport. Clinical or field experience required of students with a sport management concentration.

7060 (706) Field Work or Laboratory Experiment in Physical Education. One to six credits. Professional assignments in physical education appropriate to the student's background and interests will be pursued for the semester.

7080 (708) Professional Preparation in Human Performance. Three credits. Comparisons of current programs and trends; the development of individual programs.

7090 (709) Motor Learning in Physical Education. Three credits. Theories of learning related to the acquisition of motor skills; a review of the literature pertaining to motor skill development and the implications for teaching.

7100 (710) Mechanical Analysis of Sports Skills. Three credits. A synthesis of scientific principles as they relate to teaching simple and complex motor patterns.

7600/ 7610 (760/761) Teaching Practicum in Human Performance. Two credits. Careful supervision given to actual teaching experience. Assignment by department or chair of candidate's committee.

7630 (763) Pre-Dissertation Seminar. Two credits. Prerequisites: HLTH/PHED/REC 6610 and 6700 or equivalent. Gives doctoral students an opportunity to discuss the process of conducting dissertation and issues concerning research at the university. Grant writing also addressed.

7640 (764) Dissertation Research. One to six credits. Assignment by department or chair of candidate's committee. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of dissertation. Once enrolled, student should register for at least one credit hour of doctoral research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

7700 (770) Advanced Data Analysis and Organization for Human Performance. Three credits. Prerequisites: HLTH/PHED/REC 6610 and 6700 or equivalent. Skills and understanding necessary to read, conduct, report, and interpret advanced data analytical techniques using data from HPER. Practical and written assignments, presentations, examinations, and projects will furnish doctoral student with tools necessary for data analysis associated with dissertation requirement.

7710 (771) Experimental Design in Human Performance. Three credits. Prerequisites: HLTH/PHED/REC 6610, 6700, and 7700 or equivalent. Skills and understanding necessary to evaluate designs used in HPER research literature. Practical and written assignments, evaluation of current research, examinations, and projects; knowledge and skills for planning appropriately the design for future research projects.

## Courses in Health [HLTH]

5270 (527) Bioethical Issues in Health Education. Three credits. Analysis of current bioethical issues, problems, needs, trends, and interests in health education.

5280 (528) Instructor Course: First Aid and CPR. Two credits. Prerequisite: HLTH 3300 or current American Red Cross certification in multimedia first aid or standard first aid and CPR. Organizing, planning, and teaching American Red Cross safety courses. Red Cross instructor certification awarded for successful completion.

5290 (529) Corrective Therapy-Clinical Training Program. Nine credits. Orientation, observation, and practice in the methods and techniques of medical rehabilitation and application of physical education principles to the treatment of illness and injury. Student-trainee program affiliated with the Veterans Administration Hospital, Murfreesboro; training designed to prepare therapists for medical treatment programs.

5310 (531) Health Problems of Exceptional Children. Three credits. Common health problems with emphasis on those peculiar to children in various areas of exceptionality. Consideration given to identification and referral.

5340 (534) Wellness and Healthy Lifestyles. Three credits. (Same as PHED and REC 5340.) Developing healthy lifestyles through health appraisal, fitness evaluation, identification of cardiovascular risk factors, and individual exercise prescriptions.

5600 (560) Technology Applications. One credit. (Same as PHED and REC 5600.) Prerequisite: Introductory course in computer literacy or equivalent with instructor permission. Corequisite: 5601. Focus on understanding of and competency in use of a variety of technology applications related to the profession. Students required to enroll in the corresponding lab during the same semester.

5601 (560L) Technology Applications Lab. Two credits. (Same as PHED and REC 5601.) Corequisite: HLTH 5600. Investigation and application of profession-specific software and hardware applications.

5900 (590) Certified Health Education Specialist (CHES) Review. One credit. Responsibilities and competencies on the Certified Health Education Specialist examination. Pass/Fail.

5920 (592) Special Problems. One, two, or three credits. (Same as PHED and REC 5920.) Presentation and discussion of research work in physical education, recreation, health and safety education, or athletics. (A maximum of three semester hours may be applied toward a degree.)

6000 (600) Stress Management in Health and Health Promotion. Three credits. Evaluation techniques and instruments considered. Effects of stress on physical and mental domains of health examined. Methods of conducting stress management workshops and classes emphasized.

6010 (601) Holistic and Complementary Health Care. Three credits. Concepts and theories that make up the disciplines and practices constituting the holistic and complementary approach to health promotion and disease treatment and prevention.

6020 (602) Somatic Therapy Techniques for Health Care Providers. Three credits. (Same as ATHT 6020.) Theoretical concepts, knowledge, theories, and history of Somatic Therapy. Emphasis on Swedish-Esalen, Sports Massage, Shiatsu, and Connective Tissue. Includes advanced rehabilitative and therapeutic modality techniques. Combines didactic and some experiential opportunities.

6100 (610) Health Education and Behavior. Three credits. Links behavioral change to practical application in the design and implementation of individual and group programs in health education and behavior.

6510 The Nation's Health. Three credits. Investigates the determinants of health and the role of public health and health care on the health status of the population of the United States. Study of biological, socioeconomic, cultural, and behavioral factors that influence health status and care in America.

6610 (661) Research Methods in HPERS. Three credits. (Same as PHED and REC 6610.) Location of information, methods of research, methods of collecting data, application of the computer in analyzing data, and preparation and presentation of a research paper.

6640 (664) Thesis Research. One to six credits. (Same as PHED and REC 6640.) Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6700 (670) Data Analysis and Organization for Human Performance. Three credits. (Same as PHED and REC 6700.) Prerequisites: PHED 4810 or equivalent, good understanding of mathematical concepts, and computer literacy. Pertinent skills needed to analyze and organize research data through introduction of concepts, principles, techniques, and activities that will lead to the appropriate organization and analysis of research data collected for health and human performance.

6850 (685) Methods in Epidemiology. Three credits. Principles and methods of epidemiologic analysis including standardization; stratified analysis; confounding and its control; planning and conducting epidemiologic research; role of multivariate analysis in epidemiologic research.

6860 (686) Program Planning for Health Promotion. Three credits. Needs assessment, missions, goals, and objectives of health promotion program. Program planning, implementation, and evaluation covered in detail.

6870 (687) Health Promotion. Three credits. Health promotion knowledge as well as the ability to impart this knowledge to the lay population. In-depth information will be covered regarding lifestyle and its relationship to risk factors for cardiovascular disease and cancer.

6880 (688) Internship/Special Projects. Three to six credits. (Same as PHED 6880.) On-site practical experience in an exercise science, health promotion, or sport management program. Those with extensive work experience will develop, implement, and conclude a project (research or applied) in consultation with the major professor.

6910 (691) Independent Study in Health, Physical Education, and Recreation. One, two, or three credits. (Same as PHED and REC 6910.) Individual study of current problems or areas of interest.

6930 (693) Principles and Philosophy of School Health Education Programs. Three credits. A detailed overview.

6950 (695) Advanced Methods of Community Health Education. Three credits. Designed for health educators, classroom teachers, physical educators, administrators, and others interested in methods and procedures of community health education.

6960 (696) Health Dimensions. Three credits. Advanced content for teachers of personal and community health; designed for updating professional preparation and for gaining additional indepth basics utilized in curriculum planning, teaching, public service, and research by school health educators.

6970 (697) Advanced Methods in Human Sexuality Education. Three credits. Methodology, teaching techniques, and the organization of sexuality education programs for schools (K-12) and other community settings. Additional emphasis directed to concepts and information about human sexuality education, i.e. the psychological, physiological, sociological, and ethical aspects.

7120 (712) Research in Epidemiology. Three credits. Advanced study in epidemiological analysis, methods, and critique with an emphasis within the field of health and human performance. Areas include epidemiology and chronic disease, public health, exercise science, and sports medicine.

## Courses in Athletic Coaching [ATHC]

5060 (506) Sport Psychology. Three credits. Application of the knowledge base of psychology to the human endeavors of athletics. Introduction of behavioral principles, motivational research, personality factors, social/psychological findings, cognitive processes, dysfunctional behavior knowledge, and psychometric assessment procedures for the purpose of enhancing performance.

5180 (518) Coaching Speed/Strength Conditioning for Sports. Three credits. Organizing and developing speed and strength conditioning programs for sports. Setting up and supervising proper methods and techniques in running, weight lifting, and conditioning exercise for athletics today.

5220 (522) Coaching Soccer. Two credits. Theory and practice of soccer fundamentals as well as introduction of offensive and defensive plays.

5600 (560) Advanced Coaching of Football. Two credits. Philosophies of coaching football and close examination of the master plan of coaching responsibilities.

5620 (562) Advanced Coaching of Basketball. Two credits. Philosophies of coaching basketball discussed, along with a detailed study of the master plan of coaching responsibilities.

5640 (564) Coaching of Baseball. Two credits. Theory and practice in baseball fundamentals as well as reviewing the various systems and types of plays.

5650 (565) Coaching Cross Country, Track and Field. Two credits. Theory and practice in fundamentals and skills.

5680 (568) Coaching and Judging Women's Gymnastics. Three credits. Includes classroom instruction and practical experience in principles and techniques of coaching, spotting, and judging women's gymnastics; a USGF Judges Rating may be obtained.

5690 (569) Psychology of Coaching. Three credits. Application of basic psychological principles to everyday coaching situations and problems. Designed to improve communication and motivation for players and coaches.

5800 (580) Administration of High School and College Athletics. Three credits. National, state, and local policies concerning athletic eligibility, contest management, equipment, awards, finances, budgets, safety, maintenance of facilities, public relations, publicity, and current athletic trends.

## Courses in Athletic Training [ATHT]

5610 (561) Prevention and Care of Athletic Injuries. Three credits. Theory and practice in the prevention and care of athletic injuries including treatment, taping, and rehabilitation.

5960 (596) Rehabilitation Techniques in Sports Medicine. Three credits. Methods and techniques in the selection and application. The N.A.T.A. Competencies in Athletic Training will be a guideline for knowledge that each student should obtain. Students will engage in the process of reviewing, analyzing, discussing, and reflecting about athletic training.

5970 (597) Therapeutic Modalities in Sports Medicine. Three credits. Methods and techniques in the application of selected therapeutic modalities and the evaluation of injuries relative to modalities. The N.A.T.A. Competencies in Athletic Training will be a guideline for knowledge that each student should obtain. Reviewing, analyzing, discussing, synthesizing, and reflecting about athletic training.

6020 (602) Somatic Therapy Techniques for Health Care Providers. Three credits. (Same as HLTH 6020.) Examines the concepts, knowledge, theories, and history of Somatic Therapy. Emphasis on Swedish-Esalen, Sports Massage, Shiatsu, and Connective Tissue. Includes advanced rehabilitative and therapeutic modality techniques and combines didactic and some experiential opportunities.

## Courses in Recreation [REC]

5340 (534) Wellness and Healthy Lifestyles. Three credits. (Same as HLTH and PHED 5340.) Developing healthy lifestyles through health appraisal, fitness evaluation, identification of cardiovascular risk factors, and individual exercise prescriptions.

5380 (538) Introduction to Recreation for Persons with Disability. Three credits. Important issues such as advocacy, accessibility, legalities, and the importance of and broad range of opportunities in the provision of recreational services for persons with disability in our society.

5470 Leisure and Aging. Three credits. Aging relative to the individual, family, peers, and society with an emphasis on leisure. The holistic approach including physical, psychological, social, cultural, environmental, and cognitive aspects explored. Interdisciplinary approach ideal for the developing or practicing human service professional.

5480 (548) Recreational Therapy Techniques. Three credits. Activ-ity-based therapeutic interventions currently utilized to alleviate existing health-related problems, maintain current level of functioning, or to assist in overall rehabilitation efforts of transdisciplinary treatment team.

5490 (549) Campus Recreation. Three credits. For those wishing to acquire a specific and comprehensive knowledge of the recre-

ational sports program and an understanding of its place and value in education and society.

5499 Therapeutic Terminology in Recreational Therapy. Three credits. Offers preparation for establishing a vital knowledge base necessary to work in today's fast changing rehabilitation settings. Terminology related to third-party reimbursement, accreditation of health care organizations, and basic medical abbreviations used in charting.

5500 (550) Introduction to Recreational Therapy. Three credits. Prerequisite: REC 3010. Explores the profession of recreational therapy, the wide range of disabilities, and the role of intervention in a variety of settings: clinical, community, and transitional. Topics include history, philosophy, professional development/ certification, systemic program design, and implementation.

5510 (551) Recreational Therapy in Clinical Settings. Three credits. Prerequisites: REC 3010 and 4500. Increases understanding of recreational therapy in clinical settings working with persons with health-related issues and/or disabilities. Concepts of disease and disability, holistic approach, interdisciplinary treatment, assessment, intervention planning and implementation, evaluation, documentation, and third-party reimbursement explored.

5520 (552) Transitional and Community Recreational Therapy. Three credits. Issues clients may face when leaving institutions and returning to their communities. Examines the role and provision of recreational therapy services in transitional and com-munity-based settings.

5540 (554) Organization and Administration of Recreation. Three credits. Prerequisites: REC 3010 and 9 hours of recreation courses. Duties and responsibilities of an administrator and how these are performed.

5560 (556) Field Studies in Recreation and Parks. Three credits. Prerequisites: REC 2500 and 3530 . Opportunity for supervised practical application of classroom theory in professional field work.

5570 (557) Outdoor Recreation Workshop. Three credits. Off-campus course that provides materials and experiences not available in the classroom. Exposure to issues, trends, and concerns relevant to outdoor recreation, resource management, and the delivery of programs and services in outdoor environments. Public, private non-profits, and commercial agencies experienced through a series of field trips, lectures, group exercises, and other experiential-based activities.

5580 (558) Seminar: Outdoor Recreation and Environmental Issues. Three credits. Awareness of the importance of environmental considerations when planning, managing, or administering outdoor recreation programs. Includes environmental issues and methods of seeking solutions to environmental problems.

5590 (559) Readings in Parks and Recreation. Three credits. Indepth reading and preparation of an annotated bibliography and report. Arrangements for this course should be made with the instructor prior to registration.

5600 (560) Technology Applications. One credit. (Same as HLTH and PHED 5600.) Prerequisite: Introductory course in computer literacy or equivalent with instructor permission. Corequisite: 5601. Focus on understanding of and competency in use of a variety of technology applications related to the profession. Students required to enroll in the corresponding lab during the same semester.

5601 (560L) Technology Applications Lab. Two credits. (Same as HLTH and PHED 5601.) Corequisite: REC 5600. Investigation and application of profession-specific software and hardware applications.

5660 (566) Evaluation of Recreation and Leisure Services. Three credits. Research and evaluation procedures and techniques applicable to assessing recreation and leisure service programs, participants, administrative structures, and resources. Emphasis on beginning and completing a "real-world" evaluation project.

5790 (579) Sport and Society. Three credits. (Same as SOC 5790.) A behavioral approach to the sport and leisure phenomena from the related perspectives of sociology and anthropology.

5920 (592) Special Problems. One, two, or three credits. (Same as PHED and HLTH 5920.) Presentation and discussion of research work in physical education, recreation, health and safety education, or athletics. (A maximum of three semester hours may be applied toward a degree.)

6500 (650) Legal Issues and Risk Management in Physical Education, Sport and Leisure Services. Three credits. (Same as PHED 6500.) Understanding the legal basis for management actions, concepts of legal liability including torts and contracts as applied to physical education, sport, and leisure services organizations. Emphasis on the ability to plan, develop, and implement risk management programs.

6510 Financial Management and Marketing of Leisure Services. Three credits. Principles and practices of budgeting, financial methods and strategies, and revenue sources for recreation and leisure service agencies, including cost accounting and fiscal control. Includes traditional approaches to marketing with particular focus on approaches unique to recreation and leisure services organizations.

6520 (652) Management Practices in Recreation and Leisure. Three credits. An analysis of administrative processes and management techniques used in planning, organizing, staffing, directing, and controlling with respect to leisure service delivery systems.

6530 (653) Historical and Philosophical Principles in Recreation and Leisure Services. Three credits. Identification of principles and practices applicable to a variety of opportunities in public, private, institutional, and industrial recreation.

6550 (655) Outdoor Environmental Education. Three credits. Camping leadership and outdoor education principles with implications for management, planning of, and interpretation in recreation areas as well as for policy development.

6570 (657) Issues, Trends, and Research in Recreation. Three credits. Identification and analysis. Emphasis on meaningful, outstanding studies and research in the field of recreation.

6610 (661) Research Methods in HPERS. Three credits. (Same as HLTH and PHED 6610.) Location of information, methods of research, methods of collecting data, application of the computer in analyzing data, preparation and presentation of a research paper.

6640 (664) Thesis Research. One to six credits. (Same as HLTH and PHED 6640.) Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6670 (667) Behavioral Concepts in Recreation and Leisure Services. Three credits. Social psychological concepts concerning recreation and leisure behavior in various types of park, recreation, and tourism settings. Range of different theoretical perspectives and behavioral concepts underlying pertinent research.

6700 (670) Data Analysis and Organization for Human Performance. Three credits. (Same as HLTH and PHED 6700.) Prerequisites: PHED 4810 or equivalent, good understanding of mathematical concepts, and computer literacy. Pertinent skills needed to analyze and organize research data through introduction of concepts, principles, techniques, and activities that will lead to the appropriate organization and analysis of research data collected for health and human performance.

6910 (691) Independent Study in Health, Physical Education, and Recreation. One, two, or three credits. (Same as HLTH and PHED 6910.) Individual study of current problems or areas of interest.

## Courses in Safety [SAFE]

5320 (532) Principles of Accident Control. Three credits. Principles, concepts, and methodology of the safety movement. Introductory experiences dealing with accident prevention as well as control efforts recommended by various social institutions and agencies reviewed.

5350 (535) Automotive Transportation Safety Programs. Three credits. Federal, state, and local legislation concerning transportation control and design.

5850 (585) Driver and Traffic Safety Fundamentals. Three credits. Prerequisite: Valid driver's license. Introduction to the field of driver and traffic safety education. Primary focus is on current concepts related to safe driving.

5870 (587) Teaching Driver and Traffic Safety. Three credits. Prerequisite: SAFE 4850 or 5850 . Designed to develop teaching techniques for laboratory instruction including on-street, driving simulator, and multiple-car range programs.

6410 (641) Administration and Supervision of Safety Programs in Schools and Colleges. Three credits. An overview of the total program administration through analysis of tasks, strategies, and situational factors affecting them; examines handicaps to safety programming, needed change, and methods for implementation.

6450 (645) Field Practice in Safety Education. Three credits. Professional assignment under supervision of one or more safety educators or agency directors in school or community organizations.

6470 (647) Disaster Preparedness and Emergency Care Systems. Three credits. Major elements involved in disasters and emergencies, preparedness planning, systems utilization, and attention to essential human services, with emphasis on community action.

6920 (692) School Safety and Safety Education. Three credits. School safety education concepts in all disciplines and levels, including content, methodology, and teacher liability.

# Department of History 

Thaddeus Smith, Chair<br>Peck Hall 223

The History Department offers the Master of Arts with a major in History, Master of Arts with a concentration in Public History, Doctor of Arts with a major in History, Doctor of Arts with a concentration in Historic Preservation, and a graduate minor.
Normally, a score of 900 (verbal and analytical portions) on the Graduate Record Examination is required for admission to the master's programs. For admission to the doctoral programs, a GRE of 1100 (verbal and analytical portions) is expected.

Application deadline: March 15 for Fall admission; October 15 for Spring admission.

## Requirements for the Master of ArtsHistory Major (5000 and 6000 levels only)

Admission to the program requires

1. an earned bachelor's degree from an accredited university or college;
2. at least a 2.75 grade point average in all college work taken;
3. completion of at least 18 semester hours of undergraduate history courses;
Modifications to the above requirements may be made with the permission of the department's director of graduate studies and the department's Graduate Committee.
Once admitted to the program, candidate must
4. complete 30 hours of graduate history courses with at least 70 percent of the hours to be taken at the 6000 level. The 30 hours include:

## a. core seminar courses

HIST 6010 Historiography
HIST 6020 Historical Research Methods
HIST 6030 Historical Readings and Criticism
b. 9 to 12 hours of graduate courses in a thesis field: American or European history;
c. 6 to 9 hours of graduate courses (at least one course being at the 6000 level) in courses outside the thesis field;
d. HIST 6640 Thesis Research (at least 3 hours)
2. complete comprehensive examinations in the thesis field; NOTE: Students may add a field outside of history towards their master's program. Specific provisions on graduate minors are elsewhere in this catalog.
3. maintain satisfactory progress towards completion of the degree each semester;
4. fulfill a foreign language requirement by:
a. completing 12 undergraduate semester hours in one language;
b. earning a grade of $A$ or $B$ in GERM 4990 or FREN 4990;
c. earning at least a $C$ in any upper-division undergraduate foreign language course taught in the language and requiring translation;
d. passing a reading examination in the language administered by the Foreign Languages and Literatures Department
5. file a Candidacy Form with the Graduate Office prior to the completion of 24 semester hours;
6. submit an acceptable thesis.

## Requirements for the Master of Arts with a Concentration in Public History (5000 and 6000 levels only)

The Public History concentration offers specialized education in one of three tracks: historic preservation, museums, cultural resources, and archival. Each track consists of a thematic seminar, a local practicum, and an internship off campus.

Admission to the program requires

1. an earned bachelor's degree from an accredited university or college;
2. at least a 2.75 grade point average in all college work;
3. completion of at least 18 semester hours of undergraduate history courses.
Modifications to these above requirements may be made with the permission of the department's director of graduate studies and the department's Graduate Committee.
Once admitted to the program, candidate must
4. complete at least 36 semester hours of graduate-level history and public history courses, with at least 70 percent of the hours to be taken at the 6000 level. The 36 hours include
a. core seminar courses

HIST 6010 Historiography
HIST 6020 Historical Research Methods
HIST 6030 Historical Readings and Criticism
b. Public History courses

HIST 6510 Seminar: Public History
HIST 6570 Public History Internship
HIST 6580 Public History Practicum
c. Public History seminar option (3 hours)

HIST 6520 Seminar: Historic Preservation OR
HIST 6540 Seminar: Museum Management OR
HIST 6560 Seminar: Cultural Resource Management
d. Public History electives ( 6 hours) selected in consultation with public history faculty;
e. history electives ( 6 hours) outside the public history field (at least 3 hours of which must be at the 6000 level);
f. HIST 6640 Thesis Research (at least 3 hours)
2. fulfill a foreign language requirement in the same manner as stipulated for the Master of Arts-History Major, or complete HIST 5630 Computer and Quantitative History;
3. maintain satisfactory progress towards completion of the degree each semester.
4. file a Candidacy Form with the Graduate Office before the completion of 24 semester hours;
5. complete comprehensive examinations in the field of public history, that field to include an examination in the area of American history in which the student will complete the thesis;
6. submit an acceptable thesis.

## Requirements for the Doctor of ArtsHistory Major (6000 and 7000 levels only)

## Candidate must

1. hold a master's degree and have earned at least 18 semester hours of undergraduate history credit and a minimum of 20 semester hours of graduate history credit. Deficiencies in this requirement should be removed during the first year in the program;
2. have three years of appropriate teaching and/or administrative educational experience;
3. fulfill a foreign language requirement by:
a. completing 12 undergraduate semester hours in one language;
b. earning a grade of $A$ or $B$ in GERM 4990 or FREN 4990;
c. earning at least a $C$ in any upper-division undergraduate foreign language course taught in the language and requiring translation;
d. passing a reading examination in the language administered by the Foreign Languages and Literatures Department
4. select one of the following programs:

## Alternative \#1

Complete a minimum of 48 semester hours of graduate courses beyond the master's level, including
a. at least 24 semester hours of graduate history courses;
b. 6 semester hours of teaching internship;
c. 6 semester hours of dissertation research and writing;
d. 12 semester hours of professional education classes consisting of FOED 7520 and 7560 and SPSE 7540 and 7550.
At least two thirds of the above hours must be taken at the 7000 level.

## Alternative \#2

Complete a minimum of 60 semester hours of courses above the master's level, including
a. at least 18 semester hours of graduate history courses;
b. at least 18 semester hours in any other academic discipline for which MTSU offers a master's or higher degree;
c. 6 semester hours of internship;
d. 6 semester hours of dissertation research and writing;
e. 12 semester hours of professional education classes consisting of FOED 7520 and 7560 and SPSE 7540 and 7550.
At least two-thirds of the above hours must be taken at the 7000 level.
5. consult with an advisory committee during the first semester in the program to ensure the student's course work will adequately prepare him or her for successfully completing oral and written examinations in three fields:

## Alternative \#1

a. United States History
b. Western Civilization (either before or since 1715)
c. Higher Education

## Alternative \#2

A program determined by the student in consultation with the advisory committee
6. file a degree plan with the Graduate Office prior to the completion of 36 credit hours.
7. maintain satisfactory progress towards completion of the degree each semester;
8. successfully complete written and oral examinations in 1) history and 2) higher education;
9. develop and successfully defend a dissertation prospectus;
10. complete a dissertation and successfully defend it in a final oral examination.

## Requirements for the Doctor of Arts in History with a Concentration in Historic Preservation (6000 and 7000 levels only)

Candidate must

1. hold a master's degree and have earned at least 18 semester hours of undergraduate history credit and a minimum of 20 semester hours of graduate history credit. Deficiencies in this requirement should be removed during the first year in the program;
2. fulfill a foreign language requirement in the same manner as stipulated for the Master of Arts-History Major, or complete HIST 5630 Computer and Quantitative History;
3. complete from 48 to 60 semester hours of history and professional education courses above the master's level, including
a. at least 24 semester hours of graduate history courses;
b. 6 semester hours of internship (HIST 7950 and 7960);
c. 6 semester hours of dissertation research and writing;
d. 12 semester hours of professional education courses consisting of FOED 7520 and 7560 and SPSE 7540 and 7550.
At least two-thirds of the above must be taken at the 7000 level.
4. complete a skills/tool cognate of 12 semester hours chosen in consultation with student's public history advisor;
5. consult with an advisory committee during the first semester in the program. Each student's program will include coursework in the fields of 1) historic preservation theory, 2) applied practice in historic preservation, and 3) United States history. The advisory committee will assist the student in selecting courses to satisfy these field requirements;
6. file a degree plan with the Graduate Office prior to the completion of 36 credit hours;
7. maintain satisfactory progress towards completion of the degree each semester;
8. successfully complete written and oral examinations in 1) history, 2) historic preservation, and 3) higher education;
9. develop and successfully defend a dissertation prospectus;
10. complete a dissertation and successfully defend it in a final oral examination.

## Courses in History [HIST]

5010 (511) Colonial America. Three credits. The exploration and colonialization of North America, relations between Indians and Europeans, and the development of colonial societies and identity from 1492 to 1760.

5020 (512) The American Revolution. Three credits. Examines international conflicts from the Seven Years' War through the War of 1812, while emphasizing political, social, intellectual, and economic developments in the new United States.

5030 (513) Jacksonian America, 1815-1850. Three credits. The major political, social, and economic developments in the awakening of American nationalism, Jacksonian Democracy, expansionism, and the Mexican War.

5040 (514) Civil War and Reconstruction. Three credits. Sectional differences of the 1850s. Civil War. Reconstruction, and the Grant Era.

5050 (515) Modern America, 1877-1914. Three credits. The nature and consequences of the shift of the United States from an agrarian to an urban and industrialized society between Reconstruction and World War I.

5060 (516) Modern America, 1914-1945. Three credits. The increasing involvement of the United States in world affairs from World War I through World War II and of the social and political consequences of economic complexity which resulted in prosperity, depression, and the New Deal.

5070 (517) Modern America, Post-1945. Three credits. The major social, political, economic, and diplomatic developments in the history of the United States from 1945 to the present with particular emphasis on the role of the United States in world affairs and the changing role of government.

5130 (528) The Sunbelt. Three credits. The Southern rim of states from a nineteenth-century American outpost to the modern pace-setting position in economics, culture, racial relationships, and politics with such leaders as King, Nixon, Carter, and Reagan.

5140 (564) The West. Three credits. The role of the frontier in American history. Emphasis on the trans-Mississippi West.

5150 The American South. Three credits. The major themes that have created and recreated southern culture from the Colonial period to the present. Major social, political, and economic factors that made and remade the region through time.

5210 (573) Middle Ages. Three credits. An intensive survey of the progress of medieval civilization with emphasis on Byzantine, Moslem, and Germanic cultures in the Middle Ages.

5220 (504) Renaissance Europe. Three credits. Survey of political, economic, social, intellectual, and cultural developments of Italy, France, England, Germany, and the Low Countries during the fourteenth through the seventeenth centuries.

5230 (505) Reformation Europe. Three credits. Survey of political, economic, social, intellectual, and cultural developments of Italy, France, England, Germany, and the Low Countries during the sixteenth and seventeenth centuries.

5240 (503) Europe: Absolutism and Enlightenment. Three credits. European history in the seventeenth and eighteenth centuries, covering social, economic, intellectual, and political developments.

5250 (502) Europe: The French Revolution and Napoleon. Three credits. The social, political, and economic aspects of the old regime, the French Revolution, and the Napoleonic period in European history.

5260 (533) France Since 1870. Three credits. The social, political, intellectual, cultural, and economic history of France from the origins of the Third Republic to the present.

5270 (536) Europe: 1815-1900. Three credits. Nineteenth-century Europe.

5280 (537) Europe: 1900-1939. Three credits. Emphasis on the impact of continued industrialization, total war, and totalitarian ideologies in the early twentieth century.

5290 (538) Europe Since 1939. Three credits. The major European countries and common European-wide themes from World War II to the present.

5310 (539) Germany to 1870. Three credits. The evolution of the German states from their Indo-European origins to their unification in a single German nation in 1871 with particular emphasis on the history of German men and women since the Middle Ages. History of Austria and its possessions also included.

5320 (540) Germany Since 1870. Three credits. The history of Germany from national unification in 1871 through its reunification in the contemporary world. Course emphasizes major social, cultural, political, intellectual, and economic developments of the period as they relate to both German men and women. History of the Austro-Hungarian empire (1867-1918) and the modern Austrian state also included.

5330 (541) Russia to the Twentieth Century. Three credits. Russian history from its beginnings to the end of the nineteenth century.

5340 (542) Russia in the Twentieth Century. Three credits. A continuation of 5330 emphasizing the Revolution and the soviet era.

5350 (574) England to 1783. Three credits. English history from earliest times to the end of the American Revolution, with emphasis on major political, economic, cultural, and social developments.

5360 (519) Britain in the Nineteenth Century. Three credits. Survey of British political, economic, diplomatic, military, and cultural developments from the end of the Napoleonic era to Gladstone's retirement in 1894.

5370 (520) Britain in the Twentieth Century. Three credits. The political military, imperial, economic, and social history of a changing Britain in its century of total war, imperial decline, and economic readjustment.

5410 (576) Classical History. Three credits. Ancient Greece and Rome, from about 2,000 B.C. to 476 A.D., emphasizing the classical historians and Greek and Roman culture.

5420 (510) The Medieval Mediterranean World. Three credits. A regional survey of political, economic, social and intellectual, and cultural development of the countries bordering the Mediterranean.

5440 (531) The Middle East. Three credits. The development of the Near East, the rise and spread of Islam, the Ottoman Empire, European imperialism in the Near East, contemporary developments. Emphasis on cultural contributions of the Near East to western civilization.

5450 (508) Japan. Three credits. Survey of Japanese history from the formation of the first Japanese political state to the country's emergence as a post-World War II economic superpower.

5460 (509) China. Three credits. Survey of Chinese history from antiquity to the present People's Republic, stressing social history and the unique cultural features defining China's civilization.

5470 (546) Canada. Three credits. Canadian history from the colonial era to the present.

5480 (526) South America. Three credits. The development of cultural, economic, and political traditions since 1492.

5490 (525) Mexico and the Caribbean. Three credits. The development of cultural, economic, and political traditions since 1492.

5510 (521) Colonial Latin America. Three credits. The indigenous societies present before European colonization and the first encounters in Mexico, the Caribbean, and South America. Analysis of political structures imposed by the Spanish as well as the social and cultural implications of colonialism and miscegenation.

5520 (522) Modern Latin America. Three credits. Examination of colonial background of Latin America, moving to an exploration of economic, political, social, and cultural developments in Latin America since Independence.

5530 (524) Latin American-United States Relations. Three credits. Relations between the United States and Latin America in the nineteenth and twentieth centuries with emphasis on the effect of cultural differences on inter-American diplomacy.

5610 (543A) History of Medicine. Three credits. Medical developments and in particular the relationship between medicine and society. Examines two medical traditions: the West and China. Discussions not only on major developments in medicine but also of the systems of healing in these cultures and comparison of the different roles medicine played within these societies. Also investigates the impact of Western scientific medicine on the various systems of traditional medicine.

5620 (543) American Medical History. Three credits. The history of health in the United States and the changing role and perception of the medical profession from 1607 to the present.

5630 (500) Computer and Quantitative History. Three credits. Examines quantitative reasoning in historical research. Covers historiographical questions and practical research skills. Includes historical causality, historical change over time, data preparation, sampling, and the interpretation of quantitative data.

5640 (506) Environmental History. Three credits. Traces environmental change in America from the Puritans to the present and from wilderness to suburbia. Explains impact of growth, settlement, and resource exploitation on our national landscape and institutions.

5650 (582) Religious Experience in America. Three credits. Explores the nature of religion as experienced in American history focusing on the questions "How has religion affected America?" and "How has America affected religion?" Emphasis on the nineteenth and twentieth centuries and on the contact of and exchanges among traditions such as Protestant Catholic Christianity, Judasim, Islam, and Animism.

5660 (586) American Architectural History. Three credits. An analysis of the historical development of American architecture and
of architecture as evidence of America's cultural, social, economic, and technological growth from 1607 to the present.

5670 (535) American Urban History. Three credits. A survey of the development and growth of cities and suburbs from the colonial period to the present with particular emphasis on urban institutions, problems, politics, culture, and society.

5680 (544) History of Sport in America. Three credits. The role of sport in American society from the colonial era to the present, with emphasis on how sporting activities reflect political, cultural, and economic characteristics of various time periods.

5690 (549) Native American History. Three credits. The North American Indian's history from the entrance into the New World until the present with emphasis on relationships among tribes, economic development, prominent personages, and adaptation to white culture.

5710 (560) American Biography. Three credits. A survey of the lives and achievements of men and women most prominent in American history. Selected biographies and autobiographies read and analyzed.

5720 (561A) Boone's and Crockett's America. Three credits. Studies the mass movement of farm families into the interior of North America before 1860, with particular emphasis on Native American life, frontier politics, society, and culture, as well as the subsequent development of a frontier myth celebrating this migration.

5730 (530) American Social History. Three credits. An examination of class, ethnicity, family life, and community in America from the colonial period to the present.

5740 (568) American Cultural and Intellectual History. Three credits. Explores the major issues in American cultural and intellectual history through an examination of American literature, philosophy, social sciences, fine arts, and popular culture.

5750 (570) African-American Social and Intellectual History. Three credits. The changing role and status of African-Americans in American life and the contributions to the culture and institutions of the United States.

5760 (530A) America Divided: Race, Class, and Gender. Three credits. Interaction of race, class, and gender in the lives of Americans within historical frameworks; how such interactions have shaped American social and political institutions.

5770 (527A) Women in America to 1890. Three credits. Examines women's roles in the United States from colonial times to 1890, emphasizing the experiences of women of different classes, races, and ethnic groups with work, family, and politics.

5780 (527B) Women in America Since 1890. Three credits. Examines women's roles in the United States since 1890, emphasizing the experiences of women in different classes, races, and ethnic groups with work, family, and politics.

5790 (529) Women in Europe Since 1700. Three credits. A comparative study of the social, intellectual, cultural, political, and economic history of women's lives in Great Britain, France, Germany, and Russia since 1700.

5810 (529A) History of Women in the Third World. Three credits. Examines the connections between modern colonialism and the development of third-world feminisms. First focuses on conquest and colonialism and the consequences for third-world women
of that process, then moves to post-colonial societies and expands to include women's political, economic, and social roles in the three regions of Africa, China, and Latin America.

5820 (547) Diplomatic History of the United States to 1900. Three credits. United States foreign relations to 1900.

5830 (548) Diplomatic History of the United States Since 1900. Three credits. United States foreign relations since 1900.

5850 (583) Material Culture Resources in World History. Three credits. A survey of the architecture, furniture, tools, utensils, weapons, ceremonial objects, etc. of the world's major civilizations. Provides a basis for studying how various cultural styles have influenced the development of our own material culture resources.

5860 (577A) Historical Archaeology. Three credits. Introduces the disciplines of historical archaeology, including examination of archaeological evidence, historical documentation, and interpretation of evidence.

5870 (577B) Field Course in Historical Archaeology. Three credits. Prerequisite: HIST 5860 or permission of instructor. Archaeological resources and procedures and the interpretation of historical evidence undertaken at a field archaeological site.

5910 (587) Principles of Archival Administration. Three credits. The theory, principles, and techniques employed by archivists and curators of manuscript collections. Importance of record preservation for scholars, business, government, and the public at large stressed.

5920 (588) Development of the Local History Museum. Three credits. An overview of the development of museology, museography, and museum administration. Emphasizes approaches for identifying and solving typical problems encountered by the local history museum

5930 (592) Fundamentals of Historic Preservation and Cultural Resources Management. Three credits. Procedures employed by federal, state, and local agencies in the day-to-day work of locating, recording, restoring, and preserving the historical, architectural, and cultural resources of the United States.

5960 (597) Advanced Projects in Historic Preservation. Three credits. Applied project experience in a community setting. Interested students not enrolled in the department's Historic Preservation concentration should meet with the director of the program before enrolling.

6010 (607) Historiorgaphy. Three credits. An introduction to history's major schools of thought. Through reading, class discussion, and essays, students explore critical interpretations in American, European, and non-Western history.

6020 (608) Historical Research Methods. Three credits. Sharpens comprehension of historical interpretation by exploring, through reading, research, and class discussion, possible alternative explanations for specific historical events and themes.

6030 (609) Historical Readings and Criticism. Three credits. A common selection of historiographical works that raise issues common to all historians and that discuss history, historical processes, and historical-mindedness. Students will discuss these works and perhaps also write critical analyses of them.

6110/ 7110 (650/750) Seminar: Colonial and Early American History to 1800. Three credits. Readings, discussion, reports, and
independent study examining selected aspects of institutional and intellectual developments to 1800.

6120/ 7120 (651/751) Seminar: The Era of the American Revolution. Three credits. Secondary reading, discussion, and primary research on the period between the beginning of the Seven Years War in 1756 and the death of Thomas Jefferson in 1826.

6130/ 7130 (652/752) Seminar: Jacksonian America. Three credits. Exploration of a variety of social, economic, political, and cultural topics in the Jacksonian era and an analysis of the relationship between these topics and similar events abroad.

6140 (641) Seminar: Old South. Three credits. Examines the major secondary works which have shaped our understanding of the colonial and antebellum South.

6150/ 7150 (642/742) Seminar: New South. Three credits. Readings and research in aspects of the American South since 1865.

6160/7160 (694/794) Seminar: American West. Three credits. Major developments in Western history; the leading historians of the West.

6170/7170 (662/762) Seminar: Recent American History. Three credits. The bibliography, interpretation, and selected topics of the history of the United States since 1900.

6180/ 7180 (672/772) Seminar: American Diplomatic History. Three credits. Selected topics of U.S. diplomatic history treated in depth. Conflicting scholarly interpretations are analyzed and diplomatic source materials are consulted. Formal paper required.

6190/ 7190 (668/788) Seminar: State and Local History. Three credits. An intensive inquiry into sources of state and local history. Several research papers using primary materials required.

6210/ 7210 (653/753) Seminar: American Social History. Three credits. Prerequisite: Instructor's permission required. Focuses on selected topics in American social history through directed readings, research, and discussion.

6230/ 7230 (654/754) Seminar: American Women's History. Three credits. Focuses on selected topics in American women's history through directed readings, research, and discussion.

6240/ 7240 (670/770) Seminar: African America History. Three credits. Selected topics in Afro-American history. Emphasis on the post-Reconstruction period of United States history.

6250/ 7250 (678/778) Seminar: American Cultural and Intellectual History. Three credits. Readings and research in selected topics from the colonial period to the present.

6260/ 7260 (682/782) Seminar: American Religious History. Three credits. Specific themes in the development of religion in America explored through directed readings, research, writing, and discussion.

6310 (600) Seminar: Medieval Europe. Three credits. A reading seminar stressing bibliography, interpretation, and methodologies for either the socio-economic, cultural-intellectual, or political-military history of the Middle Ages.

6320 (601) Seminar: Renaissance and Reformation Europe. Three credits. A reading seminar stressing bibliography, interpretation, and methodologies for either the socio-economic, cultural-in-
tellectual, or political-military history of the Renaissance and Reformation.

6340 (604) Seminar: Topics in Premodern Europe. Three credits. A research seminar covering selected topics in European history before 1715 .

6350/7350 (603/703) Seminar: Eighteenth-Century Europe. Three credits. Prerequisite: Elementary knowledge of French. The story, sources, and significance of eighteenth-century Europe from the decline of Louis XIV to the rise of Napoleon I. A combination of lectures, discussions, oral reports, and research projects.

6360/7360 (673/773) Seminar: Nineteenth-Century Europe. Three credits. Selected topics. A research paper using primary materials required.

6370/7370 (674/774) Seminar: Recent European History. Three credits. A combined readings and research seminar of twenti-eth-century Europe. The readings will be over several major topics. The research will involve thorough knowledge and use of available materials-primary and secondary-on each studentselected topic.

6380/ 7380 (640/740) Seminar: The Third Reich. Three credits. Preparation for students to think critically, research competently, and write intelligently about the history of National Socialist Germany.

6390 (629) Seminar: European Women's History. Three credits. Investigates aspects of women's lives in Europe. Countries and time periods covered selected by the instructor. Topics include women and religion, women and war, women and the family, and the impact of ethnicity, class, nationality, gender, and race on European women's lives.

6410/ 7410 (671/771) Seminar: Latin America. Three credits. Selected topics in the social, economic, and political development of Latin America.

6420/7420 (692/792) Seminar: Far East. Three credits. The bibliography interpretation and selected topics in the history of China and Japan.

6510/ 7510 (617/717) Seminar: Public History. Three credits. The professional nature of public history, the interpretation of history for diverse audiences, and the application of historical methods in the wider world. Combines reading and discussion, interaction with practicing professionals, and possible experiential learning component.

6520/ 7520 (685/785) Seminar: Historic Preservation. Three credits. Readings and research on selected topics related to the history, organization, and administration of historic preservation in the United States and to the use of the community as a classroom.

6530/7530 (687/787) Seminar: Administration of Historical Organizations. Three credits. Intensive study of administrative functions, issues, and problems common to historical organizations. Combines reading and discussion, team problem-solving, and experiential learning component served in a local historical organization.

6540/ 7540 (688/788) Seminar: Museum Management. Three credits. In-depth analysis of museum management issues from acquisitions and collections to curatorial care and exhibitions. Includes advanced problem-solving for museum staff and consideration of ethical issues such as repatriation of artifacts.

6550/ 7550 (696/796) Seminar: American Material Culture. Three credits. Intensive study of cultural heritage resources available in the local community and methods for identifying, analyzing, and incorporating them into existing social studies and history courses.

6560/7560 (689/789) Seminar: Cultural Resource Management. Three credits. Intensive study of cultural resource preservation planning and protection using National Park Service themes and definitions for history and prehistory. Emphasizes ethnic diversity in evaluating historic sites, linear parks, heritage trails, and national monuments.

6570 (605) Public History Internship. Three credits. Full-time apprenticeship with a public or private historical agency or institution of regional or national significance. Internships offered during the summer months and may be paid. Enrollment limited to history students in the public history and historic preservation program.

6580 (606) Public History Practicum. Three credits. Supervision of local work-related experience and applied research in area public or private historical agencies.

6610/ 7610 Essentials of Historic Preservation and Cultural Resources Management. Three credits. Regulatory policies and procedures employed by federal, state, and local agencies in the work of identifying, evaluating, recording, preserving, and managing the historical, architectural, and cultural resources of the United States. Emphasis on implementing the National Historic Preservation Act and the documentation requirements of the National Register of Historic Places.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. S/U grading.

6910/7910 (669/769) Selected Studies in American History. Three credits. Intensive reading on a carefully defined topic in American history to be selected by the student in conference with the instructor.

6920/7920 (679/779) Selected Studies in European History. Three credits. In-depth reading on a well-defined topic in European history to be selected by the student in conference with the instructor.

7640 (764) Dissertation Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of dissertation. Once enrolled student should register for at least one credit hour of doctoral research each semester until completion. S/U grading.

7950/7960 (760/761) History Internship. One to three credits. Students given careful supervision in actual teaching experiences.

## Department of Human Sciences

Dellmar Walker, Interim Chair Ellington Human Sciences Building 100

The Department of Human Sciences offers a Master of Science in Human Sciences with a choice of two concentrations: Child Development and Family Studies or Nutrition and Food Science. In addition, the department cooperates with the Schools/Departments of Agribusiness and Agriscience; Business Education, Marketing Education, and Office Management; and Engineering Technology and Industrial Studies in offering the Master of Vocational-Technical Education (M.V.T.E.) and offers a graduate minor.
To be considered for unconditional admission, an undergraduate grade point average (GPA) of 2.75 is required. Normally, a test score of either 800 on the Graduate Record Exam or 35 on the Miller Analogies Test is recommended. Conditional admission may be granted for students not meeting unconditional admission requirements. Students who are admitted on a temporary conditional basis will be expected to complete 9 semester hours in the Human Sciences Department with a grade of B or better with 6 of the 9 hours at the 6000 level and to successfully complete a departmental admission review. Letters of recommendation may be required.

## Requirements for the Master of Science (5000 and 6000 level)

## Candidate must

1. have completed an undergraduate minor in Child Development and Family Studies or Nutrition and Food Science or the equivalent;
2. complete 33 hours including H SC 6530, 6620, and a major of 18 hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours: a. a concentration in Child Development and Family Studies to include CDFS 6300 or 6310,6320 , and 6330 , or
b. a concentration in Nutrition and Food Science to include N FS 6200, 6210, and 6220 or 6230;
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
4. complete an approved research tool with grade of C or better (PSY 6280 or STAT 6160);
5. complete a thesis (H SC 6640);
6. successfully complete a written comprehensive exam (may be taken no more than twice);
Candidates may select a 12 -hour minor with approval of the advisor as defined on page 19 of the Graduate Catalog.

## Courses in Human Sciences [H SC]

5041- (504 A-D) Seminar in Human Sciences. Prerequisite: Permis-
5044 sion of chair. Individual research and/or analysis of contemporary problems and issues in a concentrated area of study. For advanced students.
5041 (504A) Human Development-Family Life. Three credits.
5042 (504B) Foods-Nutrition. Three credits.
5043 (504C) Clothing-Textiles. Three credits.
5044 (504D) Housing-Design. Three credits.
5051- (505 A-D) Advanced Problems in Human Sciences. Prerequi-
5054 site: Permission of chair. Provides an opportunity for advanced students to do independent study or conduct research in their areas of concentration. One hour seminar per week plus independent study in:
5051 (505A) Human Development-Family Life. Three credits
5052 (505B) Foods-Nutrition. Three credits.
5053 (505C) Clothing-Textiles. Three credits.
5054 (505D) Housing-Design. Three credits.
5060 (506) Readings in Human Sciences. One to three credits. Prerequisite: Permission of chair. Selected readings of current trends, developments, and research in human sciences of interest to teachers and students. One hour seminar per week and independent study.

5410 (541) Consumer Economics. Three credits. Consideration of theoretical economics as related to the family. An overview of the choices available and the decision-making process confronting the family in the American economy.

5420 (542) Personal and Family Management. Three credits. Management theories applied to personal and family resources throughout the life cycle. Emphasis on the development of knowledge from which to draw conclusions about the financial elements of life. Offered once a year.

5430 (543) Resource Management. Three credits. Opportunity to coordinate the many areas of human sciences in the solution of individual and group management problems.

5450 (545) Professionalism in Consumer Services. Three credits. The role, functions, and responsibilities of consumer services professionals employed in business, government, and other organizations.

6500 (650) Issues and Trends in Human Sciences. One to three credits. An in-depth analysis of one or more current issues or trends in human sciences. Topics will vary.

6520 (652) Public Policy on Consumer and Family Issues. Three credits. The ideological roots, impact, and effectiveness of family policy. Family well-being in the areas of health, child care, care of the elderly and disabled, and poverty examined in relation to the development of public policy.

6530 (653) Effective Program Management. Three credits. Integration of human sciences concepts and content with the principles of program management, including planning, organization, staffing, implementation, and evaluation.

6620 (662) Research Methods in Human Sciences. Three credits. Introduction to methods and tools of research. Selection and statement of research problems, formulation of research proposal.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

## Courses in Textiles, Merchandising, and Design [TXMD]

5130 (513) History of Costume. Three credits. Survey of clothing and design from ancient to modern times; consideration given to social economic, and cultural conditions reflected in dress.

5170 (517) Social Aspects of Clothing. Three credits. Principles of sociology and psychology applied to the study of clothing behavior. Research methods for studying socio-psychological aspects of clothing included. Offered once a year.

## Courses in Nutrition and Food Science [N FS]

5200 (520) Diet and Disease. Three credits. Prerequisites: BIOL 2030, N FS 4270. Nutritional problems in disease and modifications of normal diet to meet dietary requirements of pathological conditions. Offered once a year.

5210 (521) Nutrition in Aging. Three credits. Prerequisite: N FS 1240 or 2220. Nutritional needs of elderly individuals and how these requirements are affected by physiological, pathological, and socioeconomic changes associated with aging. Emphasis on assessment, nutrition counseling skills, and resources to assist elderly individuals with adequate nutrient intake. Offered once a year.

5220 (522) Food Systems Management I. Three credits. Prerequisite: N FS 3200 or 3210 or permission of instructor. Principles and production of quantity foods. Emphasis on types of food service systems, delivery systems, menu planning and evaluation, procurement, receiving, quality control, inventory, cost containment, safety, and sanitation. Five hours per week.

5240 (524) Experimental Food Study. Three credits. Prerequisites: N FS 3200 and CHEM 2030 or permission of instructor. Chemical and physical factors affecting the flavor, texture, color, and appearance of food. Emphasis on evaluation of sensory qualities of food using subjective and objective measurements and new food product development. Offered once per year

5250 (525) Child Nutrition. Three credits. Prerequisite: N FS 1240 or 2220. Nutritional needs during pregnancy, infancy, and childhood related to physical and mental development. Emphasis on cultural, social, and psychological aspects of the development of food patterns and nutrition education resources.

5260 (526) Food Safety Issues from Production to Consumption. Three credits. Food safety issues that impact food production, food storage and transportation, food processing, and food consumption within food production facilities, the home, and food service facilities. Consumer concerns evaluated based on risk theory and scientific evaluation of safety, including decisionmaking through critical thinking. Food standards and regulations designed to improve safety of food also discussed.

5270 (527) Advanced Nutrition. Three credits. Prerequisite: N FS 1240 or 2220 . Nutrient utilization, cellular metabolism, and nutritional status assessment. Participation includes seminar presentation on a current issue in nutrition. Offered once a year.

5280 (528) Food Systems Management II. Three credits. Functions of management applied to food service industry. Emphasis on systems approach to food service operation, organizational structure, personnel management, leadership and management styles, work improvement, and labor relations. Offered once a year.

5290 (529) Dietetic Practicum. Six credits. Prerequisites: N FS 4200 and 4220. Practical preparation in clinical dietetics. Clinical experience provided with the cooperation of Middle Tennessee Medical Center and other facilities. For dietetics students only. Offered summer only.

5800 (580) Diet and Disease Seminar. One credit. To be taken concurrently with N FS 5200. Nutrition and Food Science majors only. Practice in applying the knowledge base acquired in N FS 5200 to structured case studies and development of the critical thinking skills needed to design accurate and systematic nutrition care plans in the clinical setting.

6200 (620) Metabolism of Carbohydrates, Lipids, and Proteins. Three credits. Prerequisite: CHEM 3530 or equivalent. Sequential to N FS 5270 or equivalent. Advanced study of carbohydrates, lipids, and proteins with emphasis on the metabolic interactions at the cellular, tissue, and organ levels. Offered alternate years.

6210 (621) Vitamin and Mineral Metabolism. Three credits. Prerequisite: CHEM 3530 or equivalent. Sequential to N FS 5270 or equivalent. Metabolic functions and mechanisms of micronutrient action in human nutrition with an emphasis on physiological requirements, assessment techniques, and interrelationships in disease prevention. Offered alternate years.

6220 (622) Food Industry Applied Nutrition. Three credits. Integration of food technological considerations, nutrition attributes, consumer perceptions, and socio-demographic influences to determine food choice, and thus diet quality.

6230 (623) Advanced Clinical Nutrition. Three credits. Sequential to N FS 5200 and 5270. Integration of the principles of basic biological diseases in the pathogenesis, diagnosis, and management of the nutritional aspects of disease including nutritional assessment and dietary implication in the etiology of disease.

6290 (629) Clinical Dietetics. Six credits. Planned educational experiences in administration of food service systems and experiences in a health care facility applying principles of normal and clinical nutrition to nutritional problems occurring throughout the life cycle.

## Courses in Child Development and Family Studies [CDFS]

5140 (514) Violence in the Family. Three credits. (Same as SOC 5140.) Causes, dynamics, and consequences of violence in the family. Includes the discussion of violence toward children, spouses, dating partners, siblings, and elders. Emphasizes the social conditions which lead to these types of violence.

5300 (530) Nursery School Practicum. Three credits. Prerequisites: CDFS 2350, 3310, 4370 or permission of instructor. Advanced information and skills working with three- and four-year olds. Lab interaction with children; planning and implementation of curriculum. Three-hour laboratory plus two-hour seminar per week.

5330 (533) Primary Practicum. Three credits. Prerequisites: CDFS 4300, 4380; ELED 3050; admission to teacher education. Advanced knowledge and skills in working with kindergarten and primary age students. Consists of field experiences in the appropriate development and implementation of curriculum in kindergarten and one other primary grade. Three-hour laboratory and two-hour seminar per week.

5340 (534) The Contemporary Family. Three credits. Prerequisite: CDFS 3320 or permission of instructor. An ecological approach to the study of contemporary issues, problems, questions, and lifestyles as they relate to families and individuals.

5350 (535) Parenting. Three credits. Developing knowledge and understanding of parenting and parent/child interaction theories. Examination and development of parent education programs.

5360 (536) Day Care Perspectives. Three credits. Prerequisites: CDFS 2350 and 3310 or permission of instructor. Examination of diverse day care settings and their influence on human development. Emphasis on the organization/administration of day care programs. Participation in day care center experiences required. Three hours plus one hour observation per week.

5370 (537) Effective Instruction (Birth - 5 years). Three credits. Prerequisites: CDFS 2350, 3310, or permission of instructor. A comprehensive exploration of the knowledge and skills necessary for designing and implementing curricula appropriate for programs serving children birth to five years.

5380 (538) Infant/Toddler Practicum. Three credits. Prerequisites: CDFS 2350, 3310, and 4370/5370 or permission of instructor. Advanced information and skills in working with infants and toddlers (birth to three years). Lab participation involving interactions with children as well as planning and implementing curriculum required. Three-hour laboratory and a two-hour seminar per week.

5390 (539) Families in Later life. Three credits. Prerequisite: Human Sciences majors - CDFS 3320; Sociology majors - SOC 2600; or permission of the instructor. Examination of families in later life from an ecological approach with emphasis on family forms and relationships.

5391 Aging Health and Development. Three credits. Prerequisite: CDFS 4390 or SOC 2600 or permission of the instructor. A service learning opportunity that seeks to provide students with understanding of the concepts and application of aging, families in later life, assessment, and gerontological program planning and implementation.

6300 (630) Application of Child Development Principles I. Three credits. A comprehensive exploration of human growth and development from conception to age six. Recognizing and assessing developmental ages and stages as well as special needs is an integral part of this course.

6310 (631) Application of Child Development Principles II. Three credits. Prerequisite: CDFS 6300 or equivalent. Advanced study of the child from the age of six through adolescence from a holistic perspective.

6320 (632) Families at Risk. Three credits. Prerequisite: CDFS 3320 or permission of the instructor. The dynamics, context, and overall impact of factors which place families at risk. Methods by which family members cope with normative and/or catastrophic stressor events analyzed from a variety of theoretical perspectives.

6330 (633) Theories of Child Development and Family Relations. Three credits. The advanced study of individual and family theory, as well as theory principles and evaluation criteria.

6700 (670) Practicum in English as a Second Language for Pre K3. One credit. Includes ten hours field experience in the ESL classroom with Pre K-3 students from different cultures.

## Courses in Family and Consumer Sciences Education [FCSE]

5501- (550 A,B) Occupational Field Experience. Three credits each.
5502 Prerequisite: Consent of instructor. Directed participation in planned and supervised occupational experiences of eight hours field experience per week. Must apply previous semester.
5501 (550A) Care and Guidance of Children. Three credits.
5502 (550B) Food Management, Production, and Services. Three credits.

5540 (554A) Teaching Home Economics. One to six credits. Synthesis and application of relevant concepts relating to educational planning; changes relating to the development of effective home economics education programs. A maximum of six semester hours credit may be applied toward a degree.

5550 (555) Curriculum Development. Three credits. Review of recent advances in home economics education. Analysis and evaluation of selected topics, materials, and methods in terms of their appropriateness for reaching curriculum objectives in home economics.

5560 (556) Problems in Teaching Materials. One to three credits. Prerequisite: Permission of chair. Application of principles and techniques involved in the selection and preparation of effective teaching materials and visual aids.

5570 (557) Occupational Home Economics Seminar. Three credits. Prerequisite: Consent of instructor. Examination and analysis of program development, execution, and evaluation in a selected occupational area.

## Courses in Interior Design [IDES]

5700 (570) History of Interiors. Three credits. Historical interiors: survey analysis, application. Emphasis on major design characteristics of interior furnishing styles. Offered once a year.

5710 (571) Survey of Contemporary Interior Design. Three credits. Prerequisite: IDES 4700/5700 or consent of instructor. Development of contemporary interiors from the early nineteenth century to the present with consideration given to style characteristics, cultural influences, designers, and relationships among styles. Offered once a year.

# Department of Management and Marketing 

Jill Austin, Chair<br>Business and Aerospace Building N121D

The Department of Management and Marketing offers courses in management and marketing in the Master of Business Administration degree. The assistant dean and director of graduate business studies serves as advisor for the Master of Business Administration (page 63).

## Courses in Management [MGMT]

## General Management [MGMT]

6000 (600) Management and Operations Concepts. Three credits. Concepts of the management functions of planning, organizing, leading, and controlling as applied to managing people in organizations. Production and operations management concepts with emphasis on using quantitative models for decision making. Prerequisite for M.B.A. program. May not be used for elective credit in graduate business degree program.

6600 (660) Study of Organizations. Three credits. Prerequisite: MGMT 3610 or 6000 . Behavioral science concepts and research in the management of organizations; theories dealing with interpersonal relationships, motivation systems, group dynamics, communications, and authority related to organizational behavior, control, and structure problems.

6660 (666) Seminar in Organization Development. Three credits. Prerequisite: MGMT 3610 or 6000 . Diagnostic approaches for effecting planned changes in organizations. Emphasis on the individual and personal development of the student to be more effective in managing change and innovation.

6670 (667) Seminar in Management. Three credits. Prerequisite: MGMT 3610 or 6000 . In-depth study of current developments in management theory and practice. An evaluation of contemporary thought on managerial roles in modern conglomerates and a comparative analysis of this role in specialized organizations and across variations in national and international operative environment. Recent methodology in management and organization studies.

6740 (674) Leadership and Motivation. Three credits. Prerequisite: MGMT 3610 or 6000. Issues in leadership and motivation in business organizations. An examination of the theoretical framework for leadership and motivation processes serves as foundation. Emphasis on practical issues and applications of leadership development and motivation.

6750 (675) Business Ethics. Three credits. Prerequisite: MGMT 3610 or 6000. Impact of individual values and ethics on the management of organizations. Topics include legal and ethical aspects of dealing with organization stakeholders: stockholders, con-
sumers, employees, and the general community. Emphasis on using ethical theory to make good business decisions.

6770 (677) International Management. Three credits. Prerequisites: MGMT 3610 or 6000 and MKT 3820 or 6000. Major issues associated with the formulation and implementation of corporate strategy for international and global operations. Emphasis on the understanding of global environmental forces surrounding international business operations and the management issues facing global organizations.

6780 (678) Health Care Management. Three credits. Prerequisite: MGMT 3610 or 6000 . An overview of the U.S. health care system, including managed care, governmental and private sector programs and policies affecting the delivery of health care (e.g., Medicare, Medicaid, and private health insurance), and legal, ethical, and budgeting issues relevant to managing health care organizations. Presents strategic and operational considerations unique to the management of health care organizations. (679) Problems in Management. Three credits. Prerequisite: 21 graduate hours and/or approval of department chair. Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of an approved faculty member.


## Human Resources [MGMT]

6510 (651) Current Problems in Human Resource Management and Industrial Relations. Three credits. Prerequisite: MGMT 3610 or 6000 . Investigation of current problems. Emphasis on current theory, problems, and practices in the public and private sector. Consideration of legal and political environment stressed as related to management policy formulation.

6680 (668) Seminar in Human Resources Management. Three credits. Prerequisite: MGMT 3610 or 6000 . Focus on the responsibility of all managers with respect to the effective development of human resources. The responsibility of all functional areas in the human resource department or impinging forces such as technology, organized labor, and government legislation examined along with the emerging concepts, problems, and theories supported by research in the field.

## Operations [MGMT]

6650 (665) Operations Management. Three credits. Prerequisite: MGMT 3620 or 6000 . Strategic and tactical decisions involved with planning, operating, and controlling the operations functions in a firm. Emphasis on problem identification and solution.

6700 (670) Production and Operations Management Strategy. Three credits. Prerequisite: MGMT 3620 or 6000 . Focuses on operations strategy concepts and operations management as a competitive weapon. Topics include global production and operations management strategy, capacity of facilities, vertical integration, performance controls, and the importance of manufacturing for overall business strategy.

6760 (676) Total Quality Management. Three credits. Prerequisites: MGMT 3610 and 3620 or 6000 . Examination of the major total quality management philosophies; consideration of implementation issues; quality costs, off- and on-line tools and techniques; vendor certification.

## Courses in Marketing [MKT]

6000 (600) Marketing Concepts. Three credits. A survey of the functions, processes, and institutions involved in the creation, promotion, pricing, and distribution of consumer and industrial goods and services with an emphasis on the decision-making process. May not be used for elective credit in graduate business degree program.

6800 (680) Marketing Management. Three credits. Prerequisite: MKT 3820 or 6000 . An analytical managerial approach to the marketing activities of a business enterprise. Emphasis on problem solving and marketing simulation.

6810 (681) Promotional Strategy. Three credits. Prerequisite: MKT 3820 or 6000 . Promotional goals, plans, and concepts in marketing; the role of marketing communication in society; the organization budgeting, and scheduling of promotion; innovation and the adoption process; managerial decision making in the promotional mix.

6820 (682) Market Behavior. Three credits. Prerequisite: MKT 3820 or 6000 . Behavioral science concepts and applied research relating to the process of buyer behavior. Topics include cognition, motivation, personality, group influence, social class, culture, and behavior models.

6830 (683) Marketing Systems Three credits. Prerequisite: MKT 3820 or 6000. An analytic, decision-oriented study of marketing channels. Problems of integrating relevant variables within the marketing system to achieve optimum returns for all members.

6840 (684) Marketing Seminar: Current Topics in Marketing. Three credits. Prerequisite: MKT 3820 or 6000 . Theoretical bases of marketing concepts, principles, and strategies; the development, acceptance, and possible future direction of emerging concepts and practices.

6850 (685) International Marketing Seminar. Three credits. Prerequisite: MKT 3820 or 6000 . Difference in market arrangements and in legal, cultural, and economic factors in different countries. Planning and organizing for international marketing operations, forecasting, and analyses; interrelationships with other functions; strategy of product pricing, promotion, and channels.

6860 (686) Marketing Research and Decision Making. Three credits. Prerequisite: MKT 3820 or 6000 . Investigates research methods for providing marketing information to assist managers in making better decisions, particularly in identifying marketing opportunities and problems. Specifically focuses on understanding both primary and secondary research processes and developing an ability to evaluate primary and secondary sources of information.

6870 (687) Electronic Commerce and Direct Marketing. Three credits. Prerequisite: MKT 3820 or 6000 . Channels used in direct marketing with an emphasis on electronic commerce; strategic differences among the channels of direct marketing and the managerial implications of each. The impact of changing technology, regulations, and privacy issues.

6890 (689) Problems in Marketing. Three credits. Prerequisites: MKT 6000 or 3820 and approval of department chair. Individual research and analysis of contemporary problems and issues in a concentrated area of study under the guidance of an approved graduate faculty member. Not approved or substituted for core requirements. Approval of supervisory faculty member and department chair must be obtained in writing before student will be allowed to register for independent study.

6900 (690) Health Care Marketing. Three credits. Prerequisite: MKT 3820 or 6000 . The role of marketing in the delivery of health care services. Topics include the history of health care in the United States, the evolution of marketing in health care, marketing strategy and implementation in health care, and the future of health care marketing. Students will apply marketing concepts and theory to practical situations.

## Courses in Business Administration [B AD]

6100 (610) International Research. One to six credits. Prerequisite: Approval of graduate faculty, department chair, and director of graduate business studies. Independent research in international business. A comprehensive report required. Report should be completed eight weeks after the beginning of the semester for those students planning an internship.

6980 (698) Business Policy. Three credits. Advanced problem analysis requiring the synthesis of theory and practice gained from both the functional and managerial areas of study with emphasis on formulation, integration, and implementation of policies and strategies of the firm. This is a capstone course and must be taken after all core requirements or by consent of the director of the M.B.A. program in the last semester prior to graduation.

## Mass

## Communication

## Director of Graduate Studies <br> Bragg Mass Communication 249

The College of Mass Communication offers the Master of Science degree in Mass Communication; students are advised through the School of Journalism. A graduate minor in Mass Communication is also offered. Normally, a score of 900 on the verbal and quantitative portions of the Graduate Record Examination is required for admission to the degree program.

Once accepted into the College of Graduate Studies, students interested in the graduate program in Mass Communication may take up to 9 credit hours (3 courses) before being admitted to the program. However, two of those first three courses MUST be M C 6000 and 6010. ALL students in the Mass Communication graduate program must take M C 6000 and 6010 among their first three courses. All other courses in the program require permission of the graduate director before enrolling.

## Requirements for the Master of Science

The degree is designed for media professionals in fields such as advertising, electronic media, journalism, publishing, or recording industries seeking to broaden their understanding of the field of mass communication and to develop research and management skills relevant to decision making in me-dia-related organizations. It is also appropriate for those who wish to pursue the doctoral degree.
Students may choose from two options organized around the thesis/professional project or the comprehensive examination. The thesis/project option is designed for the student seeking to concentrate studies in a particular area and to experience in-depth independent research. This option has 12 hours of core courses, 12 hours of limited choice electives, 6 hours of free electives, and the capstone thesis or project. The thesis results in the production of traditional academic research; the professional project results in the application of research knowledge to a professional production or other project. The examination option is designed for the working person who is integrating graduate education and professional life and for the traditional student seeking a broad conceptual grounding in mass communication. The examination option has 21 hours of required courses, 9 hours of limited choice electives, 3 hours of general electives, a 3hour capstone course, and the comprehensive examination.

## Thesis and Project Options

Candidate must

1. have earned 18 credits in the social sciences (anthropology, economics, history, political science, psychology, sociology);
2. provide evidence of a minimum of one year of full-time professional experience in a media-related position. In exceptional cases, a student without sufficient professional experience may be admitted on the condition he or she completes an approved program of skills courses and/or an internship in a mass communication field
3. complete 36 semester hours as follows:

## Required courses:

M C 6000 The Science of Communication
M C 6010 Cultural Studies in Communication
M C 6110 Quantitative Research Methods (required research tool)
M C 6120 Qualitative Research Methods (required research tool)
M C 6640 Thesis Research OR
M C 6650 Professional Project (6 hours)
Two of the following courses:
M C 6020 Media Management
M C 6230 Media in the Marketplace
MC 6250 Media Organizations
At least two of the following:
M C 6300 Media Law and Ethics
M C 6320 Mass Media and Public Opinion
M C 6350 Cultural Studies in Popular Music
M C 6380 News, Culture, and Democracy
M C 6400 Communication and Technology
6 hours of approved electives (taken inside or outside the College of Mass Communication as benefits research orientation and no more than three credits can be taken at the 5000 level);
4. file a Candidacy Form with the Graduate Office before the completion of 24 hours;
5. submit and defend an acceptable thesis or project.

## Exam Option

Candidate must

1. have earned 18 credits in the social sciences (anthropology, economics, history, political science, psychology, sociology);
2. provide evidence of a minimum of one year of full-time professional experience in a media-related position. In exceptional cases, students without sufficient professional experience may be admitted on the condition he or she completes an approved program of skills courses and/or an internship in a mass communication field.
3. complete 36 semester hours as follows:

## Required courses:

M C 6000 The Science of Communication
M C 6010 Cultural Studies in Communication
MC 6110 Quantitative Research Methods (required research tool)
MC 6120 Qualitative Research Methods (required research tool)
MC 6020 Media Management
M C 6230 Media in the Marketplace
M C 6250 Media Organizations
M C 6590 Case Studies in Media Management OR
M C 6600 Seminar in Applied Research

## At least three of the following:

MC 6300 Media Law and Ethics
MC 6320 Mass Media and Public Opinion
M C 6350 Cultural Studies in Popular Music
MC 6380 News, Culture, and Democracy
M C 6400 Communication and Technology 3 hours general elective;
4. file a Candidacy Form with the Graduate Office before the completion of 24 hours;
5. pass a written comprehensive examination.

## Courses in Mass Communication [M C]

6000 (600) The Science of Communication. Three credits. Quantitative and qualitative research dealing with the uses and effects of mass communication.

6010 (601) Cultural Studies in Communication. Three credits. Relationship of communication to culture with particular emphasis on the everyday life contexts of media audiences.

6020 (620) Media Management. Three credits. Prerequisite: Permission of graduate director. Application of the case study method to understanding the role of management and managers in the delivery of media to the marketplace. Application of management and organization theory to the problems of the mass media.

6100 (610) Research Design. Three credits. Prerequisite: Permission of graduate director. Formulating research questions, developing operational definitions, selecting measures. Analysis of surveys, observational techniques, and interpretive studies.

6110 (611) Quantitative Research Methods. Three credits. Prerequisite: MC 6000. Techniques of communication research emphasizing survey and experimental methods. Sampling, questionnaire construction, data gathering, and statistical methods.

6120 (612) Qualitative Research Methods. Three credits. Pre-requisite: MC 6010. Techniques of communication research emphasizing participant observation, ethnography, and focus groups. Interviewing, observation, problems of generalization, ethics of fieldwork.

6230 (623) Media in the Marketplace. Three credits. Prerequisite: Permission of graduate director. The use of various forms of audience research in media organizations. Social and ethical conflicts related to marketing.

6250 (625) Media Organizations. Three credits. Prerequisite: Permission of graduate director. An examination of the structure of media organizations. Roles of creators, producers, distributors, publics, institutional frameworks.

6300 (630) Media Law and Ethics. Three credits. Prerequisite: Permission of graduate director. An overview of the laws relating to the media. Ethical and social dimensions of law. Emphasis on case studies.

6320 (632) Mass Media and Public Opinion. Three credits. Prerequisite: MC 6000. Theories of democracy, the nature of a "public" and of "public opinion." Readings in the classics on mass media and democracy and in public opinion research.

6350 (635) Cultural Studies in Popular Music. Three credits. Prerequisite: MC 6010. Relationship of popular music to society with attention to institutional, textual, and audience studies.

6380 (638) News, Culture, and Democracy. Three credits. Prerequisite: MC 6010. Critical examination of the news process with attention to the relationship of economic, cultural, and political constraints.

6400 (640) Communication and Technology. Three credits. Prerequisite: Permission of graduate director. Readings in the cultural history of media technology explore technological change and social development as a system of interrelated social relations and practices.

6430 (643) Special Topics in Communication. Three credits. Prerequisite: Permission of graduate director. An in-depth analysis of one or more current issues or sub-disciplines. Topics will vary from semester to semester.

6590 (659) Case Studies in Media Management. Three credits. Prerequisite: Permission of graduate director. A capstone course that emphasizes the integration of communication theory and method with management philosophy in the planning of strategy for media organizations. Emphasis on case studies and student presentations. Requires consent of director of graduate studies or instructor.

6600 (660) Seminar in Applied Research. Three credits. Prerequisite: Permission of graduate director. A capstone course that emphasizes the application of various research methodologies to decision making in media organizations.

6610 (661) Directed Reading and Research. Three credits. Completion and execution of a research project under the direction of a faculty advisor. P/F grading.

6640 (664) Thesis Research. One to six credits. Under the direction of a faculty advisor and graduate committee, the student will plan and execute an original research or creative project. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. S/U grading.

6650 (665) Professional Project. One to six credits. Completion and execution of a professional project under the direction of a faculty advisor and graduate committee. Once enrolled, student should register for at least one credit hour of master's project each semester until graduation. $\mathrm{S} / \mathrm{U}$ grading.


# Department of Mathematical <br> Sciences 

Curtis K. Church, Chair<br>Kirksey Old Main 223D

The Department of Mathematical Sciences offers the Master of Science with a major in Mathematics, the Master of Science in Teaching with a major in Mathematics, and a minor in Mathematics at the graduate level.

Three concentrations are offered under the Master of Science: General Mathematics, Industrial Mathematics, and Research Preparation. Two concentrations are offered under the Master of Science in Teaching: Middle Grade Mathematics and Secondary Mathematics.
Admission to either master's program normally requires an expected GRE score of 900 or an MAT score of 44.

## Requirements for the Master of Science in Mathematics

The Master of Science in Mathematics requires a core of 9 hours plus 18 hours of specified courses in the department and a 9 -hour cognate of supporting courses. Every candidate is required to declare a concentration selected from General Mathematics, Industrial Mathematics, or Research Preparation.
All candidates must

1. have completed an undergraduate prerequisite of at least 21 hours of college-level mathematics including calculus; any deficiency should be removed during the first year of study;
2. complete 36 hours including the core ( 9 hours), a concentration ( 18 hours), and a cognate area ( 9 hours);
3. complete at least 30 hours at the graduate level with at least 21 hours at the 6000 level;
4. participate in the graduate seminar and give an oral presentation of an approved topic;
5. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
6. successfully complete a written comprehensive examination (may be taken no more than twice).

## M.S. Core

Each candidate for the Master of Science in Mathematics must complete the following core ( 9 hours):
MATH 6120 Advanced Linear Algebra
MATH 6170 Sets and Logic
MATH 6190 Analysis I

## Concentration: General Mathematics

Students desiring a broad background in mathematics should pursue this concentration. In addition to the core, students must complete the concentration and a cognate as outlined below.

## Concentration

Eighteen (18) hours from approved courses in mathematical sciences, including at least one course from each of three different groups:
Algebra/Number Theory: MATH 5420, 5530, 6140, 6510
Analysis: MATH 6141, 6200, 6210, 6250
Combinatorics/Graph Theory: MATH 5700, 6700
Geometry/Topology: MATH 5270, 6400, 6142
Industrial Mathematics: MATH 5310, 5320, 6260, 6270, 6300, 6310
Cognate
Nine (9) additional hours approved by advisor
The master's thesis is an option in this concentration.

## Concentration: Industrial Mathematics

Students interested in positions in industry or further graduate work in applied mathematics should pursue this concentration. In addition to the core, students must complete the concentration and a cognate as outlined below.

## Concentration

Eighteen (18) hours including MATH 5310, 5320, 6260, and 6270 plus two from MATH 6210, 6300, 6310, 6400, 6410, 6700, or STAT 6160, 6180.

## Cognate

Nine (9) additional hours chosen from the above list; MATH 6640, and/or courses from relevant disciplines approved by advisor.
The master's thesis is an option in this concentration.

## Concentration: Research Preparation

Students wishing to pursue the Ph.D. in mathematics should choose this concentration. In addition to the core, students must complete the concentration and a cognate as outlined below.

## Concentration

Eighteen (18) hours including MATH 5270, 5530, 5700, 6200, 6140, and 6210 .

## Cognate

Nine (9) hours including MATH 6640 and six (6) additional hours approved by advisor.

## Requirements for the Master of Science in Teaching

This degree should be pursued by students interested in teaching. Admission is open to those licensed as teachers as well as those seeking initial licensure.

Candidates seeking initial licensure must meet the major requirements listed below, satisfy a professional education component, and meet discipline-related requirements. The candidate should contact the chair of the Department of Educational Leadership for the professional education component and the chair of the Department of Mathematical Sciences for the discipline-related requirements.

The Master of Science in Teaching requires the M.S.T. core of 9 hours plus 15 hours of specified courses in the department and a 12 -hour cognate in professional education. Every candidate is required to declare a concentration in either Middle Grade or Secondary Mathematics.
All candidates must

1. complete 36 hours including the core ( 9 hours), a concentration ( 15 hours), and a cognate ( 12 hours);
2. complete at least 30 hours at the graduate level with at least 21 hours at the 6000 level;
3. file a Candidacy Form with the Graduate College prior to the completion of 24 hours credit;
4. successfully complete a comprehensive examination (may be taken no more than twice).

## M.S.T. Core

Each candidate for the Master of Science in Teaching in Mathematics must complete the following core (9 hours):
MATH 6320 Mathematical Problem Solving
MATH 6380 Current Trends in Mathematics Education
MATH 6900 Research in Mathematics Education

## Concentration: Middle Grade Mathematics Admission Requirements:

A candidate for admission to the Master of Science in Teaching program with a concentration in Middle Grade Mathematics must

1. hold a valid elementary teaching certificate;
2. have one year teaching experience;
3. submit three letters of recommendation;
4. have an acceptable GRE or MAT score. (A GRE of 900 or an MAT of 44 is expected.)
Any applicant not meeting these requirements may petition to the Mathematics Education Graduate Admissions Committee.

## Degree Requirements:

In addition to the core, students must complete the concentration and cognate as outlined below.

## Concentration

Fifteen (15) hours selected from MATH 5620, 6100, 6330, 6340, 6350 and other courses in the department selected in consultation with advisor.

## Cognate

Twelve (12) hours in the College of Education and Behavioral Science (determined jointly by the Departments of Mathematical Sciences, Educational Leadership, and Elementary and Special Education).

## Concentration: Secondary Mathematics Admission Requirements

A candidate for admission to the Master of Science in Teaching program with a concentration in Secondary Mathematics must

1. hold a valid secondary mathematics teaching certificate, or have completed 9 hours of mathematics past the calculus sequence;*
2. have one year teaching or related work experience;
3. submit three letters of recommendation;
4. have an acceptable GRE or MAT score. (A GRE of 900 or an MAT of 44 is expected.)

Any applicant not meeting these requirements may petition to the Mathematics Education Graduate Admissions Committee.
*NOTE: Candidates seeking initial licensure may be required to complete additional hours in mathematics and/or professional education. (An advisor should be consulted.)

## Degree Requirements

In addition to the core, students must complete the concentration and cognate as outlined below.

## Concentration

Fifteen (15) hours including STAT 5190, MATH 6170, and three other courses from the department selected in consultation with advisor.

## Cognate

Twelve (12) hours in the College of Education and Behavioral Science (determined jointly by the Departments of Mathematical Sciences and Educational Leadership).

## Courses in Mathematics [MATH]

5010 (501) Concepts of Mathematics. Three credits. Recommended for students preparing to become elementary school teachers. Topics include complex numbers, finite mathematical systems, linear equations and inequalities, functions and their graphs, introductory matrix algebra, interest and consumer credit, and microcomputer applications in the mathematics classroom.

5200 (539) Introduction to Mathematics of Investment. Three credits. (Same as ACSI 5200.)

5270 (527) Introduction to Topology. Three credits. Prerequisites: MATH 3110 and a previous upper-division course in which the student has been required to write proofs. Fundamental concepts of topology including continuity, compactness, connectedness, separation axioms, and metric spaces.

5310/5320 (531/532) Numerical Analysis I and II. Three credits each. Prerequisite: CSCI 3180 or equivalent. Application of com-puter-oriented numerical algorithms to algebraic equations, differential and integral equations, and linear algebra. Rigorous mathematical treatment of error included.

5420 (542) Number Theory. Three credits. Divisibility congruences, quadratic residues, Diophantine equations, quadratic forms, and continued fractions.

5470 (547) Introduction to Modern Algebra. Three credits. A treatment of sets, relations, operations, and the construction of number systems in algebra.

5510 (551) Abstract Algebra I. Three credits. Groups with a brief introduction to rings, integral domains, and fields.

5530 (553) Abstract Algebra II. Three credits. Prerequisite: MATH 4510/5510. Theory of rings, fields, integral domains, matrices, and vector spaces.

5600 (560) Problems in Contemporary Mathematics. One to six credits. Pass/Fail grading in specified sections.

5620 (562) History and Philosophy of Mathematics. Three credits. Prerequisites: Background in geometry, number theory, and/or symbolic logic helpful. The character of mathematical thought by way of mathematical problems which have occupied successively the outstanding mathematicians of Babylon, Egypt, Greece,

China, the Renaissance, and modern times paralleled with a study of three schools of mathematical philosophy: intuitionism, logicism, and formalism. Open only to senior and graduate mathematics majors.

5700 (570) Combinatorics and Graph Theory. Three credits. Prerequisite: MATH 2010 or 3080. Selected topics in combinatorics and graph theory emphasizing combinatorial problem solving and algorithmic proof.

6100 (610) Mathematics for Teachers. Three credits. Mathematics as problem solving, communication, and reasoning. Connecting different fields of mathematics. Topics include number and number relationships, number systems and number theory, computation and estimation, patterns and functions, statistics and probability, algebra, geometry, measurement.

6120 (612) Advanced Linear Algebra. Three credits. Prerequisite: MATH 2010. Continuation of linear algebra topics in MATH 2010 including advanced topics in inner product spaces and structure of linear operators.

6140 (614A) Selected Topics of Modern Mathematics: Algebra. Three credits. Prerequisite: MATH 5530 or consent of instructor. Extension of previous work in algebra with emphasis on topics not treated in other courses.

6141 (614B) Selected Topics of Modern Mathematics: Analysis. Three credits. Prerequisite: MATH 6200 or consent of instructor. Extension of previous work in analysis with emphasis on topics not treated in other courses.

6142 (614C) Selected Topics of Modern Mathematics: Topology. Three credits. Prerequisite: MATH 4270/5270 or consent of instructor. Extension of previous work in topology with emphasis on topics not treated in other courses.

6170 (617) Sets and Logic. Three credits. Includes topics in three categories: 1) Propositions, predicates, quantifiers, truth tables, tautologies, and methods of mathematical proof including mathematical induction. 2) Sets, relations, functions, graphs, cardinality, and the Axiom of Choice. 3) Applications of these foundations to selected results in algebra and analysis as time permits. It is recommended that this course be taken early in the graduate program.

6190 (619) Analysis I. Three credits. Prerequisite: MATH 4250 or equivalent. Rigorous treatment of limits, continuity, differentiation, and integration in n-dimensional Euclidean space; infinite series; introduction to metric spaces.

6200 (620) Analysis II. Three credits. Prerequisite: MATH 6190 or equivalent. A continuation of MATH 6190. Lebesgue measure, Lebesgue integral, functions of bounded variation.

6210 (621) Complex Variables. Three credits. Prerequisite: MATH 6190. Theory of functions of complex variables and their application in mathematics and physics.

6230 (623) Teaching of Introductory College Mathematics. Three credits. Foundations and pertinent topics in college algebra, trigonometry, analytic geometry, and calculus with emphasis on techniques of presentation.

6250 (625) Real Analysis. Three credits. Prerequisite: MATH 6200. A continuation of MATH 6200. Advanced topics in real analysis. Abstract measure and integration theory. Introduction to functional analysis.

6260 (626) Advanced Differential Equations I. Three credits. Prerequisites: MATH 3120 and 4250 . Qualitative and quantitative analysis of systems of differential equations. Gradient systems, Sturm-Liouville problems. Elementary techniques for boundary value problems of partial differential equations.

6270 (627) Advanced Differential Equations II. Three credits. Prerequisite: MATH 6260. Solution techniques for boundary value problems. Problems involve heat, wave, and potential equations. Topics include the method of characteristics, series solutions, integral transforms, and Green's functions.

6300 (630) Optimization. Three credits. Prerequisite: MATH 5320 or consent of instructor. Constrained and unconstrained optimization problems, including the generalized least squares problem and Eigenvalue problems. Methods include orthogonalization, conjugate gradient, and quasi-Newton algorithms.

6310 (631) Control Theory. Three credits. Prerequisite: MATH 6260 or consent of instructor. Vector space applications to system analysis; observability, controllability, and stabilization of systems; feedback systems; Lyapunov methods; optimal control, and the calculus variations.

6320 (632) Mathematical Problem Solving. Three credits. Prerequisite: Permission of instructor. A basis for reflection on teaching and learning mathematics. Problem-solving strategies and heuristics. Focuses on all branches of mathematics, providing an opportunity to synthesize mathematical knowledge.

6330 (633) Algebra for Teachers. Three credits. Prerequisite: Permission of instructor. Review and extension of algebraic skills and concepts as they relate to the teaching and learning of algebra. Focus on algebraic thinking and problem solving, algebraic systems, functions, graphing, and linear algebra.

6340 (634) Geometry for Teachers. Three credits. Prerequisite: Permission of instructor. Investigations into the foundations of plane, solid, and coordinate geometry, motion geometry, similarities and congruencies, measurement and the application of geometry. Instruction will model the suggested pedagogy appropriate for school mathematics.

6350 (635) Probability and Statistics for Teachers. Three credits. Prerequisite: Permission of instructor. Relation to school mathematics. Development of central tendency and variation, concepts of chance including sample space, randomness, conditional probability, and independence.

6360 (636) Technology Tools for School Mathematics. Three credits. Integrates technology into the teaching and learning process for teachers of middle and secondary school mathematics. Investigates a variety of mathematical subject matter appropriate for middle and secondary school students via technology. Lessons designed for use with a variety of technologies, including graphing calculators, dynamic geometry software, spreadsheets, authoring software, presentation software, and the World Wide Web. Highly individualized due to varying backgrounds and interests of students.

6380 (638) Current Trends in Mathematics Education. Three credits. Prerequisite: Permission of instructor. Innovative topics or critical issues related to the teaching and learning of mathematics. Includes history of mathematics education, pedagogical content knowledge, assessment and evaluation, and technologies.

6400 (640) Advanced Geometry. Three credits. Prerequisite: MATH 3070 or consent of instructor. Detailed study of one or more of the various branches of geometry including non-Euclidean ge-
ometry, projective geometry, algebraic geometry, and differential geometry.

6410 (641) Computer-Aided Geometric Design. Three credits. Prerequisites: MATH 5320 and 6400 or consent of instructor. Parametric curves and surfaces; Bezier and B-spline interpolation and approximation techniques; visual smoothness and parameterization for curves; Coons, Bezier, and triangular patches; scattered data methods.

6510 (651) Advanced Algebra. Three credits. Prerequisite: MATH 5530. Polynomial rings, theory of fields, vector spaces and intermediate group theory necessary for Galois theory, and Galois theory.

6601- (660 A-L) Problems in Mathematics. One to nine credits (in 6608 6601-6608). Prerequisite: Mathematical maturity, preparation in the area, and normally nine semester hours of graduate study. Problems course dealing with theory methods and applications.
6601 (660A) Advanced Calculus
6602 (660B) Number Theory
6603 (660G) Mathematics of Finance
6604 (660H) Mathematics of Life Contingencies
6605 (6601) Numerical Analysis
6606 (660J) Topology
6607 (660K) Abstract Algebra
6608 (660L) Combinatorics and Graph Theory
6610 (661) Introduction to Graduate Study. Two credits.
6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6700 (670) Advanced Combinatorics and Graph Theory. Three credits. Prerequisite: MATH 4700/5700. Selected topics in combinatorics and graph theory extending topics studied in MATH 4700/5700.

6900 (690) Research in Mathematics Education. Three credits. Prerequisite: Permission of instructor. An examination of factors influencing research and critical analyses of selected research in mathematics education. Studies representing different methodologies critiqued.

7060 (706) Independent Study. One to nine credits.

## Courses in Statistics [STAT]

5130 (513) Applied Statistics. Three credits. Prerequisite: 2 years of high school algebra or equivalent. Topics include descriptive statistics, probability, and statistical inference. The inference unit covers means proportions and variances for one and two samples, one-way ANOVA, regression and correlation analysis, chi-square analysis, and topics in nonparametrics.

5140 (514) Probability and Statistics. Three credits. Prerequisite: STAT 5130 or equivalent. Topics include multiple regression, variance component estimation, experimental design, covariate analysis, chi-square analysis, multiple comparisons, and nonparametrics. The experimental design topics include twoway ANOVA, factorial experiments, nested designs, and split plot designs.

5190 (519) Mathematical Statistics II. Three credits. Prerequisite: STAT 3150 or equivalent. Theory of statistical inference. Topics
include sampling distributions, decision theory, estimation, test of hypothesis, regression analysis, analysis of variance, and selected applications.

5200 (520) Statistical Methods for Forecasting. Three credits. Prerequisite: STAT 4190. Application of the regression model in forecasting regression and exponential smoothing methods to forecast nonseasonal time-series, seasonal series and globally constant seasonal models, stochastic time series models; and forecast evaluation. (Prepares actuarial science students for the Society of Actuaries Exam \#120 and Exam Part 3A administered by the Casualty Actuarial Society.)

5320 Probability and Stochastic Processes. Three credits. Prerequisite: Two semesters of calculus and STAT 3150 (or MATH 2050) or consent of instructor. Theoretical basis for stochastic processes and use as models of real-world phenomena. Topics include Markov chains, Poisson processes, and Brownian motion and stationary processes. Applications include Gambler's Ruin, birth and death models, hitting times, stock option pricing, and the Black-Scholes model.

5360 (536) Regression Analysis. Three credits. Prerequisite: STAT 3150 or equivalent. Theory and application of regression models. Approaches to model building and data analysis treated. Computation and interpretation of results facilitated through use of statistical software packages.

5370 (537) Nonparametric Statistics. Three credits. Prerequisite: STAT 3150 or equivalent. Statistical tests that require no assertions about parameters or about the form of the population from which the samples are drawn. A wide range of practical problems.

5380 (538) Experimental Design. Three credits. Prerequisite: STAT 3150 or equivalent. Topics include one-way analysis of variance, multiple comparison, multifactor analysis of variance, and various practical issues in experimental design. Computation and interpretation of results are facilitated through the use of statistical software packages.

5600 (560) Problems in Statistics. One to six credits. Prerequisites: Senior standing and consent of instructor. Students wishing to enroll must submit a written course/topic proposal to the department prior to the semester in which STAT 560 is taken. Proposal must be approved prior to student taking the course. At the conclusion of the course, each enrollee must submit a written report to the department.

6160 (616) Statistics. Three credits. Mathematical statistics and applications, discrete and continuous data, statistical inferences.

6180 (618) Statistical Inference. Three credits. Prerequisite: STAT 6160 or permission of instructor. Theory of estimation and hypothesis tests. Topics include minimum variance unbiased estimation, methods of estimation, most powerful tests, likelihood ratio tests, decision theory, and sequential test procedures.

6600- (660 C-F) Problems in Statistics. One to nine credits (in 6601-
6604 6604). Prerequisite: Mathematical maturity, preparation in the area and (normally) nine semester hours of graduate study. Problems course dealing with theory, methods, and applications.

| 6601 | $(660 \mathrm{C})$ | Mathematical Statistics |
| :--- | :--- | :--- |
| 6602 | $(660 \mathrm{D})$ | Regression Analysis |
| 6603 | $(660 \mathrm{E})$ | Non-parametric Statistics |
| 6604 | $(660 \mathrm{~F})$ | Experimental Design |

6601 (660C) Mathematical Statistics
6603 (660E) Non-parametric Statistics
6604 (660F) Experimental Design

## Courses in Actuarial Science [ACSI]

5140 (500) Mathematical Foundations of Actuarial Science. Three credits. Prerequisites: ACSI/MATH 3020 (or MATH 3110) and STAT 3150 or consent of instructor. A preparatory course for the Society of Actuaries/Casualty Actuarial Society Course/Exam 1. Integrates calculus, probability, and risk management topics into fundamental tools for assessing risk in an actuarial environment. Calculus and probability topics include derivatives, integrals, partials, random variables, distributions, and conditional probability. Risk topics include frequency and severity. Insurance concepts such as retention, deductible, coinsurance, and risk premium.

5200 (539) Introduction to Mathematics of Investment. Three credits. (Same as MATH 5200.) Prerequisites: MATH 1910 or ACSI 2020, 2030, and one semester of probability/statistics, or consent of instructor. Calculus and probability/statistics used to model and analyze investments in bonds, treasury bills, stocks, and other derivatives. Topics include obtaining the price of a bond as a function of interest rate, developing formulas for duration and convexity to study the sensitivity of price to interest rate, and mathematical modeling of investor preference and attitude toward risk.

5220 (510) Mathematics of Pricing Theory. Three credits. Prerequisites: ACSI/MATH 4200/5200 and ECON 2410, 2420, or consent of instructor. A preparatory course for the Society of Actuaries/Casualty Actuarial Society Course/Exam 2. Applies calculus and theory of interest tools to intermediate topics in microeconomics. Topics include the mathematics of supply, demand, and equilibrium; prices, costs, and the gains from trade; consumer behavior; elasticities; competition; monopoly; market power, collusion, and oligopoly; the mathematics of risk and uncertainty; and surplus economics.

5230 (540) Mathematics of Compound Interest. Three credits. Prerequisite: $\mathrm{ACSI} / \mathrm{MATH} 4200 / 5200$ or consent of instructor. A preparatory course for the Society of Actuaries/Casualty Actuarial Society Course/Exam 2. Topics include measurement of interest (including accumulating and present value factors), annuities certain, yield rates, amortization schedules, sinking funds, and bonds and related securities.

5240 (550) Mathematics of Interest Theory, Economics and Finance. Three credits. Prerequisites: ACSI 4230/5230 or consent of instructor. A preparatory course for the Society of Actuaries/Casualty Actuarial Society Course/Exam 2. Applies calculus and theory of interest tools to intermediate topics in microeconomics and macroeconomics and topics in finance. Topics include pricing activities, the simplified Keynesian model, interest and discount rates, valuation of payment streams, yield rates, amortization, cash flows and internal rate of return, stock and bond valuation, portfolio risks, the Capital Asset Pricing Model (CAPM), efficient markets, capital structure, leverage, financial performance measurement, and basic option pricing and the Black-Scholes model.

5330 (548) Actuarial Mathematics I. Three credits. Prerequisites: ACSI 4230/5230 and STAT 4190 or consent of instructor. First of a two-semester sequence; a preparatory course for the Society of Actuaries/Casualty Actuarial Society Course/Exam 3. Topics include survival distributions and life tables, life insurance, life annuities, and net premiums.

5340 (549) Actuarial Mathematics II. Three credits. Prerequisite: ACSI 4230/5230 and STAT 4190 or consent of instructor. Second of a two-semester sequence; a preparatory course for the Society of Actuaries/Casualty Actuarial Society Course/Exam 3.

Topics chosen from net premium reserves, multiple life functions, multiple decrement models, valuation theory and pension plans, and insurance models (including expenses and nonforfeiture benefits and dividends).

5600 (560) Problems in Actuarial Science. One to six credits. Prerequisites: Senior standing and consent of instructor. Students wishing to enroll must submit a written course/topic proposal to the department prior to the semester in which ACSI 5600 is taken. The proposal must be approved prior to student taking the course. At the conclusion of this course, each enrollee must submit a written report to the department.

5630 (505) Mathematics of Risk Management. Three credits. Prerequisite: $\mathrm{ACSI} / \mathrm{MATH} 4200 / 5200$. A preparatory course for the Society of Actuaries Course 6. Topics include mathematical modeling of volatility; pricing of bonds, stocks, and other derivatives with uncertainty; benchmark portfolios; asset/liability management for property/casualty insurers; liability associated with a financially distressed company. Heath-Jarrow-Morton and Cox-Ingersoll-Ross models studied.

5640 (506) Mathematics of Options, Futures, and Other Derivatives. Three credits. Prerequisites: ACSI/MATH 4630/5630 and 4200/5200. A preparatory course for the Society of Actuaries Course 6. Topics include risk management using options, interest rate swaps, interest rate caps, Black-Scholes analysis, Taylor series expansion to obtain hedge parameters, portfolio insurance, numerical procedures, interest rate derivatives, and use of Black's model.

6010 (601) Credibility Theory and Loss Distributions. Three credits. Prerequisite: STAT 5190 or consent of instructor. A preparatory course for Exam Part 4B of the Casualty Actuarial Society. Topics include Bayes Theorem and its relationship to credibility theory and analysis of statistical distributions for modeling insurance claims by size.


# School of Music 

## Roger Kugler, Director Wright Music Building 150

The School of Music offers a Master of Arts degree in Music with specializations in collaborative arts-instrumental, collaborative arts-vocal, composition for contemporary media, conducting, jazz studies, music composition, music education, musicology, and performance. A minor in Music is offered at the graduate level.

Applicants seeking admission to the Master of Arts degree must submit a score for the GRE exam. Applicants for graduate study seeking specialization in music education must submit scores for MAT or GRE.
An audition is required of all students entering a graduate degree program in music with the exception of those applying for admission to the music education and conducting specializations who may submit a VHS tape of their teaching or conducting in place of an audition. Applicants for admission who do not pass the applied performance audition may be allowed, at the discretion of the faculty, to be admitted with probationary status to the program for one semester and must register for MUAP 5020, Private Instruction, and reaudition at the end of their first semester of study. Students not passing the audition on their second attempt will be excused from the program.
A music theory examination and a music history assessment are required of all candidates for admission. These assessments will be scheduled during the first week of class of the first semester of study. Students not meeting proficiency requirements are required to take additional coursework. Any coursework necessary to meet proficiency requirements does not count toward the M.A. degree.

## Requirements for the Master of Arts

1. Prior to the completion of 24 semester hours, a Candidacy Form must be filed with the Graduate Office.
2. Candidates for graduation must pass both written and oral comprehensive examinations. These examinations are scheduled during the student's last semester of study. Comprehensive examinations may be taken no more than twice.
3. Students choosing the recital option must complete 18 semester hours of coursework before enrolling in MUAP 6670, Graduate Recital.
4. No more than 30 percent of the total degree hours may be dually listed (undergraduate/graduate) courses.

## Areas of Specialization

## Specialization 1: Collaborative Arts with an Instrumental Emphasis (32 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Performance Audition (for piano faculty)
c. Accompanying Audition (for accompanying faculty)
II. Proficiencies
a. Music History (diagnostic examination)
b. Music Theory (diagnostic examination)
III. Special Requirements for Graduation

Six hours of French, German, or Italian at the undergraduate level (transfer credits accepted)
IV. Group A (9 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6630 Music Seminar
V. Group B - Courses in Specialization (20 hours)
a. MUAP 6682 Private Instruction (Collaborative Piano)
b. MUAP 6670 Graduate Recital (3 hours each)

This will require two new repertoire selections (each repeatable once)

1. First - collaborative piano with vocal
2. Second - collaborative piano with instrumental
c. MUHL 5710 Vocal Literature
d. Select one of the following instrumental literature courses (2 hours)
3. MUHL 5730 Brass Literature
4. MUHL 5750 String Literature
5. MUHL 5760 Woodwind Literature
e. MUHL 5780 Chamber Music Literature (3 hours)
VI. Group C - Elective Courses (3 hours)

5000/6000 level

## Specialization 2: Collaborative Arts with a <br> Vocal Emphasis (32 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Performance Audition (for piano faculty)
c. Accompanying Audition (for accompanying faculty)
II. Proficiencies
a. Music History (diagnostic examination)
b. Music Theory (diagnostic examination)
c. Foreign Language: French, Italian, German (diagnostic examination)
III. Group A (9 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6630 Music Seminar
IV. Group B - Courses in Specialization (20 hours)
a. MUAP 6682 Private Instruction (Collaborative Piano)
b. MUAP 6670 Graduate Recital (3 hours each) This will require two new repertoire selections (each repeatable once)

1. First - collaborative piano with vocal
2. Second - collaborative piano with instrumental
c. MUHL 5710 Vocal Literature
d. MUHL 5770 Opera Literature
e. MUPD 5340 Techniques of Vocal Coaching
V. Group C - Elective Courses (3 hours)

5000/6000 level

## Specialization 3: Music Composition for Contemporary Media (36 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Must submit recordings and scores of the candidate's works
II. Proficiencies
a. Performance skill on an applied instrument or voice, keyboard preferred
b. Keyboard (may also fulfill performance-skill requirement)
c. Music History (diagnostic exam)
d. Music Theory (diagnostic exam)
III. Group A (9 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6630 Music Seminar
IV. Group B - Courses in Specialization (24 hours)
a. MUHL 6040 Twentieth Century Music
b. MUAP 6140 Composition
c. MUAP 6150 Composition
d. MUAP 6160 Composition
e. MUAP 6670 Graduate Recital
f. MUTH 5190 Principles and Practices of Electronic Music
g. MUTH 5290 Electronic Music II
h. MUTH 5590 MIDI Studio Techniques
V. Group C - Elective Courses (3 hours)

5000/6000 level

## Specialization 4: Conducting (31-34 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Must submit VHS recordings of conducted works or applied audition
II. Proficiencies
a. Performance skill on an applied instrument or voice, keyboard preferred
b. Keyboard (may also fulfill performance-skill requirement)
c. Music History (diagnostic exam)
d. Music Theory (diagnostic exam)
III. Group A ( 12 hours)
a. MUS 6620 Bibliography and Research
d. MUTH 6050 Analytical Techniques
e. MUS 6500 Aesthetics of the Arts
f. MUS 6630 Music Seminar
IV. Group B - Courses in Specialization (10 hours)
a. MUEN 5300-5375 Ensembles
b. MUS 6030 Conducting Problems and Score Interpretation
c. MUS 6060 Advanced Conducting AND
d. MUHL 5680 Choral Literature

OR
e. MUED 5240 Instrumental Rehearsal Problems
V. Group C - Guided Elective Courses (9-12 hours)
a. MUAP 6670 Graduate Recital AND
Foreign Language (6 hours)
OR
b. MUS 6640 Thesis Research AND Foreign Language (6 hours)
OR
c. Electives at the 5000/6000 level (12 hours)

## Specialization 5: Jazz Studies (32 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Audition on Primary Instrument or Voice
II. Proficiencies
a. Music History (diagnostic examination)
b. Music Theory (diagnostic examination)
III. Group A (9 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6630 Music Seminar
IV. Group B - Courses in Specialization (14 hours)
a. MUAP 668- - Private Instruction
b. MUAP 669- - Private Instruction
c. MUAP 670- - Private Instruction
d. MUAP 6670 Graduate Recital
e. MUEN 5340 or 5343 Jazz Ensemble or Jazz Combo (one hour each, 2 hours)
V. Group C - Guided Elective Courses (9 hours)

Three courses to be selected from the following four:

1. MUPD 6330 Jazz Pedagogy and Program Administration
2. MUTH 6060 Advanced Jazz Improvisation
3. MUTH 5280 Advanced Jazz Arranging
4. MUHL 5530 History of Jazz

## Specialization 6: Music Composition (33 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Must submit recordings and scores of the candidates works
II. Proficiencies
a. Performance skill on an applied instrument of voice
b. Keyboard (may also fulfill performance-skill requirement)
c. Music History (diagnostic examination)
d. Music Theory (diagnostic examination)
III. Group A (21 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6630 Music Seminar
d. MUAP 6140 Composition
e. MUAP 6150 Composition
f. MUAP 6160 Composition
g. MUAP 6670 Graduate Recital
IV. Group B - Courses in Specialization (6 hours)
a. MUHL 6040 Twentieth-Century Music
b. MUTH 5190 Principles and Practices of Electronic Music
V. Group C - Elective Courses ( 6 hours)
a. Guided elective to be chosen from fields of philosophy, art history, anthropology, or literature with consent of advisor
b. Free Elective (5000/6000 level)

## Specialization 7: Music Education (33-36 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Must submit VHS recordings of classroom teaching or applied audition
II. Proficiencies
a. Music History (diagnostic exam)
b. Music Theory (diagnostic exam)
III. Group A (12 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6500 Aesthetics of the Arts
d. MUS 6630 Music Seminar
IV. Group B - Courses in Specialization (12 hours)
a. MUED 5210 General Music Program K-6
b. MUS 6060 Advanced Conducting
c. 6 hours from the following:

1. MUED 5210 General Music Program K-6
2. MUED 5220 Middle School Music
3. MUED 5230 Secondary School Methods and Materials
4. MUED 5240 Instrumental Rehearsal Problems
5. MUED 5250 Advanced Marching Techniques
V. Group C - Guided Elective Courses (9-12 hours)
a. MUAP 6670 Graduate Recital AND

Foreign Language - 6 hours
OR
b. MUS 6640 Thesis Research AND Foreign Language - 6 hours
OR
c. Electives at the 5000/6000 level (12 hours)

## Specialization 8: Musicology (30 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Must submit two research papers of at least five pages in length, one of which is on a music topic; substitutions may be made with permission of program director

## II. Proficiencies

a. Foreign Language (must be approved by the graduate coordinator; may fulfill this obligation by diagnostic exam or by completing six hours of a single foreign language at the undergraduate level with a grade of "B"
III. Group A (9 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6630 Music Seminar
IV. Group B - Courses in Specialization (12 hours)
a. MUS 6630 Music Seminar ( 3 hours each) ( 6 hours)
b. Course at the 6000 level in a related field
(anthropology, sociology, art history, etc.; must be approved by the graduate studies coordinator)
c. MUS 6640 Thesis Research
V. Group C - Elective Courses (9 hours)

5000/6000 level

## Specialization 9: Performance (32 hours)

I. Special Requirements for Admission
a. Must submit scores from the Graduate Record Examination (GRE)
b. Audition on primary instrument or voice
II. Proficiencies
a. Music History (diagnostic examination)
b. Music Theory (diagnostic examination)
c. Vocalists

Diction Diagnostic Exam
Six credit hours each in two of the following at the undergraduate level: French, German, and Italian
III. Group A (9 hours)
a. MUS 6620 Bibliography and Research
b. MUTH 6050 Analytical Techniques
c. MUS 6630 Music Seminar
IV. Group B - Courses in Specialization (20 hours)
a. MUAP 6680 Private Instruction
b. MUAP 6690 Private Instruction
c. MUAP 6700 Private Instruction
d. MUAP 6670 Graduate Recital
e. MUHL 5--- Literature (two different three-hour courses)
f. MUEN 57-- Music Ensemble (two one-hour courses)
V. Group C - Elective Courses (3 hours)

5000/6000 level

## Courses in Music [MUS]

5030 (503 A-Z) Problems in Music. Two credits. Independent study conducted on selected music topics. (A maximum of six semester hours may be applied toward a degree.)

5270 (527) Music Internship. Three to six credits. Prerequisite: Permission of instructor. Examination and experiences in either the area of music industry, music education, or instrumental or choral conducting.

5570 (557) The Body Intelligent: A Study of the Alexander Technique. Two credits. (Same as THEA 5570.) For those interested in improving ease and freedom of movement, balance, support, flexibility, and coordination in daily activity.

6030 (603) Conducting Problems and Score Interpretation. Three credits. Analysis and marking of scores. Refinement of conducting techniques. Elimination of undesirable conducting habits. Diction as applied to conducting.

6060 (606) Advanced Conducting. Three credits. Techniques in advanced conducting of orchestral, choral, band, and chamber ensembles. Includes irregular meters, score reading, warm-up procedures, conducting patterns, attacks, and releases.

6500 (650) Aesthetics of the Arts. Three credits. The place of aesthetics in philosophy, the properties of music and the visual arts, the alternative and corollary views of the arts, the process of aesthetic creation, and meaning and values in music and the visual arts.

6620 (662) Bibliography and Research. Three credits. Survey of bibliography and problems and methods of research. Analysis and evaluation of research in the arts.

6630 Music Seminar. Three credits. Prerequisite: MUS 6620. Study and research of a topic in music determined by the instructor.

6640 (664) Thesis Research. One to six credits. Types of research in music surveyed. A problem is selected and developed into a thesis report in acceptable form and style. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6710 ( 671 A-C) Special Studies. One, two, or three credits. Intensive study of chosen subject. An indication of a reasonable skill and knowledge of research techniques, writing, and creativeness is expected.

## Courses in Applied Music [MUAP]

5020 (502) Private Instruction. Two credits. One hour lesson weekly on one of the various instruments or voice. Offers preparation to entering graduates for the graduate audition. Does not count toward the graduate degree; may be repeated.

5040 (504) Service Playing. Two credits. Skills and knowledge necessary for playing for church services including hymn and anthem accompaniments, conducting from the console, study of liturgical service music, solo accompaniments, and church music materials.

5100 (510) Private Instruction. One credit. Prerequisite: Permission of instructor. One half-hour private lesson weekly on one of the various instruments or voice. May be repeated.

5140 Composition. Two credits. Prerequisite: Permission of instructor. Experience composing original works in numerous media
and styles to develop technique and self-expression. May be repeated.

6140/6150/6160 (614/615/615) Composition. Three credits each. Development of skills and ability in handling musical materials with goals of some individual style or expression within the framework of current practices. Taken in consecutive order.

6670 (667) Graduate Recital. Three credits. Prerequisites: Completion of MUAP 6681-6688; 6691-6698; 6701-6708; or MUAP 6140, 6150, 6160; or MUS 6030, 6060; permission of the appropriate music faculty.

6680- (668 A-I) Private Instruction. Three credits. Prerequisite: 6688 Completion of undergraduate recital. Consult graduate coordinator as to performance area availability. One-hour private lesson per week in the selected performance field. In-depth study of stylistic, technical, and musical problems in music performance and exploration of advanced repertoire in the applied area.
6680
Private Instruction
6681 (668A) Private Instruction Voice
6682 (668B) Private Instruction Piano
6683 (668C) Private Instruction Organ
6684 (668D) Private Instruction Brass
6685 (668E) Private Instruction Winds
6686 (668F) Private Instruction Strings
6687 (668G) Private Instruction Percussion
6688 (668I) Private Instruction Guitar
6690- (669 A-I) Private Instruction. Three credits. Prerequisite:
6698 Completion of undergraduate recital. Consult graduate coordinator as to performance area availability. One-hour private lesson per week in the selected performance field. In-depth study of stylistic, technical, and musical problems in music performance and exploration of advanced repertoire in the applied area.

| 6690 |  | Private Instruction |
| :--- | :--- | :--- |
| 6691 | (669A) | Private Instruction Voice |
| 6692 | (669B) | Private Instruction Piano |
| 6693 | (669C) | Private Instruction Organ |
| 6694 | (669D) | Private Instruction Brass |
| 6695 | (669E) | Private Instruction Winds |
| 6696 | (669F) | Private Instruction Strings |
| 6697 | (669G) | Private Instruction Percussion |
| $\mathbf{6 6 9 8}$ | (669H) | Private Instruction Guitar |

6700- (670 A-I) Private Instruction. Three credits. Prerequisite:
6708 Completion of undergraduate recital. Consult graduate coordinator as to performance area availability. One-hour private lesson per week in the selected performance field. In-depth study of stylistic, technical, and musical problems in music performance and exploration of advanced repertoire in the applied area. Course may be repeated with no limit, but only three hours of credit may be applied toward the degree within the nine-hour private instruction requirement.

| 6700 |  | Private Instruction |
| :--- | :--- | :--- |
| 6701 | (670A) | Private Instruction Voice |
| 6702 | (670B) | Private Instruction Piano |
| 6703 | (670C) | Private Instruction Organ |
| 6704 | (670D) | Private Instruction Brass |
| 6705 | (670E) | Private Instruction Winds |
| 6706 | (670F) | Private Instruction Strings |
| 6707 | (670G) | Private Instruction Percussion |
| 6708 | (6701) | Private Instruction Guitar |

## Courses in Music Education [MUED]

5000 (500 A-Z) Problems in Music Education. One or two credits. A maximum of 6 semester hours credit may be applied toward a degree. May be repeated.

5210 (521) General Music Program K-6. Three credits. The role of music and music teaching in elementary education; its objectives, methods, materials, and procedures; innovative trends and exemplary practices; evaluative techniques.

5220 (522) Middle School Music. Two credits. The role of music and music teaching in middle school education; its objectives, methods materials, and procedures; innovative trends and exemplary practices; evaluative techniques.

5230 (523) Secondary School Methods and Materials. Two credits. The role of music and music teaching in secondary education; its objectives, methods, materials, and procedures; innovative trends and exemplary practices; evaluative techniques.

5240 (524) Instrumental Rehearsal Problems. Two credits. Improving teaching in instrumental music classes through a study of rehearsal planning and techniques; the interpretation of music to students; group dynamics.

5250 (525) Advanced Marching Techniques. Two credits. Prerequisite: Marching band class. Further development and application of marching band techniques as utilized in half-time and contest show production. Selection and analysis of the music score.

5670 (567) Music for the Young Child. Four credits. Music fundamentals, materials, and methods appropriate for pre-school through grades three; pantomine, role playing, improvisation, rhythm, movement, listening, and singing.

6010 (601) Foundations of Music Education. Three credits. Philosophies of music education; meaning in music and aesthetic theories; principles of learning; objectives for music education.

## Courses in Music Ensemble [MUEN]

5300- (570 A-P) Ensemble. One credit each semester. Study and pub5375 lic performance of music literature appropriate to the ensemble. May take two times for credit.

| 5300 | (570K) | Accompanying |
| :---: | :---: | :---: |
| 5312 | (570L) | Wind Ensemble |
| 5323 | (570J) | Schola Cantorum |
| 5325 | (570J) | Opera Workshop |
| 5330 | (570L) | University Orchestra |
| 5340 | (570M, N, P) | Jazz Ensemble |
| 5343 | (570M, N, P) | Jazz Combos |
| 5350 | (570M) | Percussion Ensemble |
| 5370 | (5701) | Mixed Chamber Ensemble |
| 5371 | (570B,D,E,F,P) | Brass Chamber Ensembles |
| 5372 | (570A) | Guitar Chamber Ensembles |
| 5373 | (570K) | Piano Chamber Ensembles |
| 5374 | (5701) | String Chamber Ensembles |
| 5375 | (570C,G,N) | Woodwind Chamber Ensembles |

## Courses in Music History and Literature [MUHL]

5050 (505) Church Music. Two credits. Survey of church music and various denominational worship traditions, hymnology, graded choir programs, handbell choirs, materials and methods of church music, and administration and organization of church music.

5060 (506) Survey of Guitar Literature. Two credits. Basic literature for the guitar from the Renaissance to the present. Analysis, listening, research, performance.

5070 (507) Music History Survey. Three credits. Review of music in history and culture to degree necessary for candidate to pursue work on graduate level.

5130 Survey of World Music. Three credits. A study of selected music of cultures from around the world and here at home. Listening, watching, reading, research, and concert attendance required.

5530 History of Jazz. Three credits. Study of the history and literature of jazz music including African roots, developments, and aspects of style periods, and the contemporary state of jazz. Listening and analysis.

5630 (563) Seventeenth and Eighteenth Century Music. Three credits. Prerequisite: Permission of instructor. A survey of Western classical music during the Baroque and Classical periods; emphasis on topics selected by the instructor.

5640 (564) Nineteenth Century Music. Three credits. Prerequisite: Permission of instructor. A survey of Western classical music during the Romantic period; emphasis on topics selected by the instructor.

5660 (566) American Music. Three credits. Prerequisite: Permission of instructor. A survey of American music from the colonial era to the present; added emphasis on topics selected by the instructor. Examines folk, popular, and art, as well as sacred and secular traditions within their cultural contexts.

5680 (568) Choral Literature. Two credits. Examination of choral literature from the Renaissance to the present. Program selection. Analysis of choral pieces.

5690 (569) Piano Literature. Two credits. Survey of the basic literature of the harpsichord and piano from the eighteenth century to the present. Live performance; analysis and research.

5710 (571) Vocal Literature. Three credits. Basic repertory of Italian airs, German lieder, French art song, and solo vocal works of nationalistic schools, as well as English and American song literature.

5720 (572) Organ Literature. Two credits. A chronological study of organ literature from the Medieval period to the present. Objectives include knowledge of the repertoire and composers and historical perspective of styles and organ building.

5730 (573) Brass Literature. Two credits. A chronological study of brass literature from the Renaissance period to the present. Objectives include knowledge of the repertoire and composers, historical perspective of styles, types, and common performance practice.

5740 (574) Percussion Literature. Two credits. A chronological study of percussion literature from the nineteenth century to the present. Objectives include knowledge of the repertoire and composers, historical perspective of styles, types, and common performance practice.

5750 (575) String Literature. Two credits. A chronological study of string literature from the nineteenth century to the present. Objectives include knowledge of the repertoire and its composers, historical perspective of styles, types, and common performance practice.

5760 (576) Woodwind Literature. Two credits. A chronological study of woodwind literature from the Renaissance period to the present. Objectives include knowledge of the repertoire and composers, historical perspective of styles, types, and common performance practice.

5770 Opera Literature. Three credits. A study of major operatic works and styles. Focuses on composers, librettists, and performers as well as the vocal, musical, and dramatic resources necessary for performance. Listening and analysis of select pieces will be included in student projects.

5780 Chamber Music for Keyboard. Three credits. A study of chamber music written for the piano. Emphasis will be placed on music written during the eighteenth, nineteenth, and twentieth centuries. Listening and analysis of select pieces will be included in student projects.

6040 Twentieth Century Music. Three credits. Styles and compositional techniques found in representative masterworks of the twentieth century from Debussy to present. Analysis, listening, and research.

## Courses in Music Pedagogy [MUPD]

5110 (511) Advanced Brass Pedagogy. Two credits. Advanced study of conceptual, physiological, acoustical, pedagogical methods and materials used in the teaching of beginning, intermediate, and advanced brass students.

5120 (512) Advanced Percussion Pedagogy. Two credits. Advanced study of conceptual, physiological, acoustical, pedagogical methods and materials used in the teaching of beginning, intermediate, and advanced percussion students.

5130 (513) Advanced String Pedagogy. Two credits. Advanced study of conceptual, physiological, acoustical, pedagogical methods and materials used in the teaching of beginning, intermediate, and advanced string students.

5140 (514) Advanced Woodwind Pedagogy. Two credits. Advanced study of conceptual, physiological, acoustical, pedagogical methods and materials used in the teaching of beginning, intermediate, and advanced woodwind students.

5300 (530) Diction for Singers II. Three credits. Lecture demonstration course for familiarization of the International Phonetic Alphabet and correct pronunciation of a variety of texts in English, Italian, German, and French.

5310 (531) Vocal Pedagogy. Two credits. Teaching techniques of the fundamentals of singing. Vocalizes and repertoire. Physical aspects of singing.

5320 (532) Piano Pedagogy. Two credits. Various technical and philosophical approaches in teaching piano. Examination of teaching repertory through intermediate level. Supervised teaching through intermediate level.

5330 (533) Organ Pedagogy. Two credits. The principles of teaching organ: manual and pedal techniques, organ methods, and organ repertoire of varying degrees of difficulty and of all pe-riod-styles from pre-Bach through twentieth century.

5340 Techniques of Vocal Coaching. Two credits. Methods and techniques necessary for vocal coaching in a professional setting. Topics include the German Fach system, effective rehearsal techniques, in-depth study of transposition, open-score reading, and sight reading. Listening and in-class coaching sessions included.

6330 Jazz Pedagogy and Program Administration. Three credits. In-depth study of materials and techniques for teaching jazz at the high school and college level. Rehearsal techniques and iden-
tification of and solutions to performance problems. Study of the development and implementation of a successful jazz studies program including educational jazz festival administration.

6340 (634) Woodwind Teaching. Two credits. Seminar on problems encountered in advanced instruction of woodwinds. Experimentation and performance involving old and new concepts of performance.

6350 (635) Brass Teaching. Two credits. Teaching materials for trumpet, cornet, horn, trombone, baritone, and tuba; elementary and advanced exercises, etudes; methods for class and private instruction, clef and transposition studies, orchestral and band repertoire. Survey of sources providing announcement and evaluation of new materials.

## Courses in Music Theory [MUTH]

5010 (501) Theory Survey. Two credits. A review of musicianship skills and knowledge of musical theory to the degree necessary for the candidate to pursue work at the graduate level.

5180 (518) Improvisation. Two credits. Lecture demonstration course exploring improvisation, musical vocabularies, and shorthands including figured bass, Nashville shorthand, and other contemporary styles of writing and performing.

5190 (519) Principles and Practices of Electronic Music. Three credits. Includes history and techniques, acoustics, electronic sound generation, recording, operation of audio equipment, basic principles of composition, and experience with tape recorders and a music synthesizer. Open to non-music majors with permission of instructor.

5280 Advanced Jazz Arranging. Three credits. Prerequisite: MUTH 4170. Advanced analysis and arranging for various combinations of instruments and voice for small and large jazz ensembles. Periods, performance practices, stylistic features, and artists.

5290 (529) Electronic Music II. Three credits. Prerequisite: MUTH 5190. Advanced principles of digital sound synthesis, programming the digital synthesizer, electronic composition, contemporary trends in digital music, and programming with a MIDI work station.

5590 MIDI Studio Techniques. Three credits. Prerequisites: RIM/ MUTH 4290 and RIM 4400 or permission of instructor. MIDI systems design and the total integration of all MIDI-controllable devices. SMPTE and MIDI Time Code and their application to tape synchronization. A continuation of advanced techniques for digital sampling, sequencing, sound manipulation, and use of alternate controllers. Other topics include sound effects and music scoring for film and video, and the MIDI Machine Control and MIDI Show Control specifications. Laboratory required.

6050 (605) Analytical Techniques. Three credits. Prerequisite: MUTH 5010 or permission of instructor. Skills and procedures of musical analysis as they apply to all periods through analysis of representative compositions. Evaluation of work from all standpoints: craftsmanship, expression, and stylistic correctness.

6060 Advanced Improvisation. Three credits. Exploration of the art of improvisation. Emphasis on advanced harmonic and melodic principles and on the development of a personal style. Listening and analysis of solos by great jazz artists and in-class performances of student projects and improvisations.

## Department of Physics and Astronomy

## Robert F. Carlton, Chair

Wiser-Patten Science Building 219
The Department of Physics and Astronomy offers a minor at the graduate level.

## Courses in Physics [PHYS]

Graduate standing and consent of instructor are prerequisites for graduate courses in physics.

5310 (531) Electricity and Magnetism. Three credits. Topics including electric and magnetic fields, electrostatic potential, and potential energy and fields in matter discussed in a mathematically rigorous manner. A variety of good applications of mathematical methods in physics.

5380 (538) Introduction to Quantum Mechanics. Three credits. Origin of quantum theory; wave packets and deBroglie waves; Heisenberg uncertainty principles. Schroedinger wave equation, operators, eigenfunctions, square well potential, the harmonic oscillator, the hydrogen atom, molecular binding and molecular spectra.

6330 (633) Principles of Modern Physics. Three credits. Charged particles and their behaviors; electronic structures of the atoms; nuclear structures and processes; and radiation.

6340 (634) Fundamentals of Physics. Six credits. Basic laws and principles of classical and modern physics. Lecture topics and laboratory experiences designed to advance student's knowledge of physics.


## Department of Political Science

## John Vile, Chair <br> Peck Hall 209

The Department of Political Science offers a minor at the graduate level.

## Courses in Political Science [P S]

5000 (500) Quantitative Methods of Research. Three credits. Fundamentals of quantitative methods in empirical research problems in the social sciences. Course is a prerequisite for P S 5110.

5020 (502) Political Science Laboratory. Three credits. Research, statistics, data processing, or simulation studies related to political and social questions.

5050 (505) Introduction to City and Regional Planning. Three credits. Analysis of the basis of particular forms in urban settlements and regions; introduction to planning history, theory, methods, processes, and current trends.

5060 (506) The U.S. Congress. Three credits. An analysis of the United States Congress. The origins of the congress, political power, the nature of the institutionalized congress, campaigns, elections.

5110 (511) Quantitative Methods of Research. Three credits. (Same as SOC 5110.) Prerequisite: P S 5000. Fundamentals of quantitative methods in empirical research problems in the social sciences.

5120 (512) Tennessee Government. Three credits. Structure, functions, and processes of Tennessee's governmental and political institutions. Policy issues studied.

5200 (520) Problems in Government. Three credits. Work done on a tutorial basis under the close direction of a professor. Student must present a proposal for departmental consideration and acceptance before enrolling in this course.

5210 (521) International Relations. Three credits. National power, balance of power, nationalism, imperialism, colonialism, war as an instrument of national policy, economic instruments of national policy, diplomacy, collective security, international law, and organization.

5220 (522) World Politics. Three credits. Experiencing contemporary international politics through the medium of simulation. Particular focus areas include the U.S., former Soviet Union, People's Republic of China, the Middle East, South Asia, and Southern Africa.

5230 (523) Political Theory. Three credits. Western political theory from the early Greeks to the beginning of the modern world. Includes Plato, Aristotle, Stoicism, the church-state controversies, feudalism, Machiavelli, the Reformation and Counter-Reformation, the early nationalists, Hobbes.

5240 (524) American Foreign Policy. Three credits. Foreign policies in the nuclear age from Kennan and containment to the present with emphasis on contemporary problems and policies.

5250 (525) Public Administration. Three credits. Fundamentals of public management-organization theory, leadership, policy making, planning, budgeting, personnel, administrative law, bureaucratic behavior.

5260 (526) Public Administration. Three credits. Selected issues and problems. Normally entails the application of administrative concepts to administrative problems and learning by doing.

5300 (530) Comparative European Governments. Three credits. Comparative analysis of the governmental forms and practices of England, France, Germany, the European Community, and others.

5320 (532) Public Opinion and Propaganda. Three credits. The nature of pubic opinion and its role in the political and social process; myths, symbols, other instruments; techniques of propaganda.

5330 (533) Politics and the Party System. Three credits. The nature of democracy, politics, and political parties; party organization and role in government; campaigning, primaries, conventions, general elections; the electoral college; voting behavior and pressure groups.

5360 (536) Legislative Internship. Twelve credits. A cooperative program with the state of Tennessee which provides for student service with the legislature on a full-time basis during the spring semester. Students selected on a competitive basis. Only six hours may count toward the degree for graduate programs.

5370/ 5380 (537/538) American Constitutional Law. Three credits each. The Supreme Court as a policy-making body in the governmental system. Emphasis on case studies in major areas of conflict including federalism, civil liberties, criminal procedure, and economic regulation.

5400 (540) Municipal Government. Three credits. The structure, powers, functions, and politics of municipal governments from the standpoint of city management. Attention is given to problems of municipal policy implementation.

5410 (541) Business and Government. Three credits. Government's role in regulating and supporting business and its impact on the economic health of the private sector. Analyses of the businessgovernment relationship at the federal, state, and local levels. The new role of organized consumers.*

5440 (544) Governmental Budgeting and Finance Administration. Three credits. Analysis of the legal and social nature of government budgets emphasizing the procedures and administrative methods of fiscal control. Study of budget documents at state and local levels.*

5500 (550) International Law. Three credits. General principles of modern international law taught by the case study method in a seminar format encouraging debate and discussion. Issues concerning the development of international law and human rights.

5510 (551) International Political Economy. Three credits. Prerequisites: P S 1010 and 3210 or permission of instructor. The relationship between politics and economics in international affairs and its implications for global peace, security, the ecology, and social welfare.

5590 (559) Administrative Law. Three credits. Procedural aspects, substantive issues, judicial review of the type of law concerned with the powers and procedures of government agencies and the rights of citizens affected by them.

5630 (563) Personnel Management. Three credits. Prerequisite: P S 3250 or permission of instructor. The development and characteristics of public personnel administration in the United States with attention to recruitment, selection, position classification, compensation, performance evaluation, promotion, motivation, morale, discipline, separation, and public service unionism.*

5700 (570) American Political Thought. Three credits. Major thinkers and movements in American political thought from colonial times to the twentieth century with special emphasis on the thoughts of the framers of the American Constitution and their contemporaries.

5910 (591) International Organization. Three credits. Development and prospects of the United Nations Organization and its major approaches to peace-pacific settlement, collective security, international law, arms control, trusteeship, preventive diplomacy, international conferences, functionalism.*

5920 (592) Modern Political Theory. Three credits. Early democratic theory Hobbes, Locke, Rousseau, Burke, Hegel, the Utilitarians, Conservatism, Liberalism, Anarchism, Marx-Engels, Twentieth Century Communism, and Fascism.

6000 (600) Comparative Social Change. Three credits. (Same as SOC 6000.) A historical comparative examination of the structure, institutions, and development of the modern world system; a review of major theoretical and empirical research on the world system.

6260 (626) Readings in Political Science or Public Administration. Three credits. Individual study focusing on subject matter selected by the student and approved by the instructor; strengthens knowledge in a sub-field of political science or public administration. Focus guided by the student's professional interests, career objectives, and program requirements.

6300 (630) Readings in International Relations. Three credits. The theoretical basis of international politics. The biological, sociological, psychological, economic, and ideological aspects of international relations.

* Offered only in alternate years.



# Department of Psychology 

Larry W. Morris, Chair<br>Jones Hall 103

The Department of Psychology offers programs which lead to three graduate degrees: the Master of Arts with a major in Psychology and concentrations in Clinical, Experimental, Industrial/Organizational, Quantitative Psychology, and Pre-Specialist in Education: School Psychology; the Master of Education with a major in School Counseling, Pre K-12; and the Specialist in Education with a major in Curriculum and Instruction, concentration in School Psychology. The department also offers a minor at the graduate level.
Normally, a score of 900 combined verbal and quantitative sections of the Graduate Record Examination is recommended for admission to the Specialist in Education program or to the Master of Arts with concentrations in Clinical, Experimental, Quantitative Psychology, and Pre-Specialist in Education: School Psychology; a GRE quantitative or analytical of 450 is expected for the Industrial/Organizational concentration. A score of 900 combined verbal and quantitative or verbal and analytical sections on the GRE is expected for admission to the M.Ed. program. Applicants for Clinical also must submit a GRE Psychology Subject Examination. An undergraduate GPA of 3.00 is normally required for unconditional admission.

## Requirements for the Master of Arts

The Master of Arts in Psychology has five different concentrations. Each concentration has its own admission standards and required courses. Listed below are the general admission and graduation standards for the M.A. programs. Following the shared standards is additional information, including required courses, for specific concentrations.

## Admissions Process

Admission to graduate study is not automatic for students meeting minimal admission requirements. Students are selected from a pool of qualified applicants. Each year the number of students admitted to the program depends on the availability of adequate faculty supervision. Applications for Sum$\mathrm{mer} /$ Fall admission must be complete by March 1 and applications for Spring admission must be complete by October 1; late applicants who meet the admission criteria may be considered on a case-by-case basis. (See admission standards under Admission to the College of Graduate Studies.) Applicants must have completed 18 hours in undergraduate psy-
chology to be considered for admission to a concentration area. Applicants to the Clinical program should contact the department for a special application and reference forms. Applicants to the School Counseling Program should contact the department for special reference forms. Applicants to Experimental and School Psychology must provide a letter of intent stating goals and objectives.

## Conditional Admission

Students who do not meet admission requirements may be admitted conditionally to a specific concentration. Students admitted conditionally must maintain a 3.25 GPA in their first 12 hours of required graduate courses in their concentration area.

Readmission: See each area coordinator and program handbook for readmission policy.

## Candidacy Form

Students must file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours.

## Graduation Requirements

## Candidate must

1. demonstrate knowledge of the core areas of psychology by completing the following courses at either the undergraduate or graduate level (relevant courses offered at MTSU are listed in parentheses):
a. group measurement/testing (PSY 4260/5260 or 6050);
b. abnormal psychology or personality (PSY 3230/5230, 3590, 6020 or 6030);
c. learning or cognition (PSY 4040, 4480/5480, 4800/5800, or 6190);
d. social or developmental (PSY 2210, 2300, 4190, 4210/5210, 4610/5610, 6120, 6130, 6410);
e. physiological, sensation and perception, or research methods (PSY 3070/5070, 4780/5780, 4240/5240, or 4030/5030);
2. complete a total of 45 semester hours ( 48 for Clinical), including at least 33 hours in psychology. For some concentrations, the remaining hours may include either a minor or two cognates in other academic areas as approved by the graduate advisor. Only 30 percent of the total number of hours may be dually listed ( 5000 level meeting in conjunction with 4000 or 3000 level) courses;
3. complete PSY 6280 (PSY 3020 or equivalent is a prerequisite for PSY 6280), 6290, and 6640 (3 hours);
4. successfully write and orally present a written thesis evaluated by a committee of psychology faculty in conjunction with PSY 6640;
5. pass a written comprehensive examination prepared by the faculty in the student's concentration (may be taken no more than twice).

## Performance Requirements

Students must be able to meet the demands required for professional work in psychology. Therefore, students may be subject to dismissal from the Psychology Department if they (a) commit a serious breach of ethics or gross professional negligence or (b) present evidence of impaired psychological functioning that would present a danger to themselves or others in a professional role. Students who are dismissed may
re-apply and will be considered for re-admission on a competitive basis. Students who re-apply may be asked to provide evidence of improved ability to meet performance requirements.

## Psychology Major

## Concentration: Clinical

Prerequisites: Courses listed under 1. a,c,d, and e (above). Under 1.b., Abnormal Psychology is required. Graduate courses taken to satisfy these prerequisites do not count as part of the 48 graduate hours required for the M.A. degree. Students must be fully admitted prior to enrolling in required core courses. Non-degree seeking students may not enroll in required clinical courses, except by special permission.

| Required |  |  |
| :--- | :--- | :--- |
| PSY | 6020 | Theories of Personality |
| PSY | 6250 | Objective Personality Assessment |
| PSY | 6100 | Intellectual Assessment |
| PSY | 6010 | Clinical Interventions |
| PSY | 6510 | Psychopathology |
| PSY | 6690 | Professional Issues and Roles |
| PSY | 6800 | Techniques of Psychotherapy |
| PSY | 6840 | Individual Psychotherapy |
| PSY | 6850 | Field Practicum: Clinical |
| PSY | 6860 | Field Practicum: Clinical |

## Electives

Students in the Clinical concentration must take 9 elective credits in addition to the required courses in the core area and the research area. No more than 6 of the 9 elective credits may be listed as 5000level courses. In order to meet requirements for state licensure, the electives must be in the specific areas listed below.

1. Students must choose at least 3 credits from the following list.
(Up to 9 credits may be chosen from this list):
PSY 5780 Human Neuropsychology
PSY 6080 Interventions with Children and Adolescents
PSY 6170 Group Counseling and Psychotherapy
PSY 6340 Behavioral Medicine: Theory and Application
PSY 6400 Psychological Disorders of Children
PSY 6440 Advanced Applied Behavioral Analysis
PSY 6520 Psychopharmacology
PSY 6820 Family Therapy: Evaluation and Treatment Planning
PSY 6830 Techniques of Family Therapy
PSY 7520 Assessment and Treatment of Addictions
No more than one of the following:
PSY 6710 Community Psychology
PSY 6890 Consultation
No more than two of the following:
PSY 6240 Projective Measurements
PSY 6750 Psychology and Assessment of Learning Disabilities
PSY 6770 Assessment and Therapeutic Interventions for Children's Emotional Problems
PSY 6780 Clinical Neuropsychology
2. If students choose only $\mathbf{3}$ credits from the above list, they must choose AT LEAST 3 credits from the following:
PSY 5460 Psychology of Happiness and Well-Being
PSY 6030 Current Topics in Personality
PSY 6580 Multivariate Data Analysis
PSY 7100 Multicultural and Social Bases for Assessment and Intervention Practices
No more than one of the following (must be in addition to the course which meets prerequisite):
PSY 5610 Adult Psychology and Aging
PSY 6120 Developmental Psychology: Child
PSY 6130 Developmental Psychology: Adolescent

## No more than one of the following:

PSY 6190 Advanced Cognitive Psychology
PSY 6530 Psychology of Reading and Reading Development
3. If students need an additional 3 elective credits, they may choose from the following:
PSY 6390 Independent Research in Psychology: Clinical (1-3 credits)
PSY 6630 Literature Review and Reading in Psychology: Clinical ( 1 credit)
PSY 6870 Field Practicum (Clinical)
Professional liability insurance (\$1,000,000 each incident/\$3,000,000 annual aggregate) must be maintained throughout enrollment in the program, with a current insurance binder filed with the department at all times.

## Psychology Major <br> Concentration: Experimental

The goal of the Experimental concentration in psychology is to prepare the student to be a research psychologist. The primary application of this degree is to prepare the student to enter a Ph.D. program in psychology. However, many industries and clinical settings are interested in students with the analytical and statistical skills of a research psychologist.
Experimental students need to have a strong background in the core areas of experimental psychology. This background can be met at the undergraduate level; however, these competencies may also be completed while enrolled in the program (see pre- and co-requisites listed below). Beyond these competencies, students must take a small core of required courses and develop a specialization in one research area. Students may specialize in developmental, cognitive science, learning, or social/personality. Suggested courses for each specialization are listed below. Specific course requirements for each specialization must be submitted in a program of study and approved by three faculty members to include the student's graduate advisor and the experimental area coordinator. At least one committee member must have expertise in the chosen research specialization.

Prerequisites/Co-requisites (may be met at the undergraduate level): Students must complete courses in the following areas: 1) behavioral neuroscience, 2) child or lifespan development, 3) perception, 4) learning or cognitive, 5) research methods, 6) statistics, and 7) social/personality. Students who have not taken these courses at the undergraduate level may take a 5000 level equivalent while in the graduate program.
Core Courses
PSY 6600 Independent Research in Psychology:
Ceneral/Experimental (9 hours total)

PSY $\quad 6670$| Literature Review and Reading in Psychology: |
| :--- |
| Behavioral Neuroscience (at least 3 hours) |

Completion of an approved program of study in a research emphasis
Suggested Courses in the Experimental Specializations
Developmental
PSY
P250 Psychology of Exceptional Children

| PSY | 6410 | Development Across the Lifespan |
| :--- | :--- | :--- |
| PSY | 6530 | Psychology of Reading and Reading Development |


| Cognitive Science |  |  |  |
| :--- | :--- | :--- | :---: |
| PSY | 5780 | Human Neuropsychology |  |
| PSY | 5800 | Cognition: Thinking and Reasoning |  |
| PSY | 5820 | Psychology of Language |  |
| PSY | 6190 | Advanced Cognitive Psychology |  |
| PSY | 6530 | Psychology of Reading and Reading Development |  |
| PSY | 6560 | Computer-Based Statistical Packages |  |
| PSY | 6580 | Multivariate Data Analysis |  |

## Social/Personality

| PSY | 5380 | Group Dynamics |
| :--- | :--- | :--- |
| PSY | 5390 | Persuasion |
| PSY | 5420 | Experimental Social Psychology |
| PSY | 5440 | Social Psychology of Close Relationships |
| PSY | 5450 | Psychology of the Self |
| PSY | 6020 | Theories of Personality |
| PSY | 6030 | Current Topics in Personality |
| PSY | 6190 | Advanced Cognitive Psychology |
| PSY | 6380 | Work Group Effectiveness |
| PSY | 6560 | Computer-Based Statistical Packages |
| PSY | 6580 | Multivariate Data Analysis |

## Learning

PSY 5490 Operant Conditioning
PSY 5800 Cognition: Thinking and Reasoning
PSY 6190 Advanced Cognitive Psychology
PSY 6440 Advanced Applied Behavioral Analysis
PSY 6560 Computer-Based Statistical Packages
A 12-hour minor in biology or other related field

## Psychology Major <br> Concentration: Industrial/Organizational

## Prerequisite/Co-requisite

Introductory course in I/O Psychology such as
PSY 3320 Introduction to Industrial Organizational Psychology

| Required <br> PSY | 6070 | Advanced Industrial Organizational Training <br> and Development |
| :--- | :--- | :--- |
| PSY | 6090 | Practicum: Industrial/Organizational Psychology <br> Piterature Review and Reading in Psychology: |
| PSY | 6300 | Industrial/Organizational |
| PSY | 6320 | Performance Appraisal and Job Analysis |
| PSY | 6330 | Professional Issues in Industrial/Organizational <br> Psychology |
| PSY | 6420 | Advanced Personnel Selection and Placement |
| PSY | 6450 | Advanced Organizational Psychology |
| PSY | 6570 | Psychological Research Methods in Human Resource <br> Management |

Two of the following four courses
PSY 5290 Wage and Salary Administration
PSY 5370 Motivation and Work Attitudes
PSY 6360 Organizational Change and Development
PSY 6380 Work Group Effectiveness
Electives (not an inclusive list; consult advisor)
PSY 5340 Human Factors Psychology
PSY 5350 Safety Psychology
PSY 5380 Group Dynamics
PSY 6370 Organizational Skills

## Psychology Major Concentration: Quantitative

## Required

| PSY | 6050 | Psychological Testing |
| :--- | :--- | :--- |
| PSY | 6210 | Advanced Psychometrics |
| PSY | 6460 | Factor Analysis and Related Methods |
| PSY | 6490 | Practicum: Quantitative Psychology |
| PSY | 6560 | Computer-Based Statistical Packages |
| PSY | 6580 | Multivariate Data Analysis |

Two of the following:

| PSY | 6470 | Computer Simulation in the Behavioral Sciences |
| :--- | :--- | :--- |
| PSY | 6480 | Advanced Topics in Quantitative Psychology |
| PSY | 6550 | Structural Equation Modeling |
| PSY | 6600 | Independent Research in Psychology: <br>  <br>  <br> General/Experimental, 3 credits |
| STAT 5190 | Mathematical Statistics II |  |
| STAT 5370 | Nonparametric Statistics |  |

## Electives

Two six-hour cognates or a 12 -hour minor from any sub-area in psychology or related areas with the permission of the academic advisor.

## Psychology Major <br> Concentration: Pre-Specialist in Education: School Psychology

The school psychology program is field-based. As such, a student is required to be continuously enrolled in at least one field-based course every semester from the completion of PSY 6140 until the completion of the program. PSY 6960, 7810, 7080, and 6980 are field-based courses. The policy excludes summer sessions. Tennessee teacher licensing in School Psychology is obtained through MTSU's program. Licensing is competency-based. The seven areas of competency include Learning, Personality, Consultation and Assessment, Research, School Roles, Community Roles, and Internship, all of which are covered by the M.A. program plus either independent study (PSY 6970, 6990, 6980) or SPSE 6010 and 6430. PSY 5250 and 6960 or equivalents, as well as acceptable scores on the National Teachers Exam and Specialty (School Psychologist) are required for all State Department of Education licensing in Tennessee.

| Required |  |
| :--- | :--- |
| PSY | 6000 |
| PSY | 6060 |
| PSY | 6080 |
| PSY | 6100 |
| PSY | 6140 |
| PSY | 6750 |
| PSY | 6760 |
| PSY | 6770 |
|  |  |
| PSY | 6890 |
| PSY | 6950 |

Orientation to School Psychology
School Psychology
Interventions with Children and Adolescents
Intellectual Assessment
Practicum: School Psychology
Psychology and Assessment of Learning Disabilities
Educational Assessment
Assessment and Therapeutic Interventions for Children's Emotional Problems

PSY 6950

Professional liability insurance, coverage amount at the student's discretion, must be maintained throughout enrollment in the program, with a current insurance binder filed with the department at all times.

## Requirements for the Master of Education

## School Counseling Major

This M.Ed. is a 49-semester hour program designed to train counselors for work in the schools Pre-K through 12. The concentration is developmental with a prevention/intervention focus. The curriculum covers the eight core areas required by the Council for Accreditation of Counseling and Related Education Programs (CACREP) as well as State Department of Education licensing standards. Students will be evaluated for readiness prior to placement in practicums and internship. One hundred hours of practicum, 600 total hours in two internships, plus an additional 60 hours school experience for persons not licensed to teach are required. Students seeking Tennessee School counseling licensure must request recommendation from a committee of faculty. Completion of the program is not a guarantee of the recommendation for licensure.

Candidate must

1. be evaluated by a committee composed of psychology faculty members and practicing school counselors for admission;
2. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
3. complete 49 semester hours with no more than 30 percent of the total degree hours dual-listed as undergraduate/graduate hours;
4. successfully complete a written comprehensive examination (may be taken no more than twice).

## Performance Requirements

Students must be able to meet the demands required for professional work in psychology. Therefore, students may be subject to dismissal from the Psychology Department if they
(a) commit a serious breach of ethics or gross professional negligence, or (b) present evidence of impaired psychological functioning that would present a danger to themselves or others in a professional role. Students who are dismissed may re-apply and will be considered for re-admission on a competitive basis. Students who re-apply may be asked to provide evidence of improved ability to meet performance requirements.

## Prerequisite/Co-requisite:

PSY 3020 Basic Statistics for the Behavioral Sciences

| Required |  |  |
| :--- | :--- | :--- |
| PSY | 5470 | Theories of Counseling |
| PSY | 5720 | Multicultural Perspectives in Psychology and Education |
| PSY | 6150 | Career Counseling |
| PSY | 6160 | Foundations of School Counseling |
| PSY | 6170 | Group Counseling and Psychotherapy <br> (with PSY $6180(617 \mathrm{~L})$ Laboratory) |
| PSY | 6220 | Organization and Administration of School <br>  <br> Counseling Services |
| PSY | 6230 | Legal and Ethical Issues in School Counseling |
| PSY | 6260 | Pre-practicum in Counseling |
| PSY | 6270 | Practicum in School Counseling |
| PSY | 6410 | Development Across the Lifespan |
| PSY | 6610 | Introduction to Educational and Psychological Research |
| PSY | 6920 | Internship: Secondary School Counseling |
| PSY | 6930 | Internship: Elementary School Counseling |
| PSY | 6890 | Consultation |

## One of the following:

| PSY | 5250 | Psychology of Exceptional Children |
| :--- | :--- | :--- | :--- |
| PSY | 6400 | Psychological Disorders of Children or SPED 6800 |

One of the following:

| PSY | 5260 | Introduction to Psychological Testing |
| :--- | :--- | :--- |
| PSY | 6050 | Psychological Testing |

Professional liability insurance, coverage amount at the student's discretion, must be maintained throughout enrollment in the program, with a current insurance binder filed with the program coordinator at all times.

## For Candidates Not Holding a Tennessee Teacher's License

 Candidates without a teacher license must meet these additional requirements if they intend to seek recommendation for licensing as a school counselor in Tennessee.1. Have on the transcript a course in Survey of Exceptional Children.
2. Take and pass with at least a grade of B ELED 5201, Observation and Participation. This is a program prerequisite.
3. Take and pass (per SDE criteria) the Praxis II-Specialty Area Test.

## Requirements for the Specialist in Education

## Curriculum and Instruction Major Concentration: School Psychology

The school psychology program is field-based. As such, a student is required to be continuously enrolled in at least one field-based course every semester from the completion of PSY 6140 until the completion of the program. PSY 6960, 6980, 7080, and 7810 are field-based courses. The policy excludes summer sessions.

Candidate must

1. hold a master's degree in psychology, educational psychology, or school counseling and normally should have completed all courses listed under the M.A. program for the Pre-Specialist in Education: School Psychology concentration;
2. complete a minimum of 30 semester hours;
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
4. satisfy a residency requirement consisting of (a) the completion of 18 semester hours of graduate study within a 12-month period, and (b) full-time enrollment (at least 9 semester hours) for at least one semester;
5. complete the following courses:

FOED 7060 Seminar in Educational Foundations
PSY 7080 Practicum: Advanced Interventions with Children
SPSE 7130 The Curriculum: Structures and Functions
FOED 7610 Directed Individual Educational Research (not required for students who have completed a thesis course; theses completed at other universities are subject to review)
Six-hour cognate (only for students who have completed a thesis)
6. receive preparation (at least a portion of a course) in each of the following 24 areas during graduate studies; these areas are based on National Association of School Psychologists standards
a. Psychological Foundations

1. Biological Bases of Behavior
2. Cultural Diversity
3. Child/Adolescent Development
4. Human Exceptionalities (Individual Differences)
5. Human Learning
6. Social Bases of Behavior
b. Educational Foundations
7. Instruction and Remedial Techniques (Instructional Design)
8. Organization and Operation of Schools
c. Assessment (Diverse Models)
9. Learning Disabilities
10. Intelligence
11. Personality
d. Interventions (Direct and Indirect)
12. Consultation (Systems and Organizational Change)
13. Individual Counseling
14. Group Counseling
15. Behavior Management
e. Statistics/Research Methodologies
16. Statistics
17. Evaluation
18. Measurement
f. Professional School Psychology
19. History and Foundations
20. Legal and Ethical Issues
21. Professional Issues/Standards
22. Role and Function
23. Alternative Models
24. Emergent Technologies;
25. complete 7810, an internship of 1200 hours after completion of the M.A. degree courses;
26. successfully complete a written comprehensive examination (may be taken no more than twice).
Professional liability insurance, coverage amount at the student's discretion, must be maintained throughout enrollment in the program, with a current insurance binder filed with the program coordinator at all times.

## Courses in Psychology [PSY]

5030 (503) Psychology of Sensation and Perception. Three credits. Prerequisite: PSY 1410. Modern theories of perception as they relate to knowledge of the external world through perceptual acquaintance. Philosophy of perception, history of sensory psychology, physiological mechanisms of perception, and ecological determinants of perceptual capabilities.

5050 (505) Applied Psychopharmacology. Three credits. Impact of drugs on behavior in today's society. The nature of drug use, abuse, psychological and physiological dependence examined.

5060 (506) Sport Psychology. Three credits. Prerequisite: PSY 1410 or consent of instructor. Application of psychological principles, motivational research, and social/psychological findings to the arena of sports. Theory and application of performance enhancement and teamwork in sports. See ATHC 5060.

5070 (507) Research Methods. Four credits. Prerequisite: PSY 3020. Analysis of methodological issues in psychological research. Offers skills in the formulation, execution, interpretation, and presentation of psychological investigations. Three hours lecture and one one-hour laboratory.

5120 (512) Psychology of Criminal Behavior. Three credits. Survey of theory and research pertaining to criminal behavior, covering topics such as mental illness and crime, criminal homicide, assault, and sex offenses.

5130 (503L) Laboratory in Psychology of Sensation and Perception. One credit.

5150 (524L) Laboratory in Behavioral Neuroscience. One credit.
5160 (534L) Laboratory in Human Factors Psychology. One hour credit.

5170 (542L) Laboratory in Experimental Social Psychology. One credit.

5180 (548L) Laboratory in Learning Theories. One hour credit.
5210 (521) Adolescent Psychology. Three credits. Physiological, emotional, mental, and social characteristics of adolescent development, including primary vectors of influence.

5220 (522) Correctional Psychology. Three credits. Law enforcement, delinquency, and criminal psychology, including psychological evaluation, classification, therapy, and rehabilitation. Special classifications. Field problems. Preventive implications.

5230 (523) Abnormal Psychology. Three credits. Patterns of maladaptive behavior, including anxiety, depression, schizophrenia, antisocial behavior, and mental retardation.

5240 (524) Behavioral Neuroscience. Three credits. The role of the brain in those areas which are typically considered by psychology, such as sensory and motor functions, motivation, higher mental functions, and mental disorders.

5250 (525) Psychology of Exceptional Children. Three credits. Identification and etiology of patterns of exceptionality, with consideration given to behavioral manifestations and preventive and correctional programs.

5260 (526) Introduction to Psychological Testing. Three credits. Modern practices in test construction, selection, and application to classroom and guidance situations. (Student required to participate as principal and subject in administration, scoring, profiling, and in making predictions based on test results.)

5290 (529) Wage and Salary Administration. Three credits. Analysis of theory and practice in administering compensation. Practices and issues related to job analysis, job evaluation, wage and salary administration, incentive plans, and legal considerations.

5320 (532) Introduction to Industrial/Organizational Psychology. Three credits. Applications of psychology to business and industry: employee selection, performance appraisal, training, leadership, motivation, work environment, job design, safety, and work stress.

5340 (534) Human Factors Psychology. Three credits. Prerequisite: PSY 3320/5320 or consent of instructor. The process of designing for human use. Considers individual differences, visual, auditory, and tactile displays, anthropometry, illumination, noise, humans in motion, and space and environmental studies.

5350 (535) Safety Psychology. Three credits. Basic theories of accident causation, safety research literature, methods of accident prevention, and industrial hygiene.

5370 (537) Motivation and Work Attitudes. Three credits. Understanding and application of motivation theories, particularly in the workplace. Emotions; work attitudes, such as job satisfaction; organizational commitment and organizational culture; effects on performance; measurement.

5380 (538) Group Dynamics. Three credits. Functioning of groups. Includes development of group structure, group conflict, cohesion, social influence, leadership, group productivity, group decision making, and growth groups.

5390 (539) Persuasion. Three credits. Survey and analysis of theory and research on interpersonal influence. Applications of findings to various areas of human experience.

5420 (542) Experimental Social Psychology. Three credits. Prerequisite: PSY 2210. Survey of research rationales, strategies, procedures, and methodologies. Ethical concerns and special problems in human subject research.

5440 (544) Social Psychology of Close Relationships. Three credits. Prerequisites: PSY 1410 and 2210. Theoretical and empirical issues in the scientific study of adult, close relationships from a social psychological perspective: initial attraction, relationship formation and maintenance, and dissolution. (Not a course in the broad area of marriage and the family; See CDFS 3320 Family Relationships and SOC 2500 Marriage and Family.)

5450 (545) Psychology of the Self. Three credits. Historical and contemporary theory and research on the self and self-related topics. Definitional and measurement issues, the self as a structure and a process, self-development across the lifespan, and factors affecting self-perception and self-evaluation.

5460 (546) Psychology of Happiness and Well-Being. Three credits. Prerequisite: PSY 1410. Recommended: PSY 2210 and PSY 3230. Survey of the theoretical and research literature in the areas of subjective well-being, happiness, life satisfaction, stress-resistant personality styles, and self-actualizations.

5470 (547) Theories of Counseling. Three credits. Integration of the major theories of counseling and psychotherapy and their application.

5480 (548) Learning Theories. Three credits. Research and experiments in learning and the related growth of the major theories of learning with emphasis on classical and instrumental conditioning and related topics.

5490 (549) Operant Conditioning. Three credits. Prerequisite: PSY 1410. Philosophy of B.F. Skinner's behaviorism explored in his own writings and those of his followers and critics. Current applications of behaviorism in all areas of psychology (child, marriage and family, animal conditioning, mental health, addictions, etc.) also examined.

5600 (560) Psychosexual Adjustment. Three credits. Psychological, cultural, and biological facets of the human sexual experience. Attitudes and behaviors, variances and dysfunctions, implications, and strategies for intervention.

5610 (561) Adult Psychology and Aging. Three credits. A survey of the research on adult development with emphasis on old age. Examines the physical, intellectual, social, vocational, and personality changes during the adult years.

5620 (562) Psychology of Women. Three credits. Psychological impact of the culture on women's attitudes, roles, aspirations, problems, and personality development.

5630 (563) Death and Dying. Three credits. An experiential course covering the folklore of thanatology, the funeral industry, handling grief, counseling the bereaved, the hospice concept. Objectives include an attempt to view death with equanimity and personal growth through confronting death.

5650 (565) Health Psychology. Three credits. Prerequisite: PSY 1410 or consent of instructor. Psychological factors and principles involved in the study of correlates of health and illness, disease prevention, therapeutic interventions, and rehabilitative strategies.

5660- (500B,C,D) Psychology Seminar. One credit each. Repre-
5680 sentative and integrative study of scientific journals of the field. May be taken for total of three credits.
5660 (500B) Industrial-Social 5670 (500C) Clinical-Personality 5680 (500D) General-Experimental

5700 (570) History and Systems of Psychology. Three credits. A survey of the history and intensive coverage of current systems of psychology.

5720 (572) Multicultural Perspectives in Psychology and Education. Three credits. Theories and research relative to the education of multi-ethnic/racial minorities. Relation of culture and socialization to learning styles, assessment practices, and counseling considerations.

5740- (531B,C,D,E) Apprenticeship. One to three credits each.
5770 Supervised practical experience utilizing psychological principles and tools in an established organization.
5740 (531B) Child
5750 (531C) Pre-Clinical
5760 (531D) Adolescent
5770 (531E) Gerontology
5780 (578) Human Neuropsychology. Three credits. Prerequisite: PSY 5240 or consent of instructor. Organization and function of specific brain areas and the behavioral deficits and changes resulting from focal and diffuse brain damage.

5800 (580) Cognition: Thinking and Reasoning. Three credits. Research and theory on thinking and reasoning and their roles in complex cognitive processes such as comprehension and higher learning, memory encoding and retrieval, mental model construction, hypothesis testing, goal setting and planning, problem solving, judgment and decision making, intelligence, and creativity.

5820 (582) Psychology of Language. Three credits. Prerequisite: PSY 1410. A cognitive approach to how people learn and use language to communicate. Covers basic psycholinguistics (production, perception, comprehension, and mental representation), language acquisition, and applied psycholinguistics (bilingualism, language disorders, and machine language).

6000 Orientation to School Psychology. One credit. Introduction to a career as a school psychologist. Uses appropriate materials from the National Association of School Psychologists as well as relevant court decisions and legislative acts to orient students to school psychology.

6010 (627G) Clinical Interventions. Three credits. Prerequisites: Admission to the clinical program or permission of instructor; PSY 6510, 6800, and 6840. A supervised experience in which the student learns how to apply techniques of clinical interviewing for the purpose of developing, implementing, and evaluating
treatment plans for clients. Liability insurance required prior to enrollment.

6020 (602) Theories of Personality. Three credits. Examines traditional schools of personality theory and current developments within each.

6030 (603) Current Topics in Personality. Three credits. Examines current research findings on personality traits and personalityrelated processes.

6040 (604) Topics in Industrial/Organizational Psychology. Three credits. Focus on practical aspects of functioning as a professional in the field. Current issues, recent developments, and less-traditional relevant areas.

6050 (605) Psychological Testing. Three credits. Prerequisite: PSY 3020 or equivalent. Modern practices in test construction, selection, and application; legal guidelines, reliability, and validity. Intelligence, abilities, interests, attitudes, values, and personality testing. Students required to participate as examiners and subjects in administering, scoring, profiling, and in making predictions based on test results.

6060 (606) School Psychology. Three credits. An introduction with particular emphasis on the psycho-social perspective. Adaptive instruction of behavior measures included, as are observations of classrooms and teacher interviews.

6070 (607) Advanced Industrial Organizational Training and Development. Three credits. Prerequisite: PSY 3020 or equivalent. Theory and methodology used in the training and development of human resources in organizations: needs assessment, program development, program evaluation, and legal and special issues in training and development.

6080 (608) Interventions with Children and Adolescents. Three credits. Prerequisite: PSY 5250 or 6400 or permission of instructor. Theoretical and practical issues related to interventions with children and adolescents exhibiting behavioral and emotional problems. Intervention strategies for specific problems. Experience designing and evaluating intervention plans. Legal, ethical, and practical issues.

6090 (627B) Practicum: Industrial/Organizational Psychology. Three credits. Prerequisite: Consent of instructor. Supervised experience in industry, business, or government using psychological principles at a professional, applied level.

6100 (627D) Intellectual Assessment. Three credits. Prerequisite: PSY 4260/5260 or 6050. Practical didactic instruction in theory and practice of intelligence testing. Practical supervised experience in rapport, administration, scoring, and interpretation of individual intelligence tests for all age levels. Liability insurance is required.

6110 (611) Advanced Educational Psychology. Three credits. Applies and integrates psychological facts, principles, and techniques to the learning situation, including aspects of human development, learning, counseling, measurement, and evaluation.

6120 (612) Developmental Psychology: Child. Three credits. Survey of research including prenatal, neonatal, and general physical development, emotional development, cognitive development, and social and personality development. Observations.

6130 (613) Developmental Psychology: Adolescent. Three credits. Survey of research on adolescence from a biopsychosocial per-
spective. Student observation and study of developing adolescents from cognitive, biological, social, and psychological frameworks.

6140 (627F) Practicum: School Psychology. Three credits. Prerequisite: 15 semester hours of related graduate credits, including 6060, 6100, and 6750. Supervised assessment of low incidence learning and adjustment problems with follow-up parent, teacher, and administrator conferences. Practicum experience includes 90 hours of supervised work with a practicing certified, full-time psychologist. At least 50 percent of the practicum placement shall be in a school setting. Liability insurance required prior to enrollment.

6150 (615) Career Counseling. Three credits. Prerequisites: PSY 5260 (or 6050) and 6260 or permission of department. History, theory, and issues related to career development, career choice, and career education in grades K-12. Demonstration of the ability to teach career information seeking behavior and decision-making skills.

6160 (616) Foundations of School Counseling. Three credits. History, foundations, philosophy, and principles of developmental school counseling; roles and functions of school counselors, including professional and personal requirements.

6170 (617) Group Counseling and Psychotherapy. Three credits. Prerequisites: PSY 5470 or 6020; PSY 6260 or 6010; permission of instructor. Corequisite: PSY 6180. Group process, ethics, and techniques. Application of counseling theory, group procedures, sociometrics, and group dynamics to interpersonal relations, mental health, school, and industrial settings. Supervised experience. Liability insurance required prior to enrollment.

6180 (617L) Laboratory in Group Counseling and Psychotherapy. One credit.

6190 (619) Advanced Cognitive Psychology. Three credits. Topicoriented overview of cognitive psychology. Models of attention, perception, memory, language, reasoning, problem-solving, and decision-making. Issues in cognitive development and cognitive neuropsychology.

6200 (619L) Laboratory in Advanced Cognitive Psychology. One credit.

6210 (620) Advanced Psychometrics. Three credits. Prerequisites: PSY 6050 and 6280 or equivalents. Classical test theory and item response theory. Model, assumptions, and problems of classical test theory. Mathematical model, parameter estimation, and adaptive testing procedures using item response theory. Both theories will be utilized for test construction.

6220 (622) Organization and Administration of School Counseling Services. Three credits. Prerequisite: PSY 6160. Organizing, administering, and managing the various components of a developmental school guidance and counseling program.

6230 (623) Legal and Ethical Issues in School Counseling. Three credits. Issues affecting the practice of school counseling, including legal/law, ethics, and credentialing.

6240 (624) Projective Measurements. Three credits. Prerequisite: PSY 6100, 4260/5260, or 6050. Rationale and systematic supervised training in use and scoring of Rorschach (half semester) and other projective devices (half semester). Liability insurance required prior to enrollment.

6250 (625) Objective Personality Assessment. Three credits. Prerequisites: PSY 4260/5260 or 6050; PSY 6100. Practical supervised experience in objective measurement, analysis, and pattern confirmations of key variables of personality, both for normative and specific divergent groups. Emphasis on MMPI. Liability insurance required prior to enrollment.

6260 (626) Pre-practicum in Counseling. Three credits. Prerequisite: PSY 5470 or permission of instructor. Introduces basic communication skills, techniques, and process involved in working with clients in a counseling relationship; extensive role-play practice with peer and faculty feedback. Liability insurance required prior to enrollment.

6270 (627A) Practicum in School Counseling. Three credits. Prerequisites: PSY 6230; 6260 or 6080; 5470 or 6020; and 6170 or permission of instructor. Practical supervised experience in individual and group counseling in a school setting; audio and/ or video taping of sessions for peer and faculty feedback. Liability insurance required prior to enrollment.

6280 (628/628L) Intermediate Statistics for the Behavioral Sciences. Three credits. Prerequisite: PSY 3020 or equivalent and satisfactory score on screening examination. Review of basic statistics; various correlation coefficients; multiple and partial correlation; simple and multiple regression. Laboratory included.

6290 (629/629L) Advanced Statistics for the Behavioral Sciences. Three credits. Prerequisite: PSY 6280. Scientific quantification, research design, and statistical analysis from the perspective of analysis of variance: one-way, factorial, repeated measures, and mixed designs. Laboratory included.

6320 (632) Performance Appraisal and Job Analysis. Three credits. Prerequisites: PSY 6280 or permission of instructor. Analysis of theory and practice in job analysis and performance appraisal, including legal aspects, a survey of techniques available, current research, cognitive aspects, and reliability and validity issues.

6330 (633) Professional Issues in Industrial/Organizational Psychology. One credit. Survey of issues related to professional ethics, relevant legislation, professional affiliations, professional identity, and professional responsibilities.

6340 (635) Behavioral Medicine: Theory and Application. Three credits. Prerequisite: Consent of instructor. Review theory, methodology, and application of behavioral medicine. Includes behavioral science issues in health and applications of this information to diagnosis, prevention, treatment, and rehabilitation of health problems for which "life-stress" factors predominate. See PSY 6350.

6350 (635L) Laboratory in Behavioral Medicine. One credit. Prerequisite: Consent of instructor.

6360 (636) Organizational Change and Development. Three credits. Prerequisite: PSY 6450 or permission of instructor. Analysis of theory and practice of organizational change and development, process of change, organizational development (OD) interventions, and evaluation and research of OD effectiveness.

6370 (637) Organizational Skills. Three credits. Prerequisite: PSY 6450 or permission of instructor. Analysis of a variety of interpersonal situations which impact organizational effectiveness and climate. Development of skills: conflict resolution, interviewing, performance feedback, effective meetings, giving recognition, discipline.

6380 (638) Work Group Effectiveness. Three credits. Prerequisite: PSY 5380, 6450, or permission of instructor. Analysis of factors leading to effective work groups. Topics covered include task effects on performance, group composition, leadership, group processes, and team building.

6400 (640) Psychological Disorders of Children. Three credits. Current research and theory of behavioral, cognitive, and emotional disorders in childhood and adolescence.

6410 Development Across the Lifespan. Three credits. Theories and characteristics of human development covering the lifespan.

6420 (642) Advanced Personnel Selection and Placement. Three credits. Prerequisites: PSY 5260 or 6050 and preferably PSY 6280. Legal and research aspects of personnel selection. Methods used for selection, including assessment centers, work samples, and psychological testing.

6430 (681A) Internship: Behavior Modification. Two to ten credits; may be repeated; enrollment must be continuous. Prerequisites: 30 semester hours of psychology including 4400, 5480, or 6020. Minimum of 128 hours of supervised internship in an institutional setting. Liability insurance required prior to enrollment.

6440 (644) Advanced Applied Behavioral Analysis. Three credits. Prerequisite: PSY 4400 or permission of instructor. Intensive presentation of methods used in behavioral assessment and therapy. Application of various behavioral and cognitive-behavioral procedures.

6450 (645) Advanced Organizational Psychology. Three credits. Review of theory and empirical research in organizational psychology. Students will apply theory and research findings to understand and explain work behavior at the individual, group, and organizational levels and will use this knowledge to solve organizational problems.

6460 (646) Factor Analysis and Related Methods. Three credits. Prerequisites: PSY 6280 and 6290 or equivalents. Surveys each of the major factor analysis techniques and related latent trait theory with main focus on application. Nature, power, procedure, computer programming, interpretation, and limitations of each technique.

6470 (647) Computer Simulation in the Behavioral Sciences. Three credits. Prerequisites: PSY 6280, 6290, and 6560 or equivalent. Basic issues in computer simulation and the monte carlo method. Emphasis on the application of simulation and monte carlo techniques to current topics in quantitative psychology. Students required to program selected computer-intensive statistical procedures and to perform monte carlo simulations using SAS.

6480 Advanced Topics in Quantitative Psychology. Three credits. (May be repeated for a total of six credits.) Prerequisites: PSY 6280 or equivalent. Advanced topics in quantitative psychology. Focus on current topics, recent issues, and less traditional areas of quantitative psychology. Relevant computer programs.

6490 (649) Practicum: Quantitative Psychology. Three credits. Prerequisites: 30 credit hours of psychology including 6050, 6210, $6280,6290,6460,6560,6580$, or consent of the instructor. Supervised experience in statistical consultation for social and behavioral sciences.

6500 (650) Behavioral Methodology. Three credits. Techniques for design and evaluation of clinical treatment and research. In-
cludes single subject and group designs. Emphasis on direct observation and data collection procedures, reliability, social validity, and generalization.

6510 (651) Psychopathology. Three credits. Prerequisite: PSY 3230/ 5230. Extensive examination of the disorders included in the current diagnostic manual. Emphasis on adult disorders. Objectives are to enhance understanding of psychopathology and to develop minimal competence in diagnosis.

6520 (652) Psychopharmacology. Three credits. Biochemical, neurophysiological, and neuroanatomical basis; emphasis on drugs used in investigating and treating psychological disorders.

6530 (653) Psychology of Reading and Reading Development. Three credits. Overview of the cognitive processes involved in reading. The structure of both oral and written language; cognitive mechanisms in reading; language development and the acquisition of reading skills; developmental and acquired disorders of language and reading.

6540 (681C) Internship: Counseling and Clinical Psychology. Two to ten credits; may be repeated. Prerequisites: Permission of program coordinator in Clinical Psychology or School Counseling. Minimum of 128 supervised internship hours in a counseling or clinical institution. Liability insurance required prior to enrollment.

6550 Structural Equation Modeling. Three credits. Prerequisites: PSY 6280 and 6290 or equivalent. Structural equation modeling. Review of correlation, multiple regression and path analysis. Conceptual review of measurement models. Model specification, estimation, goodness of fit, and power of structural equation models. Relevant computer programs.

6560 (656) Computer-Based Statistical Packages. Three credits. Prerequisite: PSY 3020 or equivalent. History, principles, and skills of data analysis, using major statistical packages. Commands in both DATA and PROC steps. Other features including various functions, graphics, full screen process (FSP), and interactive matrix language (IML).

6570 (657) Psychological Research Methods in Human Resource Management. Three credits. Prerequisite: PSY 6280 or permission of instructor. Theory and appropriate methodology for conducting research relevant to human resource practices in organizations. Applied psychometric theory and quasi-experimental design.

6580 (658) Multivariate Data Analysis. Three credits. Prerequisites: PSY 6280 and 6290 or equivalent. Surveys each of the major multivariate data analysis techniques, with main focus on their application. Nature, power, procedure, computer programming, interpretation, and limitations of each.

6610 (661) Introduction to Educational and Psychological Research. Three credits. Prerequisites: PSY 3020 and 4260/5260 or 6050. Research in education and psychology, research strategies, research ethics, research writing and reporting. Planning, implementing, and writing an approved scholarly research proposal.

6620 (662) Independent Study: Industrial/Organizational Psychology. One to three credits. Prerequisite: Permission of instructor. Individualized library or empirical research project approved by instructor. A maximum of three credits will apply to a masters degree.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. $\mathrm{S} / \mathrm{U}$ grading.

6690 (669) Professional Issues and Roles. Three credits. Systematic survey of ethical practice requirements, certification, and licensure for psychological practice. Examination of critical issues facing psychology and roles of psychologists.

6710 (671) Community Psychology. Three credits. Prerequisite: PSY 6890. Ecological and environmental influences on behavior. Action research, program evaluation, prevention, and health promotion/competence as community interventions examined, and beginning competencies developed. Field experiences included.
(675) Psychology and Assessment of Learning Disabilities. Three credits. Prerequisites: PSY 5260 or 6050 and 6100; prerequisite/corequisite: PSY 6760. Biological bases. Levels and skills of intervention and consultation for learning-disabled children, including reference to family, school, and community as sources of understanding and treatment. The disabilities, assessment, tools, results, and interventions. Liability insurance required prior to enrollment.

6760 (675L) Educational Assessment. One credit. Prerequisite: PSY 6100. Skills in conducting educational assessment for completing evaluations of children suspected of having learning disabilities.

6770 (677) Assessment and Therapeutic Interventions for Children's Emotional Problems. Three credits. Prerequisites: PSY 6100 and either 5250 or 6400 . Personality and behavioral assessment with children. Linking assessment and diagnosis to therapeutic intervention. Developing therapeutic relationships with children.

6780 (678) Clinical Neuropsychology. Three credits. Prerequisites: PSY 5780, 6100, and 6250 or consent of instructor. Review of human neuroanatomy and neurophysiology. Administration of representative neuropsychological test batteries, especially the Halstead-Reitan Neuropsychological Test Battery. Applied experience with clinical population. Liability insurance required prior to enrollment.

6800 (680) Techniques of Psychotherapy. Three credits. Psychotherapeutic techniques common to most, if not all, theoretical orientations: rapport building, goal setting, management of dangerous clients, etc.

6820 (682) Family Therapy: Evaluation and Treatment Planning. Three credits. Examination of evaluation and intervention procedures of major models of family therapy. Emphasis on ethical issues for practitioners of family therapy.

6830 (683) Techniques of Family Therapy. Three credits. Techniques common to most models of family therapy. Application of techniques to specific types of family problems. Liability insurance required prior to enrollment.

6840 (684) Individual Psychotherapy. Three credits. Prerequisite: PSY 6800. Intensive presentation of theory and methods used in psychotherapy. Application of various psychotherapeutic procedures.

6850 (686A) Field Practicum (Clinical). Three credits. Prerequisites: Admission to the clinical program or permission of the instruc-
tor; 24 hours including PSY 6010, 6100, 6250, 6510, 6690, 6800 , and 6840 . Supervised clinical training in a community mental health agency. Supervision by a licensed psychologist at the agency. 300 clock hours for 3 credit hours. Liability insurance required prior to enrollment.

6860 (686B) Field Practicum (Clinical). Three credits. Prerequisite: PSY 6850. Must be taken in semester immediately following 6850. Continuation of supervised clinical training in a community mental health agency. Supervision by a licensed psychologist at the agency. 300 clock hours for 3 credit hours. Liability insurance required prior to enrollment.

6870 (686 C-F) Field Practicum (Clinical). Three credits each. Prerequisites: Admission to the clinical program or permission of the instructor; 24 hours including PSY 6510, 6100, 6250, 6010, 6800, 6840, and 6690. Supervised clinical training in a community mental health agency. Supervision by a licensed psychologist at the agency. 300 clock hours for 3 credit hours. Liability insurance required prior to enrollment.

6890 (689) Consultation. Three credits. Prerequisite: PSY 6270 or 6010 or 6080 or permission of instructor. Course must be taken prior to or concurrent with the first internship (6920 or 6930). Theory and practice of consultation as a useful technique in the helping professions. Applied experiences in schools and other settings.

6900 (690-699) Assessment of School Counseling Area Licensing Competencies. One to two credits. For the advanced student who by exceptional prior training or experience believes course work for competence mastery is unnecessary in one or more of the licensing areas. All credit earned may be applied to a Master of Education degree in Psychology. May be repeated ten times.

6920 (681D) Internship: Secondary School Counseling. One to six credits. Prerequisite: PSY 6270. Actual experience in the counseling, consulting, coordinating services to adolescents, teachers, and parents. Requires 300 hours in the schools, with at least 40 percent in direct service. Liability insurance required prior to enrollment.

6930 (681E) Internship: Elementary School Counseling. One to six credits. Prerequisite: PSY 6270. Actual experience in the school (grades K-8) providing counseling, consulting, coordinating services to children, teachers, and parents. Requires 300 hours in the schools, with at least 40 percent in direct service. Liability insurance required prior to enrollment.

6960 (681 B) Internship: School Psychology. Two to ten credits; may be repeated. Prerequisites: 30 semester hours of psychology including 6060, 6100, 6140, and 6770; approved thesis proposal. Minimum of 720 hours supervised internship, at least half in a school system. Not acceptable as Ed.S. internship. Liability insurance required prior to enrollment.

6970- (688 A-G) Independent Study in School Psychology. One 6990 credit each. Competencies-oriented individualized study. 6970 (688A) Learning
6980 (688G) Fieldwork. Competencies-oriented field experience. Forty-five hours of work as a school psychologist in training. Course may be repeated up to three times for credit. 6990 (688C) Assessment and Consultation

Independent Research in Psychology. One to three credits per semester; may be taken more than once. Prerequisite: Permission of instructor. Individualized empirical research and library research approved by the instructor.
6310 (659B) Industrial/Organizational (1-3 credits applicable to degree)
6390 (659C) Clinical (1-3 credits applicable to degree)
6600 (659A) General/Experimental (1-9 credits applicable to degree)
6910 (659D) Counseling (1-3 credits applicable to degree) 6940 (659E) School (1-3 credits applicable to degree)

Literature Review and Reading in Psychology. One to three credits. Supervised literature review and/or readings on a topic of current importance in psychology. Topics and requirements obtained from individual faculty members. Specific courses may be repeated to a total of 6 credits.
6300 (663B) Industrial/Organizational
6590 (663A) General/Experimental
6630 (663C) Clinical
6660 (663F) Quantitative
6670 (663G) Behavioral Neuroscience
6680 (663H) Cognitive
6700 (663I) Developmental
6720 (663J) Learning
6730 (663K) Personality
6740 (663L) Reading
6790 (663M) Sensation and Perception
6810 (663N) Social
6950 (663E) School
7010 (701F) General Psychology Seminar: Physiological. One credit. A review of the structure, function, and influence on behavior of the basic physiological systems of the human.

7080 (708) Practicum: Advanced Interventions with Children. Three credits. Prerequisite: PSY 6080. Theoretical and practical issues related to school interventions with children exhibiting psychological and behavior problems. Advanced skills development in consultation with parents and teachers, psychotherapy with children, and brief, short-term family therapy.

7100 (710) Multicultural and Social Bases for Assessment and Intervention Practices. Three credits. Prerequisite: PSY 6140 or PSY 6270. Theoretical and practical issues related to appropriate practices in assessment, diagnosis, and therapeutic interventions for youth of diverse ethnic and cultural groups.

7350 (735) Advanced Social Psychology. Three credits. Advanced content including cognizance of current journals and readings.

7520 (752) Assessment and Treatment of Addictions. Three credits. Systematic analysis of the addictional phenomena with particular emphasis on dynamics and behavioral manifestations. Alcohol, street and prescription drugs, gambling, TV, religion, politics, and sex as aberrational forms of altering consciousness explored. Causation, clinical diagnostics, and treatment procedures as well as prevention are addressed in detail.

7810 (781B) Advanced Internship: School Psychology. Three to six credits (may be repeated; enrollment must be continuous). Prerequisites: 60 semester hours of psychology and M.A. degree; PSY 6060, 6100, 6140, and 6770. Minimum of 1200 hours supervised internship, at least half in a public school system. Liability insurance required prior to enrollment.

# Department of Sociology and Anthropology 

Edward Kick, Chair<br>Peck Hall 316

The Sociology and Anthropology Department offers the Master of Arts with a major in Sociology and a minor in sociology at the graduate level.

## Requirements for the Master of Arts

## Admission Requirements

Full admission for a degree-seeking candidate: Receipt of all materials by April 1 for fall admission, September 15 for spring admission. A complete application includes application, letter of interest and goals, three letters of recommendation, all transcripts, at least a 2.75 GPA, acceptable GRE scores, and the successful completion of at least 18 hours of undergraduate sociology which includes the prerequisites of research methods (SOC 3040), statistics (SOC 3050), and sociological theory (SOC 3060), or their equivalents. A grade of C or better must be earned in the prerequisite courses.

Conditional admission for a degree-seeking candidate: Conditional admission is possible, but not guaranteed, under the following circumstances: (a) GRE score is less than acceptable (exception is dependent upon the strength of the other admission criteria); (b) Prerequisites are missing or the grade is less than a C. All prerequisites must be completed within the next year following this conditional admission and prior to enrollment in the twelfth hour of graduate study. If these conditions are not met, the candidate will be dropped from the program and must seek readmission in a subsequent semester; (c) GPA is less than 2.75 (exception is dependent upon the strength of the other admission criteria).

## Degree Requirements

## Candidate must

1. complete a minimum of 33 semester hours in graduatelevel courses, 21 of which must be graduate level sociology courses with no more than 9 of the 33 hours duallisted as undergraduate/graduate hours (4000/5000);
2. complete all required courses, including SOC 5110, 6460 or 6560,6620 , and 6720 with a minimum grade of $B$;
3. complete 6 hours of thesis research (SOC 6640) and submit and successfully defend a thesis;
4. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
5. successfully complete a written comprehensive examination.

## Graduate Assistantship Application

Applications are due by April 1. Applicant must meet the following conditions: (a) be admitted to the M.A. program in sociology and (b) have an undergraduate GPA of at least 3.00 OR a graduate GPA of at least 3.00 over a minimum of 9 hours of completed graduate courses.

## Courses in Sociology [SOC]

5010 (501) Social Class and Stratification. Three credits. The origins and consequences of differentiation, variations, stratification, and social class.

5050 (505) The American Family. Three credits. An analysis: contemporary American family patterns; racial, ethnic, and class variations.

5100 (510) Industrial Sociology. Three credits. Industrial, business systems, and other work units.

5110 (511) Quantitative Methods of Research. Three credits. (Same as P S 5110 and ANTH 5110.) Prerequisite: SOC 3050, ANTH 3050, or equivalent. Intermediate quantitative data analysis including graphing, charting, and interpreting current social data.

5140 (514) Violence in the Family. Three credits. (Same as CDFS 5140.) Causes, dynamics, and consequences of violence in the family. Includes the discussion of violence toward children, spouses, dating partners, siblings, and elders. Emphasizes the social conditions which lead to these types of violence.

5150 (515) Topics in Sociology. Three credits. An in-depth topic significant in current sociological literature.

5170 (517) The Social Context of Southern Music. Three credits. A sociohistoric analysis of southern music providing a framework for examining the relationship between culture and popular culture, the production of popular culture, and popular culture as a vehicle for examining social issues of the southern region.

5240 (524) Race and Ethnic Relations. Three credits. Theories and dynamics of intergroup relations in a multi-ethnic society.

5300 (530) Criminology. Three credits. Theories of criminal behavior, development and incidence, punishment, and methods of control and rehabilitation.

5320 (532) Public Opinion and Propaganda. Three credits. (Same as P S 5320.) Public opinion and its role in the political and social processes.

5360 (536) Medical Sociology. Three credits. Health care settings, services, issues, and policies; both the recipient's and provider's roles.

5500 (550) Social Psychology. Three credits. Individual behavior in social contexts and symbolic interaction among groups. Includes social influences on perception, conformity, attitudes, communication, group structure, leadership, and role behavior.

5510 (551) Social Movements and Social Change. Three credits. Comparative study of representative social movements: political, economic, religious, and ethnic.

5520 (552) Population and Society. Three credits. Prerequisites: SOC 1010 and 2010 or permission of instructor. The demographic analysis of population trends and their influence on American society including principles, structure, and trends in human populations.

5540 (554) Juvenile Delinquency. Three credits. Social factors related to delinquency including family, peer group, school, and community. Includes the juvenile justice system and its agents.

5550 (555) Sociology of Religion. Three credits. Religion as social process and institution. An ideological, structural, and functional analysis. Specific U.S. religions examined in detail.

5560 (556) Complex Organizations and Occupations. Three credits. Relationship of occupations to social structure. Emphasis on analysis of complex organizations as work settings.

5660 (566) Urban and Community Studies. Three credits. Prerequisites: SOC 1010 and 2010 or permission of instructor. The sociology of community with an emphasis on the various models of community structure; organization, analysis, and the relationship of community to the broader context of mass society; the impact of urbanization, industrialization, and bureaucratization upon contemporary life.

5760 (574) Kinship and Marriage. Three credits. (Same as ANTH 5760.)
5790 (579) Sport and Society. Three credits. (Same as REC 5790.) Behavioral approach to the sport and leisure phenomena from the related perspectives of sociology and anthropology.

5800 (580) Special Projects. One to three credits. Experience in research through which special interests or needs of the student may be pursued under individual supervision. Arrangements should be made with an instructor prior to registration.

6000 (600) Comparative Social Change. Three credits. (Same as P S 6000.) A historical comparative examination of the structure, institutions, and development of the modern world system; a review of major theoretical and empirical research on the world system.

6010 (601) Seminar in Comparative Welfare States and Social Policy. Three credits. A historical comparative examination of social policy formulation, structure, and consequences. Focus on development of modern welfare states in Western Europe, North America, and developing states of Latin America and Asia. Critical analysis of social policy development.

6460 (646) Classical Sociological Theory. Three credits. Prerequisite: SOC 3060 or equivalent. Emphasis on history, analysis, and theory construction of early to mid-twentieth-century social thinkers.

6510 (651) Readings. One to three credits. Recommended for students past the midpoint in their master's programs. Designed to provide an opportunity to fill perceived gaps in the program of study and as precursor for the thesis.

6540 (654) Seminar in Deviant Behavior. Three credits. Sociological frames of reference for studying deviant behavior.

6560 (656) Seminar in Contemporary Sociological Theory. Three credits. Prerequisite: SOC 3060 or equivalent. Theories of social interaction and social systems. A systematic approach to the analysis of social phenomena and research.

6570 (657) Seminar in Advanced Social Psychology. Three credits. The dynamics of human interaction: attitudes, processes, group structures, settings, and properties.

6620 (662) Quantitative Research Design. Three credits. Prerequisites: SOC 3040 and 3050 or equivalent. Description and analysis of methodologies. Students pursue supervised independent design and analysis.

6630 (663) Seminar in Marriage and the Family. Three credits. Principles of family organization; family as a socio-cultural institution in various societies; theories of family structure, change, and deviance.

6640 (664) Thesis Research. One to six credits. Prerequisite: Student must have filed Candidacy Form and selected thesis committee before enrolling. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. S/U grading.

6650 (665 A-Z) Topical Seminar in Sociology. Three credits. An indepth investigation of a particular sociological issue or sub-discipline. A maximum of six hours may be credited to one's major.

6660 (666) Program Evaluation. Three credits. An applied examination of the strategies and techniques of evaluation research.

6690 (669) Death and Survivorship. Three credits. The social complexities of dying, death, and survivorship with particular emphasis given to the aging population.

6700 (670) Introduction to Community and Regional Development: An Interdisciplinary Seminar. Three credits. Analysis of the problems and proposed solutions of community development from an interdisciplinary point of view.

6710 (671) Japanese Society and Business. Three credits. (Same as ECON 6540.) Japanese economy, business practices, and social and physical environment in comparison with those in other countries, particularly the United States.

6720 (672) Qualitative Research Design. Three credits. Prerequisite: SOC 3040 or equivalent. Introduces methods and issues of qualitative social science research. Topics include the ontological, epistemological, and theoretical bases of qualitative research; methods for collecting and analyzing qualitative data; personal and ethical issues of research; developing, proposing, and implementing qualitative research projects.

6900 (690) Practicum: Applied Analysis. Three credits. Prerequisite: SOC 6620 and permission of instructor. Supervised independent study in which student is placed in an organization on a contractual basis. Course directed toward student pursuing career in applied sociology.

## Courses in Anthropology [ANTH]

5120 (583) Practicing Anthropology. Three credits. Culture change theory and the practical dimension of anthropology in research and planned change implementation.

5740 (572) Law and Politics in Traditional Societies. Three credits. Law and methods of social control in primitive societies. Emphasis on the importance of a cross-cultural perspective for understanding Western political behavior.

5750 (571) Primitive Religion. Three credits. Myth and ritual in nonliterate societies. Belief systems, patterns of witchcraft and magic, and the role of the ceremonial practitioner in the tribal world.

5751 (576) Ritual. Three credits. Ritual in sacred and secular contexts. Examination of function and logic of ritual in social systems.

5760 (574) Kinship and Marriage. Three credits. (Same as SOC 5760.) Principles of family organization with cross-cultural comparisons.

5890 (585) Seminar in Anthropological Theory. Three credits. Prerequisites: 18 hours of anthropology, including ANTH 2010, 3210, 3310, 3410. A critical examination of the major anthropological theories within their historical, cultural, and political context.

5910 (580) Special Projects. One to six credits. Experience in research through which special interests or needs of the student may be pursued under individual supervision. Arrangements should be made with an instructor prior to registration.

5940 (570) Ethnographic Field School. Three to six credits. Field experience in a cross-cultural setting. Training in ethnographic research techniques.

5950 (575) Archaeological Field School. Three to six credits. Basic techniques of archeology and paleo-ecology through participation in actual excavation and laboratory work.

## Courses in Aging Studies [SOC]

5020 (502) Sociology of Aging. Three credits. Demographic, social, and cultural aspects of aging. Emphasis on the types of problems encountered by older persons in American society.

5030 (503) Topics in Gerontology. Three credits. An opportunity to integrate gerontological theory and research techniques in working with the practical problems of older persons.

5040 (504) Health Care Delivery Issues. Three credits. An assessment of critical issues with special emphasis on policies, procedures, and intervention strategies in long-term care settings.

5080 (508) Group Work with the Elderly. Three credits. The application of group dynamics as problem-solving and intervention strategy in the delivery of services to the elderly.

5090 (509) Health Care Management. Three credits. Details of the technical aspects of health care management with an emphasis on long-term care settings.

5800 (580) Special Projects. One to three credits. Experiences in research through which special interests or needs of the student may be pursued under individual supervision. Arrangements should be made with an instructor prior to registration.

6550 (655) Seminar on Aging. Three credits. In-depth investigation of selected topics in social gerontology.

6670 (667) Mental Health and Aging. Three credits. The basic concepts associated with mental health and the aging process. The epidemiology, assessment process, and approaches to treatment stressed. A positive approach to the mental well-being of the older adult provided.

6680 (668) Counseling Elders. Three credits. Prerequisite: SOC 6670 recommended but not required. Counseling techniques and outcomes common to late life therapy. Special application to specific problems and social environments of the elderly.

Courses from communication disorders, human sciences, psychology, and recreation are to be used in conjunction with these sociology courses to complete the requirements for a multidisciplinary minor in Aging Studies. Students should consult their advisors for specific courses from the various departments.

# Department of Speech and Theatre 

Russell Church, Chair<br>Boutwell Dramatic Arts 205

The Department of Speech and Theatre offers a minor at the graduate level.

## Courses in Communication [COMM]

5000 (500) Communication in the Educational Environment. Three credits. For the classroom teacher. Successful communication strategies applicable to the classroom environment.

5040 (504) Debate Across the Curriculum: Practicum. Three credits. Prerequisite: COMM 3210. Advanced techniques and methods for using argumentation and debate in teaching core curriculum in upper elementary and secondary school classes and developing intra-scholastic debate and interscholastic debate activities. Practicum experiences provided.

5210 (521) Argumentation. Three credits. The theory and practice of advocacy speaking with emphasis on organization, refutation, reasoning, and rebuttal. In-class debating on questions of fact, value, and policy.

5220 (522) Small Group Communication. Three credits. Prerequisites: COMM 2200, 2300, or permission of department. Theories of group dynamics and practical application. Study and practices of leadership in groups as decision-making organizations.

5230 (523) Advanced Public Speaking. Three credits. Prerequisite: COMM 2200 or permission of the instructor. Application of the principles of public speaking through analysis and criticism of speech structure and delivery of classroom speeches.

5260 (526) Readings in Speech Communications. Three credits. Prerequisite: Permission of instructor. Intensive work in a specific area of speech communication; topic is chosen in instruc-tor-student conference.

5280 (528) Political Communication. Three credits. Selected outstanding speakers and their techniques of speech communication.

5320 (532) Theories of Persuasive Communication. Three credits. Recent writing and research on theories of oral persuasion and on current practices of persuasion. Emphasis on the ethical, critical, cultural, and functional implications in contemporary persuasion theory and practice.

5560 (556) Intercultural Communication. Three credits. Dynamics of the communication process as it functions in intercultural contexts; training for successful cross-cultural communication interactions.

5620/5630 (562/563) Applied Speech. One credit each. Prerequisite: Recommendation by a faculty member. Laboratory courses in which the principles of effective communication and/or dramatic production are applied.

5710 (570) Senior Seminar in Speech Communication. Three credits. Intensive investigation of the major research methodologies in speech communication, presentation of senior projects, and a synthesis of the speech communication discipline.

5800 (580 A-Z) Special Topics in Speech Communication. One to three credits. Designed to meet individual and group needs for advanced study in speech communication. Topic to be determined at time of scheduling. A maximum of six semester hours may be applied toward a degree.

## Courses in Communication Disorders [CDIS]

5050 (545) Introduction to Communication Disorders. Three credits. Overview of the most common disorders of hearing, speech, and language and intervention measures.

5150 (546) Phonetics. Three credits. Training in the recognition and production of the sounds of speech with an analysis of their formation; extensive practice in phonetic transcription.

5200 (547) Phonological Disorders. Three credits. Prerequisites: CDIS 3050/5050 and 3150/5150. Speech development, etiologies of phonological/articulatory problems, and approaches for assessing and remediating speech-sound errors.

5250 (542) Speech and Language Development. Three credits. Child speech and language acquisition from birth to seven years of age. Emphasis on normal linguistic development.

5300 (501) Clinical Methods in Communication Disorders. Three credits. Prerequisites: CDIS 3050/5050, 3150/5150, 3200/5200, and $3250 / 5250$ for majors. Planning and implementing treatment programs for individuals with communication disorders; a foundation for clinical practicum.

5350 (548) Hearing Problems and Testing. Three credits. The etiologies and diagnoses of hearing problems, and practical experiences in administering audiometric examinations.

5400 (549) Anatomy and Function of the Speech Mechanism. Three credits. Structures and functions of the speech mechanism.

5450 (541) Fluency Disorders. Three credits. Prerequisite: CDIS 3050/5050. Etiologies, assessment, and treatment of fluency disorders.

5500 (551) Training for the Hearing Impaired. Three credits. Prerequisites: CDIS 3050/5050, 3350/5350, 3250/5250. Materials and methods employed in training the hearing impaired.

5550- (510 A, B, C, D) Practicum in Speech-Language Pathology I.
5580 Three credits each. Prerequisites for 5550: CDIS 3100 and 3300/ 5300, prior semester application, and completion of academic and professional criteria established by the faculty. Prerequisites for 5560, 5570, and 5580: CDIS 4550/5550, 4560/5560, and 4570/5570 respectively. Supervised clinical practice in the University clinic.

5600 (510E) Practicum in Speech-Language Pathology II. Three credits. Prerequisites: CDIS 4550/5550 and 4560/5560, prior semester application, and approval by faculty. Advanced supervised clinical practice in an off-campus clinical facility.

5650 (510F) Practicum in Speech-Language Pathology III. Six credits. Prerequisites: CDIS 4550/5550 and 4560/5560, prior semester application, and approval by faculty. Organization, management, and implementation of public school speech-language and hearing programs. Public school course and advanced supervised clinical practice in a public school setting.

5700- (511 A, B, C, D) Practicum in Audiology. One credit each.
5730 Prerequisites for 5700 : CDIS 3350/5350 and 4550/5550 or permission of instructor. Prerequisites for 5710,5720, and 5730: 5700,5710 , and 5720 respectively. Laboratory course in applying principles of audiology.

5750 (543) Advanced Audiology. Three credits. Prerequisite: CDIS $3350 / 5350$. Development of advanced skills in the evaluation and remediation of hearing problems.

5800 (553) Speech, Language, and Auditory Problems of the Aged. Three credits. Overview of the impact of age on communication. Identification and remediation of communication problems associated with the aging process.

5850 (555) Communication Problems in Children. Three credits. Prerequisites: CDIS 3400/5400 and 4550/5550 or permission of instructor. A comprehensive study of the speech, language, and voice difficulties experienced by children.

5900 (560) Diagnostic Procedures in Speech Pathology. Three credits. Prerequisites: CDIS 4550/5550 or permission of instructor. Basic concepts of measurement and application of diagnostic procedures used in speech-language pathology.

5950 (565) Special Topics in Communication Disorders. Three credits. Advanced reading and discussion seminar in speech-language pathology or audiology.

## Courses in Dance [DANC]

5010 (574A,B) Dance Performance II. One credit. All aspects of concert planning and production as performer and crew member. May be taken for two semesters.

5100 (575) Choreography I. Three credits. Prerequisite: PHED 2080 or equivalent. Exploration of movement, technique sequences, and choreographic forms; basic elements of labanotation.

5120 (544) Dance Therapy. Three credits. The use of movement in helping to reduce physiological, psychological, and sociological aberrations. Designed to help the classroom teacher or specialist working with children who have these problems.

5130 Dance for the Theatre. Three credits. Prerequisites: PHED 1010, 1020, 2160, 2180, and 2190 or equivalent. Techniques of dance for musicals, comedies, opera, television, and stage and choreography for these forms.

5160 (516) Advanced Ballet - Individual Study, Solo and Ensemble Performance. Three credits. Refine and polish ballet skills at the advanced level leading to performance in classical and contemporary styles.

5170 (517) Advanced Ballet - Individual Study and Choreography. Three credits. Concentrates on choreography for solo and ensemble performance in both classical and contemporary styles.

5700 (570) Skills and Techniques of Teaching Rhythmic Activities. Three credits. (Same as PHED 5700.) Various dance forms, methods and materials, evaluative procedures, and experiences in teaching all forms of dance to students at the K-12 level.

5760 (576) Choreography II. Three credits. Exploration of choreographic techniques to develop an original group dance and the execution of plans for costumes, lighting, and makeup.

5770 (577) Advanced Modern Dance. Three credits. Prerequisite: PHED 2080 or equivalent. Techniques, choreography, and various aspects of labanotation for the experienced dancer and choreographer.

## Courses in Organizational Communication [ORCO]

5240 (524) Organizational Communication. Three credits. Emphasis on communication problems in contemporary organizations and ways and means of resolving such problems.

## Courses in Theatre [THEA]

5100 (566) Special Effects Make-up. Three credits. Prerequisites: THEA 3100 or permission of instructor. Orientation to special effects make-up design, techniques and design realization through make-up projects, and research for various performance venues with a focus on student career and portfolio development.

5220 (527) Theatrical Costume Design for Arts and Entertainment. Three credits. Prerequisite: THEA 3200 or permission of instructor. Costume design in the performing arts; an orientation to the costume application of design and development principles through costume design projects developed through research for various performance venues with a focus on student career and portfolio development.

5240 (519) Theatrical Costume History. Three credits. Prerequisite: THEA 3200 or permission of instructor. An advanced course incorporating all aspects of costume production in the performing arts focusing on historical research, historical reproduction methods, construction design, resource management, creative problem solving, and portfolio and resume development. Laboratory hours required.

5290 (576) Topics in Theatrical Costume. One to three credits. Prerequisite: THEA 3200 or permission of instructor. Designed to meet individual and group needs for advanced study in theatrical costume. Topic to be determined at time of scheduling.

5300 (534) Scene Design. Three credits. Prerequisites: THEA 2110 or permission of instructor. Lecture and practical experience in planning and designing stage settings. Emphasis on forms and styles of scenery, historical period research, designers, and new theatrical materials, methods, and techniques. Major projects in set design. Laboratory hours and/or crew requirement.

5350 (554) Advanced Scenic Design. Three credits. Prerequisites: THEA 2110 and 3300 or permission of instructor. Advanced methods and theories of scenic design. Strong emphasis on practical projects, the design process, and critical methods of study. Components on design history and theory/criticism.

5390 (564) Topics in Scenography. One to three credits. Prerequisites: THEA 2110 and permission of instructor. Designed to meet individual and group needs for advanced study in theatre. Topic to be determined at time of scheduling. A maximum of six semester hours credit may be applied toward a degree.

5400 (540) Stage Lighting. Three credits. Lectures and practical experience in methods and techniques. Emphasis on developing
plots through knowledge of electricity, circuitry, instrumentation, and control equipment. Major projects in lighting design. Laboratory hours and/or crew requirement.

5450 (574) Advanced Stage Lighting. Three credits. Prerequisite: THEA 3400 or permission of instructor. Advanced methods and theories of lighting design. Strong emphasis on practical projects, design process, and critical methods of study. Includes components on design history and theory/criticism.

5500 (536) Advanced Acting. Three credits. Prerequisite: THEA 2500 or permission of instructor. The development of advanced skills in the ability to analyze and interpret the more complex characters in drama. Study of classical acting styles.

5570 (557) The Body Intelligent: A Study of the Alexander Technique. Two credits. (Same as MUS 5570.) For those interested in improving ease and freedom of movement, balance, support, flexibility, and coordination in daily activity.

5600 (529) Storytelling. Three credits. Instruction and experiences in storytelling in educational, corporate management, and performance contexts. Investigation of influence of storytelling on culture, organizational behavior, leadership, and education.

5610 (508) Theatre in Education. Three credits. For current and prospective teachers. Integration of drama across the curriculum. The creation, construction, performance, and touring of a play for elementary school children.

5620 (515) Drama Across the Curriculum: Practicum. Three credits. Prerequisite: THEA 3600. Advanced techniques and methods for teaching core curriculum in upper elementary classes using drama and role playing. Practicum experiences provided.

5650 (516) Children's Drama and Speech. Three credits. Creative dramatics, children's theatre, puppetry, mask-making. Motivational, self-directed learning through creative and performance arts.

5700 (552) Fundamentals of Play Directing. Three credits. Prerequisite: THEA 2500 or permission of instructor. Director as literary analyst and production critic. Play analysis, production concepts, staging theory and techniques, rehearsal methods and procedures. Scene work.

5750 (533) Advanced Play Directing. Three credits. Prerequisite: THEA 5700 or permission of instruction. Case studies and problem solving of rehearsals and production. Director's relationship with designers. Investigation of style. Rehearsal and presentation of one-act play.

5800 (514) Theatre History I: Greek Period to Restoration. Three credits. Development of drama and the theatre; critical study of representative plays of the period.

5850 (544) Theatre History II: Restoration to Present. Three credits. Development of drama and the theatre; critical study of representative plays of the period.

5880 (537) Theatre Organization and Stage Management. Three credits. Prerequisite: Permission of the instructor. Lectures and practical experience in basic methods and principles. Emphasis on ways in which theatre organization and stage management complement each other while striving to create the desired dramatic effect upon an audience. Major projects required. Crew requirement.

5890 (503) Topics in Dramatic Theory. Three credits. Prerequisite: THEA 4800 or 4810 or permission of instructor. A variable topics seminar concentrating on selected major playwrights linked by theme, or on a particular genre of dramatic theory; an intensive examination of plays which either survey playwrights' careers or represent a significant portion of a genre's canon. May be repeated for credit for up to six hours.

5910 (538) Practicum in Summer Theatre. Three credits. Prerequisite: Employment in summer theatre during the previous summer. A seminar for students who have worked in summer theatre. Includes discussion of assets of training there, auditioning, interviewing, production problems, impact on local community, and impact on college theatre.

5990 (539) Problems in Theatre. One to three credits. Prerequisite: Permission of instructor. Designed to meet individual and/or group needs in all aspects of theatre arts. The topic and credit to be determined at the time of scheduling. A maximum of 6 semester hours credit may be applied toward a degree.


## Vocational-Technical Education

## Participating Schools and Departments:

## Agribusiness and Agriscience; Business Education, Marketing Education, and Office Management; Human Sciences; Engineering Technology and Industrial Studies

The curriculum for the master's degree in VocationalTechnical Education is designed to prepare individuals to assume responsible leadership positions in planning, developing, and managing comprehensive education programs at various levels of public and private schools and in business and industry. The degree is an interdisciplinary program involving faculty in agriculture, business education, marketing education, human sciences, technology education, and trade and industrial education. This approach provides students with an opportunity to understand and articulate the interrelationships of the participating disciplines in the delivery of quality education and training programs. Students are encouraged to select specialized course offerings designed to help them accomplish their career goals.. Requirements for licensure should be checked in the office of the dean, College of Education and Behavioral Science. There are two options. A graduate minor is also available.

Normally, admission to the M.V.T.E. program requires a score of 30 on the Miller Analogies Test or a satisfactory score on the Graduate Record Examination.

## Requirements for the Master of Vocational-Technical Education (M.V.T.E.)

## Thesis Option

Candidate must

1. have completed undergraduate prerequisites of a minor or licensure in one of the participating areas or have three years of appropriate work experience;
2. complete at least 30 semester hours, including a thesis of 3 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours:
a. a major consisting of 18 semester hours selected from the core curriculum to include VTE 6620 and VTE 6640;
b. a minor in one or more of the following departments: Agribusiness and Agriscience; Business Education, Marketing Education, and Office Management; Human Sciences; Engineering Technology and Industrial Studies; Psychology; Elementary and Special Education; and Educational Leadership;
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
4. successfully complete a written and oral comprehensive examination;
5. orally defend the thesis.

## Non-Thesis Option

## Candidate must

1. have completed undergraduate prerequisites of a minor or licensure in one of the participating areas or have three years of appropriate work experience;
2. complete at least 36 semester hours with no more than 30 percent of the total degree hours dually listed as undergraduate/graduate hours:
a. a major of 18 semester hours selected from the core curriculum to include VTE 6510 and VTE 6620;
b. a minor in one or more of the following departments: Agribusiness and Agriscience; Business Education, Marketing Education, and Office Management; Human Sciences; Engineering Technology and Industrial Studies; Psychology; Elementary and Special Education; and Educational Leadership; the program may include a cognate in one of the above in addition to the minor;
3. file a Candidacy Form with the Graduate Office prior to the completion of 24 credit hours;
4. successfully complete a written and oral comprehensive examination;
5. orally defend the VTE 6510 paper.

## Courses in Vocational-Technical Education [VTE]

The following courses compose the core curriculum:
6310 (631) History and Philosophy of Vocational-Technical Education. Three credits. The historical, economic, social, and philosophical factors resulting in federal, state, and local legislation and programs of vocational-technical education.

6320 (632) Vocational-Technical Education Curriculum Systems. Three credits. Analysis of current trends and practices directed toward development, implementation, and management of vocational technical education curriculum systems.

6340 (634) Administration and Supervision of Vocational-Technical Education. Three credits. The practical application of administrative and supervisory theory in vocational-technical programs.

6410 (641) Vocational-Technical Education Internship. Three to six credits. Interns will be assigned to chosen fields of interest at the local, regional, or state levels for purposes of application of course work and acquisition of practical experience.

6430 (643) Vocational-Technical Education Program Planning and Evaluation. Three credits. Developing understanding of techniques and ability to use a systems approach to planning and evaluation of vocational-technical education programs.

6460 (646) Issues and Trends in Vocational-Technical Education. Three credits. (Same as BMOM 6460.) Exploration and analysis of research-based studies on current issues and trends.

6510 (651) Problems in Vocational-Technical Education. Three credits. Independent investigation and written report of current problems related to vocational-technical education under the direction of members of the MVTE faculty.

6620 (662) Methods of Research. Three credits. Methods and tools of research, including analysis, interpretation, and utilization of data. Problem researched; proposal written in thesis format.

6640 (664) Thesis Research. One to six credits. Selection of a research problem, review of pertinent literature, collection and analysis of data, and composition of thesis. Once enrolled, student should register for at least one credit hour of master's research each semester until completion. S/U grading.

## Graduate Faculty

## Full Membership

In order to become a member of the graduate faculty, an individual must show evidence of research accomplishments and graduate teaching excellence. Thereafter, members are evaluated for renewal in accordance with Graduate Council criteria. In general, full membership means that the individual

- holds the terminal degree in the teaching field(s);
- has a minimum of three years faculty experience in graduate education;
- has demonstrated an expertise in research/other professional activities;
- has been recommended by the department chair and college dean;
- has been recommended by the Graduate Council;
- has been approved by the dean of the College of Graduate Studies


## Associate Membership

This category applies to full-time faculty who do not meet the criteria for full membership. The period of appointment is for three years and may be renewed in accordance with Graduate Council criteria. An associate member may not direct doctoral dissertations, but may serve as a dissertation committee member/reader. An associate member may direct master's theses after having served as a committee member/reader. In general, associate membership means that the individual

- holds the terminal degree in the field(s);
- has expressed an interest in contributing to graduate instruction;
- has been recommended by the department chair and college dean;
- has been recommended by the Graduate Council;
- has been approved by the dean of the College of Graduate Studies.


## Adjunct Membership

This category applies to part-time adjunct faculty. The period of appointment is two years and may be renewed in accordance with Graduate Council criteria. Adjunct members may not direct a doctoral dissertation or a master's thesis, but may serve as a committee member/reader. These members are not listed in the graduate catalog. Adjunct faculty membership means that the individual

- holds the terminal degree in the field(s);
- has provided qualifications for teaching the assigned graduate course(s);
- has been recommended by the department chair, the undergraduate college dean, and Graduate Council;
- has been approved by the dean of the College of Graduate Studies.


## Retired

Retired Graduate Faculty members are listed in the section immediately following the listing of the current Graduate Faculty members.

This listing reflects the Spring 2001 graduate faculty members. The date in parentheses is that of first appointment to a position at MTSU.

Adams, C. Nathan, Professor, Computer Information Systems
B.S., 1961, Abilene Christian College; M.S.C., 1963; Ph.D., 1975, University of Alabama; C.D.P., 1977. (1975)

Aday, Ronald H., Professor, Sociology and Anthropology
B.S., 1966, Oklahoma State University; M.S., 1971, Tulsa University; Ph.D., 1976, Oklahoma State University. (1980)

Amey, Foster K., Assistant Professor, Sociology and Anthropology B.A., 1979, University of Cape Coast; M.A., 1994; Ph.D., 1997, Bowling Green State University. (1999)

Austin, M. Jill, Professor, Management and Marketing; Department Chair
B.B.A., 1979; M.B.A., 1981, Delta State University; D.B.A., 1986, Mississippi State University. (1985)

Babb, Charles Worthy, Professor, Elementary and Special Education
B.S., 1960; M.A., 1964, Middle Tennessee State University; Ed.D., 1971, University of Alabama. (1971)

Badley, Linda C., Professor, English
B.A., 1966, Oklahoma Baptist University; M.A., 1967, University of lowa; Ph.D., 1977, University of Louisville. (1979)

Bailey, Frank C., Associate Professor, Biology
B.S., 1987, Rhodes College; Ph.D., 1994, Clemson University. (1994)

Balachandran, Martha E., Associate Professor, Business Education, Marketing Education, and Office Management
B.S., 1974; M.B.E., 1983, Middle Tennessee State University; Ed.D., 1991, University of Memphis. (1999)

Barlow, Sarah F., Professor, Biology
B.S., 1959; M.A., 1963; Ed.S., 1985, Middle Tennessee State University; Ed.D., 1991, Vanderbilt University. (1979)

Barnett, Claudia, Associate Professor, English
B.A., 1988, Cornell University; M.A., 1990; Ph.D., 1994, Ohio State University. (1994)

Barr, Marc J., Associate Professor, Radio-Television/Photography
B.A., 1974, State University College, Oswego, New York; M.F.A., 1978, Memphis State University. (1989)

Bartley, Dianne A.R., Professor, Health, Physical Education, Recreation, and Safety
B.S., 1969, Howard University; M.Ed., 1970, Pennsylvania State University; Ph.D., 1983, University of Maryland. (1991)

Baum, Charles L., Assistant Professor, Economics and Finance B.S., 1995, Wake Forrest University; Ph.D., 1999, University of North Carolina. (1999)

Beard, Mala L., Assistant Professor, Engineering Technology and Industrial Studies
B.S., 1969, University of Tennessee, Knoxville; M.S., 1974, University of Oklahoma; Ph.D., 1994, Colorado State University. (1998)

## Beemon, F.E., Professor, History

B.A., 1967, University of Mississippi; M.A., 1974, Mississippi College;

Ph.D., 1988, University of Tennessee, Knoxville. (1989)
Belsky, Janet K., Associate Professor, Psychology
B.A., 1969, The University of Pennsylvania; Ph.D., 1976, The University of Chicago. (1991)

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B.S.M.E., 1978, Bangalore University; M.S.M.E., 1980, Indian Institute of Science; M.S.M.E., 1982, Stevens Institute of Technology; Ph.D., 1991, Auburn University. (1991)

Staples, Amy L.S., Assistant Professor, History
B.A., 1991, St. Bonaventure University; M.S., 1993; Ph.D., 1998, Ohio State University. (1998)

Stewart, Martin V., Associate Professor, Chemistry
A.A., 1964; B.S., 1966, Emory University; Ph.D., 1979, University of Georgia. (1979)

Stewart, William C., Associate Professor, Biology
B.S., 1987, North Carolina State University; Ph.D., 1994, East Carolina University. (1995)

Stogner, Catherine, Assistant Professor, Human Sciences
A.S., 1971, East Tennessee State University; B.S., 1987, Health Columbus University; M.S., 1993; Ph.D., 1996, Utah State University. (1996)

Strawman, Thomas William, Associate Professor, English
B.S., 1973, Iowa State University; M.A., 1976, University of Kansas; Ph.D., 1986, University of Washington. (1989)

Strickland, Thomas H., Professor, Economics and Finance
B.S.I.E., 1963, Texas Tech University; M.B.A., 1972, University of TexasArlington; Ph.D., 1979, University of Oklahoma. (1988)

Tang, Thomas L., Professor, Management and Marketing
B.S., 1971, Chung Yuan University; M.A., 1977; Ph.D., 1981, Case Western Reserve University. (1983)

Tate, James C., Associate Professor, Psychology
B.S., 1982, The College of Charleston; M.S., 1988; Ph.D., 1992, Auburn University. (1993)

Taylor, Keith, Assistant Professor, English
B.A., 1989; M.A., 1991, Middle Tennessee State University; Ph.D., 1998, University of Tennessee. (1999)

## Taylor, Robert Love, Jr., Professor, History

B.A., 1961, Vanderbilt University; M.A., 1964; Ph.D., 1971, University of Tennessee. (1969)

Therrien, Kathleen M., Assistant Professor, English
B.A., 1987, College of Holy Cross; M.A., 1989; Ph.D., 1997, University of Delaware. (1998)

Thomas, Joe G., Professor, Management and Marketing
B.S., 1974; M.S., 1975, University of Missouri; Ph.D., 1983, Texas A\&M University. (1989)

## Thomas, Paula B., Professor, Accounting

B.B.A., 1978; C.P.A., 1980; M.S., 1983, Middle Tennessee State University; C.M.A., 1984; D.B.A., 1987, Mississippi State University. (1983)

Thomas, R. Earl, Associate Professor, Management and Marketing B.A., 1972; M.A.T., 1974, Middle Tennessee State University; Ed.D., 1984, Vanderbilt University. (1990)

Thomas, Shelley, Associate Professor, Foreign Languages and Literatures
B.A., 1976, Clemson University; M.A., 1984, University of South Carolina; Ph.D., 1991, Purdue University. (1991)

## Thweatt, Joe Mack, Professor, Computer Science

A.B., 1961, David Lipscomb College; M.A., 1962, Middle Tennessee State College; Ed.S., 1986, Middle Tennessee State University; Ed.D., 1988, Tennessee State University. (1965)

Tillery, Kenneth R., Associate Professor, Management and Marketing B.S.I.M., 1967, Georgia Institute of Technology; M.B.A., 1972; Ph.D., 1985, Georgia State University. (1988)

Timmons, J. Douglas, Assistant Professor, Economics and Finance B.S., 1973, Old Dominion University; M.B.A., 1975, College of William and Mary; Ph.D., 1986, University of Florida at Gainesville. (1996)

Traughber, Belinda, Professor, Psychology
B.S., 1976, Vanderbilt University; M.A., 1977, Middle Tennessee State University; Ph.D., 1982, University of Kansas. (1982)

Trent, Sheri, Professor, Elementary and Special Education
B.S., 1972, Middle Tennessee State University; M.Ed., 1975, University of Mississippi; Ph.D., 1982, George Peabody College. (1990)

Ujcich, Kimberly, Assistant Professor, Psychology
B.A., 1990, University of Tennessee-Knoxville; M.A., 1993; Ph.D., 1996, West Virginia University. (1995)

Untch, Roland H., Associate Professor, Computer Science
B.A., 1979, Mundelein College; M.S., 1983, DePaul University; Ph.D., 1995, Clemson University. (1994)

Van Hein, Judith L., Associate Professor, Psychology
B.A., 1983, Carroll College; M.S., 1987; Ph.D., 1992, Georgia Institute of Technology. (1990)

Vermillion, William H., Jr., Professor, Psychology
B.A., 1959, Northwestern University; M.S., 1961; Ph.D., 1964, Purdue University. (1972)

## Vernardakis, George, Professor, Political Science

B.S., 1959, Cornell University; M.P.A., 1961; Ph.D., 1969, University of Michigan. (1969)

Walck, Jeffrey L., Assistant Professor, Biology
B.S., 1989, Cornell University; Ph.D., 1998, University of Kentucky. (1999)

Waldrop, Phillip, Professor, Elementary and Special Education
B.S., 1970; M.A., 1971; Ed.D., 1977, University of Alabama. (1989)

Walker, David, Professor, Speech and Theatre
A.B., 1960, David Lipscomb College; M.A., 1961; Ph.D., 1969, University of Florida. (1965)

## Walker, Dellmar, Professor, Human Sciences; Interim Department

 ChairB.S., 1972, Middle Tennessee State University; M.S., 1974, University of Kentucky; R.D., 1973; Ph.D., 1986, University of Tennessee. (1978)

Wallace, J. Brandon, Associate Professor, Sociology and Anthropology
B.A., 1985, Athens State College; M.A., 1987, Middle Tennessee State University; Ph.D., 1990, University of Florida. (1991)

Walsh, Dennis P., Associate Professor, Mathematical Sciences
B.A., 1982; M.S., 1985, University of New Orleans; Ph.D., 1991, University of Southwestern Louisiana. (1991)

Walters, Keith R., Associate Professor, Biology
B.S., 1974, University of Georgia; M.S., 1977, Florida State University; Ph.D., 1987, University of South Florida. (1995)

## Ward, Karen S., Professor, Nursing

B.S.N., 1970; M.S.N., 1972, Vanderbilt University; Ph.D., 1988, Cornell University. (1995)

Ward, Terry J., Professor, Accounting
B.B.A., 1981; M.B.A., 1982, Morehead State University; C.P.A., 1986; Ph.D., 1991, University of Tennessee. (1994)

Warren, William E., Professor, Management and Marketing
B.S., 1958, Florence State College; M.S., 1962, University of Tennessee; D.B.A., 1985, Memphis State University. (1990)

Weatherby, Norman, Professor, Health, Physical Education, Recreation, and Safety
B.S., 1974; M.S., 1977, North Texas State University; Ph.D., 1983, Florida State University. (2000)

Weeks, Terry M., Professor, Educational Leadership
B.S., 1972; M.Ed., 1975, Middle Tennessee State University; Ed.D., 1993, Vanderbilt University. (1989)

Wells, Marion R., Professor, Biology
B.S., 1960; M.A., 1963, Memphis State University; Ph.D., 1971, Mississippi State University. (1964)

West, Carroll V., Assistant Professor, Center for Historic Preservation, History
B.A., 1977, Middle Tennessee State University; M.A., 1978, University of Tennessee, Knoxville; Ph.D., 1982, College of William and Mary. (1985)

West, W. Beryl, Professor, Psychology
B.S., 1953, West Texas State College; M.Div., 1956; Th.M., 1962, Southwestern Baptist Theological Seminary; M.Ed., 1965; Ed.D., 1969, North Texas State University. (1969)

Whaley, Martha A., Professor, Health, Physical Education, Recreation, and Safety; Department Chair
B.S., 1957; M.A., 1962; Ed.D., 1967, University of Alabama. (1966)

White, Gary D., Associate Professor, Chemistry
B.A., 1978, Johns Hopkins University; Ph.D., 1984, University of Pennsylvania. (1991)

Whitehill, William R., Associate Professor, Health, Physical Education, Recreation, and Safety
B.A., 1973; M.A., 1979, Morehead State University; Ed.D., 1992, University of Alabama, Tuscaloosa. (1994)

Whiteside, Harold D., Professor, Psychology
B.A., 1967, University of Miami; M.S., 1973, North Carolina State University; Ph.D., 1973, Oklahoma State University. (1973)

Williams, James H., Associate Professor, History
B.A., 1986, Westminster College; M.A., 1987, College of William and Mary; Ph.D., 1993, Vanderbilt University. (1996)

## Williams, Jane L., Professor, Educational Leadership

B.S., 1970; M.A., 1972; George Peabody College; Ed.D., 1983, East Tennessee State University. (1988)

## Wilson, Harold O., Professor, Accounting

B.S., 1958, David Lipscomb College; M.A., 1959, University of Missouri; C.P.A., 1959; Ph.D., 1968, University of Alabama; C.F.E., 1994. (1983)

Wilson, Linda A., Professor, Chemistry
B.S., 1971; M.S., 1974; D.A., 1986, Middle Tennessee State University. (1981)

Winborn, John Douglas, Associate Professor, Health, Physical Education, Recreation, and Safety
B.S., 1976; M.S., 1988, Southern Connecticut State College; Ed.D., 1992, Tennessee State University. (1994)

Wolfe, Charles, Professor, English
A.B., 1965, Southwest Missouri State College; M.A., 1967; Ph.D., 1970, University of Kansas. (1970)

## Womack, Bob, Professor, Educational Leadership

B.S., 1948, Middle Tennessee State College; M.A., 1952; Ed.D., 1956, George Peabody College. (1957)

Womack, Lara, Associate Professor, Accounting
B.S., 1979, Middle Tennessee State University; J.D., 1983, University of Tennessee. (1983)

Wood, Robert, Professor, Recording Industry
B.M., 1969, Oklahoma Baptist University; M.M., 1974; D.M.A., 1981, University of North Texas. (1991)

Worsey, Andrew J., Professor, Mathematical Sciences
B.S., 1977; Ph.D., 1981, Brunel University (England). (1993)

Wright, Stephen M., Associate Professor, Biology
B.S., 1983; M.S., 1987; Ph.D., 1990, University of North Dakota. (1992)

Wulfsberg, Gary Paul, Professor, Chemistry
B.S., 1966, lowa State University; Ph.D., 1971, University of Wisconsin. (1981)

Wyatt, Jacqueline E., Professor, Computer Information Systems B.S.B.A., 1971, Franklin University; M.B.A., 1973, Xavier University; C.D.P., 1977; Ed.D., 1980, University of Cincinnati; C.D.E., 1985; C.P.I.M., 1988; B.S., 1988, Middle Tennessee State University. (1986)

Wyatt, Robert O. II, Professor, Journalism
B.A., 1968, University of the South; M.A., 1970; Ph.D., 1973, Northwestern University; M.S., 1977, University of Tennessee. (1979)

Yoo, Jungsoon, Associate Professor, Computer Science
B.S., 1979, Ewha Women's University (Seoul, Korea); M.S., 1984, North

Carolina State University; Ph.D., 1991, Vanderbilt University. (1991)

## Yoo, Sung Kun, Professor, Computer Science

B.S., 1973, Seoul National University; Ph.D., 1983; M.S., 1984, North Carolina State University. (1984)

Young, Barbara N., Associate Professor, Educational Leadership B.A., 1971, University of Southwestern Louisiana; M.Ed., 1984, Louisiana State University; M.A.T., 1989; Ed.S., 1990, Middle Tennessee State University; Ed.D., 1993, Tennessee State University. (1991)

Zamora, John M., Professor, Biology
B.A., 1979, Columbia University; Ph.D., 1984, Auburn University. (1987)

Zha, Xiaoya, Assistant Professor, Mathematical Sciences
B.S., 1982, Anhui University, China; M.S., 1984, Huazhong University of Science and Technology, China; M.S., 1990; Ph.D., 1993, Ohio State University. (1997)

Zietz, Joachim, Professor, Economics and Finance
M.A., 1978; Ph.D., 1981, University of Gottingen. (1989)

Zijlstra, Jan, Assistant Professor, Mathematical Sciences
B.S., 1982, Agricultural University (Wageningen, Netherlands); M.S., 1991; Ph.D., 1992, Auburn University. (1992)

Zijlstra, Rebecca C., Professor, Mathematical Sciences
B.S., 1979; M.S., 1981, Middle Tennessee State University; Ph.D., 1990, Auburn University. (1990)

## Retired Graduate Faculty

The two dates in parentheses indicate the years of service.
Arters, Jack D., Professor Emeritus, Educational Leadership
B.S., 1959, Bluffton College; M.A., 1961, Marshall University; Ed.D., 1967, University of Tennessee; Post Doctoral Study, University of Wyoming. (1967-95)

Arthur, Hattie Lamb, Professor, Home Economics; Department Chair B.S., 1957, Baylor University; M.S., 1964; Ed.D., 1969, Texas Woman's University. (1974-85)

Aseltine, Herschel, Professor, Sociology, Anthropology, and Social Work
A.B., 1951; B.D., 1952, McMaster University; M.A., 1955, University of Chicago; Ph.D., 1963, University of Southern Illinois. (1967-77)

Balch, Billy W., Professor Emeritus, Economics and Finance B.S., 1959, Florence State College; M.B.A., 1960; Ph.D., 1968, University of Alabama. (1964-98)

Ballou, Ralph, Professor Emeritus, Health, Physical Education, Recreation, and Safety
B.S., 1949; M.S., 1956, Springfield College; Ph.D., 1965, University of Oregon. (1968-96)

## Barger, James W., Professor, Accounting

B.S., 1956, University of North Carolina; C.P.A., 1958; M.B.A., 1961; Ph.D., 1963, University of Alabama. (1980-87)

Beaty, Edgar, Professor, Youth Education and School Personnel Services
B.S., 1942, Middle Tennessee State College; M.A., 1946, George Peabody College; Ed.D., 1953, Florida State University. (1956-86)

## Beers, George, Professor, Mathematical Sciences

B.S., 1955; M.Ed., 1960, University of Florida, M.A., 1963, University of Illinois; Ed.D., 1967, University of Florida. (1966-96)

Berry, Mary Tom, Professor Emeritus, Elementary and Special Education
A.B., 1946, Blue Mountain College; M.A., 1950, Mississippi Southern College; Ph.D., 1961, University of Alabama. (1960-94)

Brackett, Walter Lee, Associate Professor, Elementary and Special Education
B.A., 1938, Northwest Oklahoma State; M.A., 1944, University of Tulsa; Ph.D., 1963, George Peabody College. (1970-80)

Brashears, Elizabeth, Professor Emeritus, Elementary and Special Education
B.S., 1943, Mississippi State College for Women; M.Ed., 1962, University of Southern Mississippi; Ed.D., 1969, University of Tennessee. (1969-90)

Brooks, James T., Professor, Speech and Theatre; Associate Dean, College of Liberal Arts
B.A., 1965, Appalachian State University; M.A., 1967; Ph.D., 1974, University of Florida. (1969-00)

Burford, Anna M., Professor, Business Education, Marketing Education, and Office Management
B.S., 1964; M.A., 1967, Western Kentucky University; Ph.D., 1979, Ohio State University. (1981-00)

Chandler, Clay M., Professor Emeritus, Biology
B.S., 1950, Bethel College; M.A., 1954, George Peabody College; Ph.D., 1965, Indiana University. (1970-92)

Clark, Roy W., Professor Emeritus, Chemistry
B.S., 1957, Middle Tennessee State College; M.S., 1959; Ph.D., 1965, Louisiana State University. (1963-96)

Corlew, Robert E., Professor Emeritus, History; Vice President for Academic Affairs
B.S., 1945, Austin Peay State College; M.A., 1949, Vanderbilt University; Ph.D., 1954, University of Alabama. (1949-90)

Davenport, Harold, Professor, Educational Leadership
B.S., 1957; M.A., 1959, Appalachian State; Ed.D., 1970, University of Tennessee. (1970-96)

Douthit, James C., Professor Emeritus, Management and Marketing B.S.B.A., 1958; M.B.A., 1959, University of Arkansas; D.B.A., 1973, Mississippi State University. (1964-96)

Drennan, Henry Dalton, Professor Emeritus, Business Education, Marketing Education, and Office Management
B.S., 1952; M.A., 1956; Ed.S., 1963, George Peabody College; Ed.D., 1969, University of Mississippi. (1961-97)

Durham, Charles, Professor Emeritus, English
B.S., 1963, Middle Tennessee State University; M.A., 1964; Ph.D., 1969, Ohio University. (1966-98)

Essex, Frank W., Professor Emeritus, Political Science
A.B., 1966; M.A.T., 1967; Ph.D., 1978, Vanderbilt University. (1967-93).

Fletcher, J.L., Professor Emeritus, Biology
B.S., 1937, Southwestern Louisiana Institute; M.S., 1939; Ph.D., 1955, Texas A\&M. (1961-81)

## Forrest, Thomas, Professor, Mathematics

B.S., 1954; M.A., 1958, Murray State University; M. Math, 1964, University of Tennessee; Ph.D., 1971, George Peabody College. (1969-89)

Freitag, Carl B., Professor, Psychology
B.A., 1961, Louisiana Polytechnic Institute; M.S., 1963, Baylor University; Ph.D., 1972, University of Georgia. (1972-91)

Fullerton, Ralph O., Jr., Professor Emeritus, Geography and Geology; Department Chair
A.B., 1960, University of Kentucky; M.S., 1962; Ed.D., 1971, Indiana University. (1963-97)

Ginanni, Francis R., Professor Emeritus, English
A.B., 1960, San Jose State College; M.A., 1964, University of Virginia; Ph.D., 1970, Auburn University. (1964-94)

## Gonce, James Howard, Professor, Industrial Studies

B.S., 1949; M.A., 1950, University of Alabama; Ed.D., 1961, George Peabody College. (1952-83)

Gould, Richard H., Professor Emeritus, Engineering Technology and Industrial Studies; Department Chair
B.S., 1952; M.S., 1955, University of Mississippi; Ed.D., 1973, University of Tennessee, Knoxville. (1966-95)

Grubbs, David, Professor Emeritus, Political Science
A.B., 1951, Maryville College; M.A., 1953, University of Tennessee; Ph.D., 1961, University of Pennsylvania. (1966-94)

Harvin, Laurence, Professor, Music
B.M., 1964, University of Alabama; M.M., 1966, University of Oklahoma; D.M.A., 1972, Florida State University. (1966-99)

Hinton, Thomas Earl, Professor Emeritus, Music
B.M., 1951; M.M., 1954; Ed.D., 1969, George Peabody College. (196094)

Hodge, Harry F., Professor, Psychology
B.S., 1959; M.S., 1960, University of Tennessee, Knoxville; Ed.D., 1963, Auburn University. (1980-93)

## Hooper, Ernest Walter, Professor Emeritus, History

B.S., 1942, Middle Tennessee State College; M.A., 1949; Ph.D., 1957, University of North Carolina. (1960-82)

## Howard, Charles Edwin, Professor Emeritus, English

B.S., 1947, Troy State Teachers College; M.A., 1948, George Peabody College; Ph.D., 1959, Vanderbilt University. (1951-84)

## Howard, Phillip, Professor Emeritus, Music

B.S. in Music, 1938, Murray State College; M.M., 1940, American Conservatory of Music, Chicago; Ph.D., 1950, University of lowa. (1951-84)

## Howell, Sarah, Professor Emeritus, History

A.B., 1952; M.A., 1967; Ph.D., 1970, Vanderbilt University. (197096)

Hutcheson, Paul Henry, Professor Emeritus, Computer Science
A.B., 1950, David Lipscomb College; M.A., 1951, George Peabody College; Ph.D., 1960, University of Florida. (1960-94)

Hutchinson, James H., Professor Emeritus, Chemistry; Department Chair
A.B., 1955, University of Southern Mississippi; M.S., 1960, University of Iowa; Ph.D., 1968, Auburn University. (1969-98)

Jennings, Thelma, Professor Emeritus, History
B.S., 1953; M.A., 1962, Middle Tennessee State University; Ph.D., 1968, University of Tennessee. (1966-85)

Keem, George, Professor, Elementary Education
B.S., 1947; M.S., 1952; Ed.D., 1962, Wayne State University. (1969-81)

LaLance, Richard, Professor, Health, Physical Education, Recreation, and Safety
B.S., 1964, West Virginia University; M.Ed., 1970; D.A., 1975, Middle Tennessee State University. (1970-99)

Maples, Wallace, Professor Emeritus, Aerospace
B.S., 1963, Middle Tennessee State University; M.S., 1965, University of Tennessee; Ed.D., 1970, Indiana University. (1969-1995)

Martin, Mary W., Professor Emeritus, Educational Leadership; Dean, College of Graduate Studies
B.S., 1952, Ohio State University; M.A., 1965, Memphis State University; Ed.D., 1967, University of Tennessee, Knoxville. (1968-94)

McCullough, Martin A., Professor, Educational Leadership
B.S., 1954; M.Ed., 1960, Middle Tennessee State University; Ed.D., 1963, Peabody College. (1987-99)

Mueller, Hans G., Professor Emeritus, Economics and Finance
A.B., 1955, University of Washington; Ph.D., 1968, Vanderbilt University. (1961-93)

Naylor, Tom L., Professor Emeritus, Music
B.S., 1961, Bob Jones University; M.A., 1962, Appalachian State University; M.M., 1969; D.M., 1973, Indiana University. (1967-98)

Neal, James H., Professor Emeritus, History
B.S., 1958; M.A., 1963, University of Houston; Ph.D., 1971, Vanderbilt University. (1968-99)

## Ordoubadian, Reza, Professor, English

B.A., 1954, Teheran University; Graduate Study, Duke University, Vanderbilt University; M.A., 1965; Ph.D., 1968, Auburn University. (1962-89)

Parker, Chester, Associate Professor, Psychology
B.A., 1945; B.D., 1951, Butler University; M.A., 1968; Ed.D., 1971, Ball State University. (1971-87)

Penny, Guy, Professor Emeritus, Health, Physical Education, Recreation, and Safety; Director, The Wellness Center
B.S., 1950; M.Ed., 1958, University of Mississippi; Ed.D., 1970, University of Southern Mississippi. (1970-93)

Penrod, William, Professor Emeritus, Psychology
B.A., 1951, Carson-Newman College; M.S., 1959, University of Miami; Ph.D., 1962, University of Florida. (1970-93)

Porter, T. Coy, Professor, Foreign Languages
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## Raper, Elmer, Professor, Education

A.B., 1946, University of Chattanooga; M.S., 1950; Ed.D., 1957, University of Tennessee. (1957-74)

Reeder, Ernestine N., Professor Emeritus, Human Sciences; Department Chair
B.S., 1959, East Carolina College; M.S., 1962, University of Tennessee; Ed.S., 1972, George Peabody College; Ph.D., 1977, University of Tennessee. (1972-94)

Reeder, Glen P., Professor Emeritus, Health, Physical Education, Recreation, and Safety
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Riel, Francis J., Professor Emeritus, Health, Physical Education, Recreation, and Safety
A.B., 1939; M.S., 1941, University of Massachusetts; Ed.D., 1951, Boston University. (1949-77)

## Rogers, Walter B., Professor, Economics and Finance

B.S., 1951, Texas Technological University; M.S., 1953, University of Arizona; Ph.D., 1959, Oklahoma State University. (1981-99)

Rolater, Frederick S., Professor Emeritus, History
A.B., 1960, Wake Forrest College; M.S., 1963; Ph.D., 1970, University of Southern California. (1967-00)

Rucker, Ellis S., Jr., Professor, Biology
B.S., 1935, Middle Tennessee State College; M.A., 1938; Ph.D., 1946, George Peabody College. (1946-79)

Sakas, Joseph, Associate Professor, Youth Education and School Personnel Services
B.S., 1962; M.A., 1963, Austin Peay State University; Ed.D., 1967, George Peabody College. (1966-84)

Schukert, Michael A., Professor, Aerospace
B.A., 1963, University of Arizona; M.Ed., 1969, University of Florida; Ph.D., 1976, Ohio University. (1988-00)

Scott, Dan, Professor Emeritus, Chemistry and Physics; Department Chair
B.S., 1950, Middle Tennessee State College; M.A., 1954; Ph.D., 1963, George Peabody College. (1955-92)

Self, Helen H., Assistant Professor, Elementary and Special Education B.A., 1949, University of Alabama; M.Ed., 1962, Auburn University; Ed.D., 1969, University of Alabama. (1972-81)

Sharp, Ralph E., Professor, Biology
B.S., 1958, Middle Tennessee State College; M.Ed., 1965; Ed.D., 1972, University of Georgia. (1965-94)

Sikes, Lewright, Professor Emeritus, History
A.B., 1966, Maryville College; M.A., 1968; Ph.D., 1973, University of Tennessee, Knoxville. (1969-96)

Smith, Helen, Associate Professor, Geography
A.B., 1937, University of Colorado; M.A., 1941, George Peabody College; Ph.D., 1958, Clark University. (1970-74)

Spraker, Harold Stephen, Professor Emeritus, Mathematics and Statistics; Department Chair
B.S., 1950, Roanoke College; M.E., 1955; Ed.D., 1960, University of Virginia. (1960-92)

Steward, James F., Professor Emeritus, Business Education, Marketing Education, and Office Management
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Strobel, Katherine B., Professor Emeritus, Health, Physical Education, Recreation, and Safety
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Terrell, R. Paul, Professor, Geography and Geology
B.S., 1937, Western Kentucky; M.A., 1941, George Peabody College; Ph.D., 1949, Clark University. (1969-80)

Todd, Fowler I., Professor Emeritus, Management and Marketing B.S., 1940, Murray State Teachers College; M.A., 1956, George Peabody College; Ph.D., 1965, University of Illinois. (1965-83)

VanDervort, Thomas R., Professor Emeritus, Political Science
A.B., 1960, University of Tennessee; M.A., 1962, Tufts University; Ph.D., 1967, University of Tennessee. (1963-98)

## Vickrey, Thomas L., Professor, Mathematics and Statistics

B.S., 1952; M.A., 1960, University of Oklahoma; Ed.D., 1968, Oklahoma State University. (1969-90)

Voorhies, Edwin S., Professor Emeritus, Industrial Studies; Dean, School of Basic and Applied Sciences
B.S. in M.E, 1942, Georgia School of Technology; M.A., 1953, Middle Tennessee State College; Ed.D., 1965, University of Tennessee. (1957-85)

Wall, B.J., Associate Professor, Engineering Technology and Industrial Studies
B.S., 1956; M.S., 1973, University of Tennessee; P.E., 1974. (1980-00)

Ward, James L., Professor, Sociology
B.A., 1934; M.S., 1958, Henderson State College; Ed.D., 1968, University of Mississippi. (1971-75)

Wasson, Woodrow, Professor, Sociology, Anthropology, and Social Work
A.B., 1939; M.A., 1940, Vanderbilt University; B.D., 1942; Ph.D., 1947, University of Chicago; M.L.S., 1967, George Peabody College. (1969-80)

Wilcox, Sondra Elaine, Professor, Health, Physical Education, Recreation, and Safety
B.S., 1958, David Lipscomb College; M.A., 1963; Ed.S., 1968, George Peabody College; Ed.D., 1976, Boston University. (1963-??)

Williams, John D., Professor, Elementary and Special Education
B.S., 1943; M.S., 1946, University of Tennessee; Ed.D., 1954, University of Tennessee, Knoxville; Post-doctoral Scholar, University of California at Los Angeles. (1964-91)

Windham, William Thomas, Professor Emeritus, History; Department Chair
B.S., 1946, Illinois Institute of Technology; M.A., 1950; Ph.D., 1955, University of Alabama. (1955-89)

Wiser, C. Wymer, Professor Emeritus, Biology
B.S., 1945, Harding College; M.A., 1946, George Peabody College; Ph.D., 1956, Vanderbilt University. (1956-95)

Wiser, J. Eldred, Professor, Chemistry and Physics; Department Chair B.S., 1938, Middle Tennessee State College; M.A., 1940; Ph.D., 1947, George Peabody College. (1946-81)

Woods, Alvin Edwin, Professor Emeritus, Chemistry
B.S., 1956, Middle Tennessee State College; M.S., 1958; Ph.D., 1962, North Carolina State College. (1961-98)

## Youree, Beverly W., Professor, Educational Leadership

B.A., 1969, Union University; M.L.S., 1970, George Peabody College; Ed.D., 1984, George Peabody College at Vanderbilt University. (1970-98)


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\end{tabular}


[^0]:    1-6 credit (quality) hours completed $\qquad$ 2.00 GPA (If 6 graduate hours have been completed, a GPA of 2.00 reflects a quality or grade point deficit of 6 . Next term, unless a course is repeated, 3 or more hours of B grade, with no B- or lower grades, will generate a GPA greater than or equal to 2.33.)
    Greater than 6-9 credit (quality) hours completed .......... 2.33 GPA (If 9 graduate hours have been completed, a GPA of 2.33 reflects a grade point deficit of 6 . Next term, unless a course is repeated, 3 or more hours of B grade, with no B- or lower grades, will generate a GPA greater than or equal to 2.50.)
    Greater than 9-12 credit (quality) hours completed ........ 2.50 GPA (If 12 graduate hours have been completed, a GPA of 2.50 still reflects a grade point deficit of 6 . Next term, unless a course is repeated, 3 or more hours of $B$ grade, with no $B$ - or lower grades, will generate a GPA greater than or equal to 2.60.)
    Greater than 12-15 credit (quality) hours completed ...... 2.60 GPA (If 15 graduate hours have been completed, a GPA of 2.60 still reflects a grade point deficit of 6 . Next term, unless a course is repeated, 3 or more hours of A grade, with no B- or lower grades, will generate a GPA greater than or equal to 2.83.)

[^1]:    Specialized Core ( 15 semester hours)
    SPSE 7010 Educational Research Methodology
    SPSE 7100 The Junior-Community College
    FOED 7570 Issues in Higher Education

